

**GOVERNMENTAL ACCOUNTING INNOVATION IN YEMEN:
THE INTRODUCTION OF ACCRUALS ACCOUNTING & THE
MODERATING ROLE OF E-GOVERNMENT**

ABDULLA MOHAMED HAMOUD AL-THOLAYA

**THESIS SUBMITTED IN FULFILMENT
OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY**

**FACULTY OF BUSINESS AND ACCOUNTANCY
UNIVERSITY OF MALAYA
KUALA LUMPUR**

JANUARY 2013

ABSTRACT

The adoption of accrual basis of accounting by governments is an important element to transform the bureaucratic administrative cash-based system to a more informative financial management system to ensure the supply of comprehensive, reliable, and meaningful financial information for appropriate accountability and decision making. Yemen is engaged in such reform, with advent of the E-Government, Information and Telecommunication Technologies era. This study describes the Yemen Central Government's accounting and reporting system, its institutional framework, its policy characteristics and the environmental conditions that are in favour and unfavourable of such reform change. It also investigates the relationships between attitudes, innovative and organisational factors, as well as the adoption of accrual basis of accounting barriers and its implementation. Additionally, it investigates the moderating effects of E-Government between the abovementioned relationships during the face of change. This is to test if E-Government interaction will influence the strength and direction of the mentioned relationships in the model, and if the predictive power of that model would be increased. Finally, it examines the feasibility of accrual basis of accounting in Yemen.

This study applied multiple theories, multi-method approaches (mixed-methods), and utilised qualitative and quantitative methodologies for data (analysis), collected from questionnaires and interview surveys. Twenty hypotheses are tested. The findings show that innovative and organisational factors have a positive relationship with an attitude toward change, while barriers have a negative relationship with an attitude toward change, but E-Government has a positive relationship with an attitude toward change.

The results show that institutional frameworks such as the current Yemen governmental accounting and reporting framework, have an acceptable level of moving towards accrual basis of accounting, while accounting system objectives and reporting policy specifications reveal acceptable level of objectives and insufficient level of reporting policy. Even though the Yemen government officially announced the adoption of accrual basis of accounting and performed several alterations on the accounting system toward accrual basis, central government accounting officials are still using (modified) cash basis accounting. Computer integration, across governmental departments, is not complete. Environmental factors that contributed to change from cash basis to accrual basis of accounting are reform stimuli, pressures related to other reforms, and forces of globalisation. The contextual variables are in favour of moving toward accrual basis of accounting. Attitudes toward change were found to have a full mediation effect between innovation factors, organisational factors, barriers, and E-Government, emphasising the important role of accountants, financial managers, and others in the feasible adoption and implementation of accrual basis of accounting. E-Government shows a moderating effect on the relationships between all independent variables and the mediating variable of attitude toward change.

This study found Government officials' attitude toward change from cash basis accounting to accrual basis of accounting to be very critical for the adoption and implementation of such change. Government financial officials have to be in line with the change process and their support is crucial for a successful adoption. E-Government (capabilities) is an important element in the success of the adoption and implementation of accrual basis of accounting.

ABSTRAK

Penerimaan penggunaan perakaunan berasaskan akruan oleh kerajaan adalah elemen yang penting untuk mengubah sistem tunai birokrasi berasaskan pentadbiran kepada sistem pengurusan kewangan yang lebih informatif. Ini adalah untuk memastikan segala bekalan maklumat kewangan yang komprehensif, boleh dipercayai serta bermakna untuk dipertanggungjawabkan dan membuat keputusan. Negara Yaman terlibat dalam reformasi itu, dengan adanya E-Kerajaan dan era Teknologi Maklumat dan Telekomunikasi. Kajian ini menerangkan kerajaan Yaman ialah kerajaan pusat perakaunan dan pelaporan rangka kerja sistem institusi serta ciri-ciri dasar, dan keadaan persekitaran Negara Yaman yang mempunyai kesan yang positif dan negatif pada perubahan reformasi itu. Ia juga mengkaji hubungan antara sikap, faktor inovasi, faktor organisasi, penggunaan dan pelaksanaan bagi menghalang perakaunan asas akruan. Selain itu, ia mengkaji kesan kesederhanaan E-Kerajaan pada hubungan antara faktor inovasi, faktor organisasi, halangan dan juga sikap ke arah perubahan. Perubahan itu juga adalah untuk menguji jika interaksi E-Kerajaan akan mempengaruhi kekuatan dan arah hubungan yang disebut dalam model dan meningkatkan kuasa ramalan model. Akhir sekali, ia meneliti hubungan antara sikap ke arah perubahan dan kemungkinan penggunaan dan pelaksanaan perakaunan asas akruan.

Kajian ini menggunakan pelbagai teori dan kaedah pendekatan (campuran-kaedah) yang menggunakan kaedah kualitatif dan kuantitatif untuk data (analisis) yang dikumpulkan dari tinjauan soal selidik dan temubual. Berdasarkan kajian ini, terdapat enam belas hipotesis yang telah diuji. Daripada lapan hipotesis yang pertama menyatakan bahawa faktor-faktor inovasi dan faktor-faktor organisasi mempunyai hubungan yang positif dengan sikap terhadap perubahan semasa, sementara halangan mempunyai hubungan yang negatif dengan sikap ke arah perubahan tetapi E-Kerajaan mempunyai hubungan yang positif dengan sikap ke arah perubahan.

Keputusan menunjukkan bahawa perakaunan kerajaan semasa Yaman dan melaporkan tahap rangka kerja institusi yang ketara, manakala objektif sistem perakaunan dan laporan dasar spesifikasi adalah ketara negatif. Walaupun, kerajaan Yaman rasmi penggunaan perakaunan asas akruan dan dilakukan oleh beberapa perubahan pada sistem perakaunan ke arah utiliti asas akruan. Walaubagaimanapun, kerajaan Yaman masih menggunakan pusat perakaunan pegawai kerajaan (ubahsuai) asas perakaunan tunai. Selain itu, integrasi komputer di jabatan-jabatan kerajaan masih tidak lengkap. Faktor persekitaran juga menyumbang kepada perubahan daripada asas tunai kepada perakaunan asas akruan, rangsangan reformasi mempunyai pengaruh yang kuat daripada krisis kewangan, tekanan yang disebabkan dengan pembaharuan lain dan kuasa globalisasi. Pembolehubah Kontekstual adalah memihak ke arah perakaunan asas akruan. Sikap terhadap perubahan didapati mempunyai kesan pengantaraan penuh antara faktor inovasi, faktor organisasi, halangan, dan E-Kerajaan, untuk menekankan peranan penting akauntan, pengurus kewangan, dan sikap terhadap orang lain dalam kemungkinan dan pelaksanaan perakaunan asas akruan. E-Kerajaan menunjukkan kesan penyederhanaan terhadap hubungan antara semua pembolehubah bebas dan pengantaraan sikap yang berubah ke arah perubahan.

Oleh itu, kajian ini mendapati sikap pegawai kerajaan ke arah perubahan dari perakaunan asas tunai perakaunan asas akruan adalah sangat kritikal untuk penerimaan dan pelaksanaan perubahan itu. Pegawai kewangan Kerajaan perlu selaras dengan proses perubahan dan sokongan mereka adalah penting untuk penggunaan yang berjaya. E-Kerajaan (keupayaan) adalah elemen penting dalam kejayaan penggunaan dan pelaksanaan perakaunan asas akruan.

ACKNOWLEDGMENT

To Allah Almighty I stand truly thankful for everything he has given me, from the day I was born to this moment. Nothing I have done could come to reality in this world without his blessings to me, both in good times and in hard times, in happiness or sickness. Thanks to God for all you have given me, and above all, unlimited thanks to you God for giving me a second chance in life. To you, my lovely mother and your prayers to me, I am so thankful to you and I will always be your humble son.

I am indebted to my supervisor Associate Prof. Dr. Zakiah Saleh for all her support and contentious encouragement she has given me. Your comments, suggestions, directions and guidance were so helpful to me and gave me a great source of inspiration and confidence. I know it was a long journey to complete this study and your understanding and patience were of so much value to me. Thank you from the bottom of my heart.

Many thanks to the University of Malaya for all facilities given to PhD students. My gratitude goes to the Dean and staff of the Faculty of Business and Accountancy for their efforts, support, allowing us academic exposure to visiting professors whom we learned a lot from, and gained so much knowledge and experience from. I am also so thankful to Sana'a University and the Republic of Yemen Government for their financial support of my study.

My greatest appreciation and thanks goes to my family. To my wives Badiyah and Muluka thank you for being supportive and patient all these years. To my sons Awsan and Azal, and to my daughter Amirah, thank you for your understanding and patience for my being away at these critical times of your lives. God bless you all.

At last, I extend my thanks to all relatives, friends, and colleagues who stood by me and helped me in all stages of my study. To you Dr. Abdullah Alsanafi, Chairman of Yemen Central Organisation of Control and Audit COCA, and to you Dr. Ali Shatter, Deputy Minister for Planning and Statistics at the Ministry of Finance; my special thanks and gratitude for all your help and the facilities you have given me during my data collection. My regards and thanks to all managers, accountants, auditors, and IT specialists at COCA, the Ministry of Finance, and the Ministry of Telecommunication and Information Technology for their patience and time for answering my surveys.

Abdulla Mohamed H. Al-Tholaya
Kuala Lumpur - Malaysia
Jan. 2013

TABLE OF CONTENTS

ABSTRACT	i
ABSTRAK	ii
ACKNOWLEDGMENT	iii
TABLE OF CONTENTS	iv
LIST OF ABBREVIATIONS	ix
LIST OF TABLES	x
LIST OF FIGURES.....	xii
 CHAPTER ONE.....	 1
INTRODUCTION.....	1
1.1 Background of the Study.....	2
1.2 Problem Statement	7
1.3 Purpose of the Study.....	10
1.4 Justification for the Study	12
1.5 Research Methodology and Design	18
1.6 Scope of the Study	20
1.7 Outline of the Thesis	21
1.8 Summary of Findings	23
 CHAPTER TWO	 24
GOVERNMENTAL ACCOUNTING DEVELOPMENT & REFORM, AND E-GOVERNMENT INITIATIVE IN THE REPUBLIC OF YEMEN.....	24
2.1 Introduction.....	24
2.2 Country Background	25
2.2.1 Unification.....	26
2.2.2 Political Structure	32
2.2.3 Organisational and Administrative Structure.....	35
2.2.4 Socio-Economic Structure	36
2.3 Economics, Financial and Administrative Reforms	37
2.3.1 Public Sector Reform	40
2.3.2 Accounting & Financial Management Information System (AFMIS)	45
2.3.3 E-Government Initiative in Yemen	54
2.4 Chapter Summary	59
 CHAPTER THREE	 60
LITERATURE REVIEW	60
3.1 Introduction.....	60
3.2 Government Accounting Philosophy	61
3.3 Theoretical Prospective on Government Accounting.....	62
3.3.1 Government Accounting.....	63
3.3.2 Government Accounting Development.....	64
3.3.3 Governmental Accounting Innovations	67
3.3.4 Governmental Financial Management Reforms.....	69

3.3.4.1	Adoption of Accrual Basis of Accounting	70
3.3.4.2	The Advantages of Accrual Basis of Accounting	73
3.3.4.3	The Disadvantages of Accrual Basis of Accounting	74
3.3.4.4	The Risks of Moving to Accrual Basis of Accounting	75
3.4	Accrual Basis Versus Cash Basis Accounting.....	77
3.5	Reporting and Classifying Prior Studies on Accruals Adoption	81
3.5.1	Adoption and Implementation of Accrual Basis of Accounting	81
3.5.2	Adoption and Implementation Change Process	93
3.5.3	Governmental Accounting Reform Change Discourse	95
3.5.4	Comparative Studies in Accounting & Reporting	98
3.5.5	Determinants of Accounting Policy Change.....	100
3.5.6	Accrual Basis of Bccounting & New Public Management (NPM)	101
3.5.7	Accrual Basis of Accounting, NPM and IT	105
3.5.8	Accruals Accounting Adoption and Change Agents Role	106
3.5.9	Accruals Accounting Evaluative & Regulative.....	107
3.5.10	Theoretical Development, Questioning & Reasoning	117
3.5.11	Technical Application of Accruals by Governments	129
3.6	E-Government	131
3.7	Prior Studies in the Adoption of E-Government.....	141
3.8	Chapter Summary	163

CHAPTER FOUR..... 165

RESEARCH DESIGN AND METHODOLOGY 165

4.1	Introduction	165
4.2	Research Paradigm.....	166
4.3	Mixed Method Approach	173
4.4	Theoretical Perspectives	174
4.4.1	Innovations' Definition	179
4.4.2	Government Accounting Innovations' Definition	180
4.4.3	Contingency Model of Governmental Accounting Innovations	182
4.4.4	Diffusion-Contingency Model of Governmental Accounting Innovations	185
4.4.5	Diffusion of Innovation Theory (DOI)	187
4.4.6	MIS – Enterprise-wide technologies and practices	198
4.4.7	Organisation Change Theories	200
4.4.7.1	Readiness for Organisational Change	201
4.4.7.2	Organisational Support	203
4.4.8	E-Government	206
4.5	Research Framework	213
4.5.1	Innovation Factors	213
4.5.2	Organisational Factors.....	213
4.5.3	Barriers to Change	214
4.5.4	Attitude Toward Change.....	214
4.5.5	E-Government Benefits	214
4.5.6	Feasibility of Accrual Basis Adoption and Implementation	215
4.6	Hypotheses Development.....	218
4.6.1	Innovation Factors	218
4.6.2	Organisational Factors.....	221
4.6.3	Barriers to Change and E-Government	223

4.6.4	E-Government Moderating Interaction Effects	226
4.7	Sampling Frame	231
4.7.1	Questionnaire Survey Sampling Frame	231
4.7.2	Interview Survey Sampling (Frame) Design	232
4.8	Research Instruments	233
4.8.1	Questionnaire Survey	233
4.8.2	Interview Survey	245
4.9	Data Collection	249
4.9.1	Questionnaire Delivery to Respondents	250
4.9.2	Personal Supervision	250
4.9.3	Population of the Study	250
4.9.4	Unit of Analysis	251
4.9.5	Sampling Techniques	251
4.9.6	Sampling Size	252
4.9.7	Measurement Issues	253
4.10	Pilot Test and Reliability Test	253
4.11	Data Analysis Approaches	255
4.11.1	Questionnaire Survey Data	255
4.11.2	Interview Survey Data	256
4.12	Chapter Summary	257

CHAPTER FIVE..... 258

ANALYSIS AND FINDINGS..... 258

5.1	Introduction	258
5.2	Questionnaire Survey Results	259
5.2.1	Preliminary Data Examination	259
5.2.1.1	Data Preparation	259
5.2.1.1.1	Questionnaire Checking	260
5.2.1.1.2	Editing Respondents' Responses.....	260
5.2.1.1.3	Coding Collected Data for Analysis.....	260
5.2.1.1.4	Data Cleaning (Screening)	261
5.2.1.1.5	Consistency Checks.....	262
5.2.1.1.6	Treatment of Missing Values and Out of Range Values	262
5.2.1.2	Treatment of Outliers and Extreme values.....	264
5.2.1.3	Test of Normality	265
5.2.1.4	Examination of Residuals.....	266
5.2.1.5	Multicollinearity Identification	268
5.2.1.6	Linearity Assumption	269
5.2.1.7	Homoscedasticity Assumption Test.....	269
5.2.1.8	Constructs' Measurement Instrument Reliability	270
5.2.1.9	Response Rate and Non-Response Bias	272
5.2.1.10	Respondents' Profile.....	275
5.2.1.11	Descriptive Statistics	283
5.2.2	Correlation Analysis	288
5.2.3	Exploratory Factor Analysis.....	289
5.2.3.1	Stimuli	290
5.2.3.2	Attitude Toward Change	291
5.2.3.3	Adoption Feasibility of ABA.....	292

5.2.3.4	All Independent Constructs and the Moderator	294
5.2.4	Constructs' Measurement Instrument Validity	296
5.2.4.1	Content Validity	296
5.2.4.2	Construct Validity	297
5.2.4.3	Convergent Validity	298
5.2.4.4	Discriminant Validity	299
5.2.4.5	Predictive (Nomological) Validity	300
5.2.5	Hypotheses Testing	300
5.2.5.1	Multiple Regression Analysis	302
5.2.5.2	Analysing the Contextual Conditions Applicable to Reform	317
5.2.6	Structural Equation Modeling (SEM) – Path Modeling	319
5.2.6.1	Setting the stage for SEM in PLS	322
5.2.6.2	Measurement Model	322
5.2.6.2.1	Unidimensional Validity	323
5.2.6.2.2	Reliability	325
5.2.6.2.3	Convergent Validity	325
5.2.6.2.4	Discriminant Validity	326
5.2.6.3	Analysis of the Structural Model and Hypotheses Testing	327
5.2.6.3.1	Testing the Structure Model without the Moderation Effect	330
5.2.6.3.2	Testing the Structure Model with the Moderation Effect	333
5.3	Results from the Interview Survey	346
5.3.1	Analysis and Interpretation Approach	347
5.3.2	Analysis of the Results	349
5.3.2.1	Interview Respondents' Profiles	349
5.3.2.2	Analysis of Responses on the Characteristics of Yemen Governmental Accounting & Information System Currently in Use	351
5.3.2.2.1	Basis of Accounting	352
5.3.2.2.2	Government Institutional Framework	353
5.3.2.2.3	Government Financial Reporting	355
5.3.2.2.4	Government Accounting Information System & Technology	358
5.3.2.2.5	Government Accountants' Qualifications	360
5.3.2.3	Analysis of Responses on Governmental Accounting Innovations and Developments	361
5.3.2.3.1	Stimuli	362
5.3.2.3.2	The Institutional (Variables) Arrangements	364
5.4	Chapter Summary	368
CHAPTER SIX		369
DISCUSSION OF THE RESULTS		369
6.1	Introduction	369
6.2	Discussion of the Findings	369
6.2.1	Characteristics of Yemen Governmental Accounting	370
6.2.2	Contextual Factors' Effect on Yemen Governmental Accounting	372
6.2.2.1	Stimuli	372
6.2.2.2	Institutional Arrangements	373
6.2.3	The Relationships Between Attitude Toward Change and Innovation, Organisational Factors, and Barriers	376

6.2.4	The Moderating Effect of E-Government on the Relationship between Innovation, Organisational factors, and Barriers	379
6.2.5	The Relationship Between Attitude Toward Change and the Feasibility of Accrual Basis of Accounting Adoption and Implementation	382
6.3	Chapter Summary	385
CHAPTER SEVEN		386
SUMMARY AND CONCLUSIONS		386
7.1	Introduction	386
7.2	Summary	386
7.2.1	Research Question 1	387
7.2.2	Research Question 2	389
7.2.3	Research Question 3	390
7.2.4	Research Question 4	391
7.2.5	Research Question 5	392
7.3	Implication for Theory and Practice	393
7.4	Limitation of the Study	396
7.5	Recommendations for Further Research	396
7.6	Conclusion	397
REFERENCES		398
APPENDICES		419
APPENDIX (A): Results of Data Analysis		420
A.1	Descriptive Statistics	419
A.2	Statistical Analysis - Exploratory Phase	422
APPENDIX (B):		479
B.1	Supervisor - Letter of Support	479
B.2	Questionnaire Survey	480
APPENDIX (C):		508
C.1	Supervisor - Support Letter	508
C.2	Interview Survey	509

LIST OF ABBREVIATIONS

AAA	American Accounting Association
ABA	Accrual Basis of Accounting
AFMIS	Accounting and Financial Management Information Systems
AICPA	American Institute of Certified Public Accountants
CBA	Cash Basis of Accounting
CGS	Council on State Governments
CIGAR	Comparative International Governmental Accounting Research
COCA	Central Organisation for Control and Auditing, Yemen
EFARP	Economic, Financial, and Administrative Reform Program
FASAB	Federal Accounting Standards Advisory Board
G2C	Government to Citizen
GAAP	Generally Accepted Accounting Principles
GASB	Government Accounting Standard Board
GDP	Gross National Products
GDP	Gross Domestic Product
GFS	Government Financial Statistics (System)
GPC	General People Congress
ICT	Information and Communication Technology
IFAC	International Federation of Accountants
IMF	International Monetary Fund
IP	Islah Party
IPSAS	International Public Sector Accounting Standards
IS	Information System
IT	Information Technology
KSA	Kingdom of Saudi Arabia
LDCs	Less Developed Countries
MDG	Millennium Development Goals
NFPM	New Public Financial Management
NPM	New Public Management
OECD	Organisation for Economic Co-operation and Development
PDRY	People Democratic Republic of Yemen
PFMR	Public Financial Management Reform
PMR	Public Management Reform
PRSP	Poverty Reduction Strategic Plan
RAB	Resource Accounting Based
RIGNA	Research in Governmental and Nonprofit Accounting
RoY	Republic of Yemen
SEM	Structural Equation Modeling
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nation
UNDP	United Nations Development Programme
USA	United States of America
WB	World Bank
XML	Extended Mark-up Language
YAR	Yemen Arab Republic
YSP	Yemen Socialist Party

LIST OF TABLES

<u>Table</u>		<u>Page</u>
2.1	Distribution of Resident Population in the Republic by Age, group and sex.....	31
2.2	Parliament Election Results.....	34
2.3	Internet Usage and Population Statistics.....	58
3.1	Overview appraising, critical studies considering cash vs. accrual accounting reforms.....	80
3.2	Main Features of Cash and Accrual Accounting Systems.....	93
3.3	Contrasting Models of Accounting.....	97
3.4	Internet Web Sites Usage.....	132
4.1	Shifting Paradigms in Public Sector Service Delivery.....	176
4.2	Question Items of Stimuli.....	234
4.3	Pilot Test Reliability Results Summary.....	254
5.1	Coding Collected Data from Questionnaire Survey.....	261
5.2	Treatment of missing values and out of range values.....	263
5.3	Treatment of outliers and extreme values to achieve normality.....	265
5.4	Normality Test for Main Constructs.....	266
5.5	Examination of the Residuals (Summary of Regression Analysis Results).....	267
5.6	Results of Multicollinearity.....	269
5.7	Reliability Test for Research Main Constructs.....	271
5.8	Analysis of Respondents Response Rate.....	274
5.9a	Respondents' Demographic Profile.....	276
5.9b	Respondents' Use of Computer and Training.....	280
5.10a	Descriptive Statistics.....	286
5.10b	Descriptive Statistics.....	288
5.11	Pearson's Correlations' Matrix with Alpha Reliability, Mean, and Standard Deviation..	288
5.12	Rotated Component Matrix & Factor Loading for Stimuli.....	290
5.13	Rotated Component Matrix & Factor Loading for Attitude Toward Change.....	291
5.14	Rotated Component Matrix & Factor Loading Adoption Feasibility.....	293
5.15	Rotated Component Matrix & Factor Loading Range for All Independent Constructs and the Moderator.....	294
5.16	Constructs' Average Variance Extracted and its Square Roots.....	298
5.17	Correlations' Matrix with the Square Root of AVE, Mean, and Standard Deviation....	299
5.18a	Regression Results of Direct Effect.....	303
5.18b	Summary of Hypotheses Testing Results Direct Effect.....	305
5.19a	Regression Results with Moderating Effect.....	307
5.19b	Summary of Hypotheses Testing Results with Moderating.....	308
5.20a	Regression Results of Moderating Interaction of E-Government.....	310
5.20b	Hypotheses Testing Results Summary with the Moderating Interactions.....	311
5.21a	Regression Results of Moderating Interaction of E-Government.....	312
5.22a	Regression Results Collective Moderating Effect of E-Government.....	313
5.22b	Hypotheses Testing Results with the Collective Moderating Interactions.....	314
5.23a	Regression Results of Direct Effect (Mediating→Dependent).....	315
5.23b	Hypotheses Test - Direct Relationship between the Mediator and Dependent.....	316
5.24	Hypotheses Testing (EFA) – Summary.....	317
5.24a	Comparison of PLS and CBSEM.....	321
5.25	Cross Loading - Confirmatory Factor Analysis.....	324
5.26	Convergent Validity of Constructs.....	326
5.27	Latent Variables' Correlations.....	327

5.28	Parameter Estimation of PLD Models by Bootstrapping Method.....	331
5.29	Goodness-of-Fit Index for the Three Models.....	332
5.30	Blindfolding Results.....	332
5.31.1	Tests of PLS Algorithm Paths and Bootstrapping for Stage 1&2.....	338
	- STIM*E.GOVt -> T.ATTIT & C.AGNT*E.GOVt -> T.ATTIT	
5.31.2	Tests of PLS Algorithm Paths and Bootstrapping for Stage 1&2.....	339
	- R.ADV*E.GOVt -> T.ATTIT & COMPT.COMPLX*E.GOVt -> T.ATTIT	
5.31.3	Tests of PLS Algorithm Paths and Bootstrapping for Stage 1&2.....	340
	- ORG.S*E.GOVt -> T.ATTIT & T.RDNS*E.GOVt -> T.ATTIT	
5.31.4	Tests of PLS Algorithm Paths and Bootstrapping for Stage 1&2.....	341
	- BARRIs*E.GOVt -> T.ATTIT & T.IT.INFRA*E.GOVt -> T.ATTIT	
5.32	Results of Hypotheses Testing Using Structural Equation Modeling.....	342
	- No Simultaneous Moderation Effect (Moderation Effect Once on Each Relationship Only)	
5.33	Tests of PLS Algorithm Paths and Bootstrapping for Stage 1&2.....	344
	- Simultaneous Moderation Effect	
5.34	Results of Hypotheses Testing Using Structural Equation Modeling.....	345
	- Simultaneous Moderation Effect	
5.35	Respondents of the Semi-Structured Interview.....	350
6.01	Summary of Research Questions, Objectives, Theory, and Findings.....	384

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
2.1	Distribution of Yemen Parliament Seats by Party.....	32
2.2	Developments in Main Macroeconomics Indicators.....	40
3.1	Common Government Accounting & Reporting Structures.....	68
3.2	Hussein's model of the innovation process with respect to accounting change..	128
3.3	Internet Web Sites Usage.....	131
3.4	Internet in Arab Region.....	133
3.5	Yemen E-Government Portal.....	139
3.6	Dimensions and stages of e-government development.....	148
4.1	Lüder (1994) Contingency Model.....	181
4.2	Diffusion-Contingency Model for Governmental Accounting Innovations...	186
4.3	Diffusion of Innovation Model.....	187
4.4	Variables Determining the Rate of Adoption.....	191
4.5	Diffusion of Innovation Process Model.....	191
4.6	A Summary of IT Innovation Adoption Models and Process.....	196
4.7a	Research Framework – Grouped Model.....	216
4.7b	Research Framework – Detailed Model.....	217
5.1	Alternative Models for Testing the Mediating Effect.....	329
5.2	Testing the Moderating Effect Individual-Effects.....	334
5.3	PLS Algorithm and Bootstrapping Path Modeling Results.....	343
5.4	Exploring and Coding Data in Qualitative Study.....	348

CHAPTER ONE

INTRODUCTION

Yemen's government reform, in particular the financial management reform, is related to New Public Management (NPM). Government accounting in response to such events had to change to meet such changes in format and structure for many countries including the United States of America. The United Nations and many other financial institutions – International Monetary Fund (IMF) the World Bank (WB) - and professional bodies in the world such as International Federation of Accountants (IFAC) reacted to such developments and to other developments in Information Technologies. During that period, North Yemen (Capitalist) and South Yemen (Socialist) united in 1990. United Yemen Government went through many major developments at all levels including modernising the state systems and the adoption of accrual basis of accounting.

The aims of this study is to describe the existing institutional framework and policy characteristics of Yemen governmental accounting and reporting system, the environmental conditions or factors that affect Yemen governmental accounting system to change, and to investigate its favourable and unfavourable effects. Lüder's contingency model (Lüder, 1989; 1992; 1994; & 2001) is applied to this part of the study to determine whether the existing system and environmental context are favourable or unfavourable of such reform change.

Additionally, this study investigates the relationships between producers of information, attitudes toward change, and the innovation factors, organisational factors, and barriers to accrual basis of accounting in reform change. The study also investigates the moderating effect of E-Government on the relationship between innovation factors, organisational factors, and barriers and attitudes toward change. Finally, this study examines the relationship between attitudes toward change and the feasibility of accrual basis of accounting adoption and implementation.

1.1 Background of the Study

The Republic of Yemen was established on May, 22nd.1990, merging two states; Yemen Arab Republic, pro-westerners in the North with the Democratic Republic of Yemen pro-eastern socialists in the South. Article (5) of chapter 1 (The Political Foundations) of the Constitution in the newborn country states :-

“The political system of the Republic of Yemen is based on political and partisan pluralism in order to achieve a peaceful transformation of power. The Law stipulates rules and procedures required for the formation of political organisations and parties, and the exercise of political activity. Misuse of Governmental posts and public funds for the special interest of a specific party or organisation is not permitted”. (Republic of Yemen Constitution, 1994, p.1)

The partisan pluralism and peaceful transformation of power provided a huge shift of the country's governing system. The country had to maintain democracy and the peaceful transition of power for the parliament and the office of the president of the republic by term elections, referring to the periodic system of accountability (which in turn requires the government accounting system to change to accrual basis of accounting in maintaining this condition). At the unity stage until early 1994 there were so many promising factors leading

to the development of a united Yemen and taking it out off its unstable political and economic conditions. The production of oil and gas was one of the promising factors.

However, the first Gulf War in 1991 tumbled many of these promises and resulted in huge financial burdens followed by political unrest, which led Yemen to civil war in 1994. The country suffered huge deficits in addition to the accumulated foreign debts inherited from the former states. To overcome this financial crisis, in 1995 the country's leadership initiated many major structural reforms for the whole country's systems to meet the conditions of the World Bank (WB) and the International Monetary Fund (IMF) so that Yemen could get their help and support.

The report of the mission of the IMF to Yemen in March 1996 (IMF, 1996) on Yemen macroeconomic developments and financial condition (since its unification) identified the following economic and financial crises :-

1. Since 1990, Yemen macro economy started to record negative figures as a result of many external shocks and internal unrest.
 - a. The 1st Gulf War resulted of the return of Yemeni immigrants working at Gulf states. Their number was estimated at 10% of the whole population of Yemen. Foreign aids' incomes from Gulf States shrink badly from 40% to 7%. Yemeni workers' money transfers (1990-1996) went down sharply from 1.5 billion USD in 1990 to 1.1 billion in 1996.
 - b. The fall of the Soviet Union totally stopped the aids and therefore resulted in more foreign debts.

- c. The reunification of the country resulted in more spending as a result of the merger between the two political and administrative systems in addition to the burden of unproductive government corporations and units carried over from the southern part.
 - d. The civil war of 1994 resulted in huge military spending and huge damage to successful government corporations, which adds up extra burden to public finance deficit.
- 2. The outcomes: negative results of the civil war and the fall of the Soviet Union sharply affected the country's gross domestic product (GDP) in 1990-1991.
 - 3. Inflation rate in urban cities grow from 30% in 1990 to 65% in 1994.

Yemen government accounting and financial systems were then operating manually using cash basis accounting system, which supported and represented a simple form of government (Egol, 1987). United Yemen becomes a big country that has to face all challenges so that it can meet its promises of achieving economic developments, growth, and good living standards for its people. It is evident that conventional sources of government income from taxes, duties, zakat, gas and oil, and other sources were not enough. Other sources of income, from commercial and non-commercial activities have to be generated. Privatisation of public-owned enterprises and going into partnership with the private sector took place, but not for all government enterprises.

On December 3rd.2003, the United Nations Development Programme (UNDP) in Sana'a, the capital of Yemen, held a regional workshop on E-Government, as part of the United Nation (UN) millennium objectives, to promote Information Technology (IT) development and E-Government applications in the public sector as an effective reform tool to bring

down government operation costs, promote transparency and accountability for good governance, and to meet tomorrow's knowledge societies. The workshop aimed at helping decision makers identify and deal with major issues related to public administration reform and e-government services, legal and regulatory aspects, e-tools and technical requirements. The workshop stressed the urgent need for an e-readiness assessment as a prerequisite for future ICT development, called for the formation of a national ICT advisory council, the development of a national plan for using ICT in socio-economic development. In part, E-government services will link government entities electronically and will facilitate inter-government operation and integration and thus smoothes the flow of accounting transactions, reports, and information.

In the fiscal year of 2005, the IMF, the WB, and other donor countries reached an agreement with the government of Yemen on Public Financial Management Reform (PFMR) strategy. The PFMR strategy clearly pointed out the adoption of full accrual basis of accounting. Thereafter, Yemen government cabinet officially approved that strategy on August 9, 2005 (resolution 253).

Therefore, the adoption of accrual basis of accounting is an essential part of PFMR. Public sector reforms mainly came as a result of economic constraints and fiscal pressure which in turn raised the demand for improving financial accountability, efficient use of government money, and the need to assess its performance. Accrual accounting is not only about financial reporting; rather it is about the whole process of the government financial management system (Hepworth; 2003). Many countries adopted accrual basis of accounting. The leading were New Zealand, Australia, United Kingdom, Canada, and the United States of America. In addition, some developing and underdeveloped countries are

also intending to adopt accrual basis of accounting such as Malaysia, India, Bangladesh, and Yemen.

E-Government is the use of information technology capabilities such as the Internet (as the major tool to be used utilizing ICT), to transform government works for better service delivery, efficiency and cost effectiveness. E- Government is about reform. The adoption of accrual basis of accounting under the package of PFMR is a reform process. It is an information system that can be utilized through information technology through local computers, networks, and linked with remote computers that can be integrated and provide timely and cost effective accounting and financial management information (on government assets and liabilities). Accrual basis of accounting is the essential element in NPM; and NPM and E-government deals, in general with same problems as these terms represent two notions that are frequently used in the debate of modernizing government (Homburg, 2004). Wallace (2004) foresee the urgent need for cross local governments, national governments, and international body governments for developing international public sector accounting, auditing, and regulatory standards. Yapa and Guah (2012), analyzed how new public financial management system must tackle the efficiency and effectiveness of the public sector and the emerging accrual basis of accounting with e-governance for greater e-transparency on public-sector accounting in Sri Lanka. Therefore, E-Government services is eventually expected to enhance the adoption of accrual basis of accounting.

1.2 Problem Statement

From the previous discussions, several issues highlighted problems on government accounting and problems to its environment. It addresses many dimensions and factors from different angles to show the volume and intensity of the problem. These related issues explicitly address the research problem statement, and can be summarised as follows :-

1. The government of Yemen inherited a bureaucratic centralised system. Besides that, almost all of the system functions and procedures are manually performed. That includes the civil service system (*with more than 450,000 permanent employees*) and the accounting and financial management information systems. The majority of the government workers are under paid because of the government's lack of income resources and the high number of employees. It is well known to officials that government employees' income is not enough at all for their survival, but nothing can be done at this stage. That directed some of them to look for other sources of income by means of corruption, which is running high in most of the government organisational levels.
2. The government has to do constructive reform that will fix its systems to improve its efficiency, lower its operational costs (e.g., browsing cost, related to credit rating positive reporting), increase its revenues, and meet the challenges of the technological age. Financial and technical assistance and support provided by international organisations and donor agencies is needed to achieve that, and that is based on contractual agreements (subject to specific restrictions and conditions) between the government of Yemen and the IMF, the WB, and other international donor agencies.

3. Many policies have been implemented including the decentralisation of most of the central government works to governorates and local authorities, the privatisation of unsuccessful government enterprises and contracting out much of the government asset projects. This was the starting point to convert to the New Public Management and to generate revenues for the government from the utilisation of Information and Communication Technology (ICT) investment projects and its related businesses. To change the management style and approach, the accounting system had to be changed to meet the objectives of the new public management style (NPM).
4. There are several trends of change in the government of Yemen currently under progress. That covers the modernisation of the government information systems, and in particular reforming and modernising its Accounting and Financial Management Information Systems (AFMIS) as part of a comprehensive project for the civil service.

Therefore, modernising the government works means the introduction of a new and unfamiliar Information Systems (IS), Information Technology (IT), and ICT, and E-Government. Public sector financial managers in ministries are responsible for establishing the internal financial control framework according to the specifications laid down by the Ministry of Finance.

Reforming the government accounting system means changing the system from cash basis to accrual basis; this was completely different and unprecedented. Government financial officers and auditors know the current cash basis accounting system and will have to

understand and carry out the modernisation and reform change to accrual basis of accounting.

Therefore, Yemen government leadership had to reach an acceptable level of confidence and believe on the reform decision based on the feasibility of the adoption and implementation of accrual-basis accounting, and had to enroll its financial officers and their deputies, chief accountants, chief auditors, and department heads, and in the reform process putting so much consideration to their attitude and behaviour towards the feasibility of accrual-basis accounting.

Although the Yemen government leadership had officially (signed with international agencies and donor countries) adopted the reform change policy but in fact still reluctant to actually adopt and implement the reform change. Besides, the government financial officers and their deputies, chief accountants and chief auditors department heads are not involved in the reform process. Their attitudes and behaviours towards the feasibility of the adoption and implementation of accrual-basis accounting do matter. Negative attitude and behaviours will hinder and eventually will cancel the reform process. The reality is that cash and modified cash based accounting are still in use and recently the intention is to adopt IFAC's IPSAS cash basis standard. Specifically, this study attempts to answer the following research questions :-

- 1) What are the characteristics of the Yemen governmental accounting and reporting system?
- 2) What are the perceived environmental conditions or factors that have effect on Yemen governmental accounting and reporting system during change?

- 3) Is there a relationship between attitudes towards change and innovation factors, organisational factors, and barriers?
- 4) Does E-Government moderate the relationships between attitudes toward change and innovation factors, organisational factors, and barriers?
- 5) Does attitudes towards change affect feasibility of accrual basis adoption and implementation?

1.3 Purpose of the Study

Government financial information systems and financial disclosure practices emerge from government accounting system. Its state of development results from the interaction between the supply of and demand for government financial accountability and transparency. Yemen political opposition parties' block demand greater financial accountability and transparency from the ruling party. The production and dissemination of such information by governments in all types of political systems lack the economic incentives to do so (Lüder, 1992). But some political systems exert a greater demand for government accountability and transparency than others (Lüder, 1992).

In a democracy, the government is obliged to be more responsive to information demands by beneficiaries in both developed and developing countries alike. However, the opportunity cost of resources used in improving government financial information is higher in underdeveloped and developing countries than in developed countries. Therefore, even if governments in democratic developing and underdeveloped countries are willing to undertake government accounting reform, they cannot afford it because they are both reluctant and faced with internal and external opposition due to the level of corruption in

the system. Reform involves changing the policies and procedures of government accounting as most countries have their own rules and regulations for government accounting systems which are in use for a long time. Thus, it is high time for government accounting reform in Yemen.

The public sector in Yemen plays a major role in the economy. The government annual spending is close to 40% of the country's gross domestic products (GDP) (Ministry of Finance, 2006). The late 90s and the following decade of information and communication technologies mostly acquired by government corporations represented huge businesses. Yemen government benefited much from that field of work in the form of income generation and the development of government works and services and the promotion of knowledge society. This shows the significance of the government spending in the economy. In light of all the issues, this study is conducted with the following objectives:-

- 1) To describe the institutional framework and policy characteristics of Yemen governmental accounting and reporting system currently in place.
- 2) To describe the environmental conditions or factors that affect Yemen governmental accounting system to change and to check its favourable or unfavourable effect.
- 3) To investigate the relationships between attitudes toward change and innovation factors, organisational factors, and barriers.
- 4) To investigate the moderating effect of E-Government on the relationship between innovation factors, organisational factors, and barriers, and attitudes toward change.
- 5) To examine the relationship between attitudes toward change and feasibility of accrual basis of accounting adoption and implementation

The above objectives intended to provide factual description and empirical results on Yemen central government accounting and reporting reform change at the information age and E-Government, so that government leaders and top managers can understand and gain broader and more specific views to better coordinate and cooperate for successful adoption and implementation of accrual basis of accounting system that is compatible with IT and E-Government environment.

1.4 Justification for the Study

Research in government accounting was limited, but emerged in the 1980's because of the increased awareness of governments' administration on the limitations of cash basis accounting and due to the need for accrual basis of accounting (for better and more efficient government services, which provide sound financial information). This paved the way for other governments to follow and encouraged international agencies to take some serious steps in that direction.

Governmental accounting, in a narrow sense, is defined as a system for measuring the effects of economic activities and financial transactions of public institutions. In a broader sense, the term is used to encompass not only the financial measurement of activity, but also budgeting, financial reporting, and auditing (Chan, et al. 1996).

In the academic literature of government accounting reform and change there are two approaches (models) :-

- 1- The result approach, which looks at the outcome letting the process, hidden in a "black box" and

- 2- The process approach which focuses on the process itself from the initiation stage to the final outcome, found to be in use :-

According to Hussein (1981), the innovative process in financial accounting standards setting model derived from marketing and organisation theories by Zaltman et al (1973). This model represents the second approach. Hussein, in his remarks for future research emphasised the importance of using multiple methods to conduct such process research (such as using questionnaires and interviews).

Lüder (1992, p.108), for the first time presented a comprehensive contingency model of introducing accounting innovations in the public sector, “A contingency model of governmental accounting innovations in the political-administrative environment” (Lüder, 1992, p.108) later known as the “the Contingency Model” based on a comparative study of several developed western countries. This model based on multi-theory approach but fundamentally, it is an economic model. This model represents the 1st approach “the black box” (Lüder, 1992). The model explains the environmental conditions that have an impact on the introduction of accounting change.

Critics on this model continue and many modifications to the model have been made (see Lüder 1994, and 2001). Lüder (2001) explained the contingency diffusion of innovation combination model for government accounting proposed by Godfrey, Devlin and Merrouche (2001, p.280) as a dynamic extension of the contingency model. It is intended to assess the organisation innovativeness. The model added an implementation module to characterise the innovation decision process and the consequences of that process are then

fed back to the elements of the contingency model. He mentioned that the model theoretically may be sound but to put it to real practice is difficult due to its complexity.

Often the adoption of accrual basis of accounting is taken as a measure of reform, which seems reasonable because the accrual basis would fundamentally require the recognition of governmental non-financial assets (e.g. fixed assets) and long-term liabilities (e.g. pensions). Such information tends to be neglected by an accounting system whose function is limited to monitoring the execution of the cash budget.

The adoption of accrual basis of accounting represents a qualitative innovation change in governmental accounting (Chan, et al. 1996; p.13-14). Chan et al. (1996, p.12) suggested future research to be devoted to identifying the attributes of governmental accounting systems, defining what constitutes innovations, documenting the process that generate and implement innovations, tracking the consequences of innovations, and tracing the diffusion of innovations internationally. Specifically, they mentioned that:

- Governmental accounting innovations might be considered as one category of innovations so that Comparative International Governmental Accounting Research (CIGAR) scholars can take advantage of the considerable literature on (diffusion of) innovations.
- Thus innovations can be analysed in terms of their relative advantage over old practices, compatibility (with eg. values and beliefs, current practices), complexity etc. whether that is the case with governmental accounting innovations might be a research topic (Chan, et al. 1996, p.14).

In the early 90's, New Zealand was the first country to adopt the accrual basis of accounting in the government. This country faced difficulties but the change in accounting policy proves to be beneficial.

- The IMF, WB, UN, Government Accounting Standard Board (GASB), Organisation for Economic Co-operation and Development (OECD), IFAC and other international bodies encourage governments and states to fully adopt accrual accounting. The adoption of such policy is a system reform change which will provide governments with more meaningful financial information, better reporting and control over assets and liabilities and will promote accountability and transparency for better government operation, decision making, and comprehensive understanding of its overall health. Often, the adoption of accrual accounting is taken as a measure of reform. That seems to be the reasonable approach because accrual basis of accounting fundamentally requires the recognition of non-financial assets (eg. fixed assets) and long-term liabilities (eg. pensions). Such information tends to be neglected by an accounting system which function is limited to monitoring the execution of cash budget. Thus, the adoption of accrual accounting does represent a qualitative change in governmental accounting (Chan, et al. 1996; p.13-14). As the accounting system under the accrual basis will provide valid and reliable information on the government financial position and will consider its assets and liabilities in the short and long run which indeed represent a qualitative change in government accounting.
- Christiaens & Vanhee (2002) stated that accrual financial accounting system records revenues and costs when earned leading to results with respect to the equities being part of the balance sheet. It discloses financial economic information based on its true and fair values according to its external-internal financial economic relationship

using the double entry of accounting to disclose performance measurement economic and financial results.

- Lüder's contingency model of governmental accounting innovations aimed at specifying the socio-political-administrative environment prevailing in a country and its impact on governmental accounting innovations and to contribute to explaining why those innovations took place in some countries and did not in others. This economic model provided a theoretical framework applied later on by many researchers and still valid until today (Lüder, 1992; 1994).
- Lüder's (2001) latest model is the Financial Management Reform Process Model. It is a theoretical model adjusted to meet the outcomes of research in other countries, but still under the contingency approach.
- Hepworth (2003) specified the preconditions that have to be met to have a successful introduction of accrual basis of accounting – of which are :-
 - Consultation and Acceptance
 - Participation of the Accountancy Profession
 - Comprehensive management training
 - A willingness to use incentives and penalties
 - An appropriate cultural approach
 - The accruals approach is part of a process reform
 - No systematic corruption
 - No informal parallel processes have evolved or are allowed to complement the formal processes and, consequently, rules specified about the introduction of accruals accounting and budgeting will be obeyed
 - The state of progress on other reforms linked to the availability of resources for the reform process and political consensus

- Chan et al. (1996, p.11-12) stated that "the contingency model hypothesises that contexts influence the nature of governmental accounting systems. In this sense, contexts may be as important as content. Accounting researchers might feel they know more about accounting than about the environment of accounting. Thus, it is more intellectually rewarding to explore the contexts instead". A greater amount of research attention has been paid to the contextual variables than to the behavioural variables. Innovations are made by people, as such, their attitudes and behaviours do matter.
- (Chan 2002, p.27) stated that most of CIGAR work is on normative approach. He stressed the need for a "Positive approach to supply policy makers and their advisors with factual information about the type of government accounting that is compatible with the political and governmental system in place". It will help in predicting the acceptance or rejection of policy proposals one of which is the adoption of accrual basis of accounting.

This study is motivated by the following discussion factors:

1. There is not much research on accrual basis of accounting applicability to the government. (With current trends of total government systems' change enabled by E-Government initiatives in many countries, it is likely that we will witness more research on this area in the future).
2. Although studies on individual countries add to CIGAR literature and enable the setting of international government accounting, to the researcher best knowledge, there are have been no published research that address the adoption of accrual basis of accounting that reflects the change in the government of Yemen accounting policy and the role of E-Government.

3. This study adds to knowledge and theory by providing a description of Yemen governmental accounting and reporting, institutional framework, and policy characteristics and identifies the environmental factors that might hinder the reform change.
4. It also adds a new model statistically tested for the adoption and implementation of accrual basis of accounting and the moderating role of E-Government effects.
5. This study can be used further in comparative international accounting studies.
6. Findings of this study will be useful for interested parties in the government for further reforms and developments, for setting standards, for international agencies and investors.

1.5 Research Methodology and Design

The contingency model of governmental accounting (Lüder, 1992;1994;1996), which is considered as a (paradigm) used in comparative international governmental accounting research (CIGAR) studies is applied in this study. Additionally, E-Government that has multiple dimensions which comprises so many research studies is too difficult to be covered here. Only the benefits of E-Government are used in this study. Number of theories used in this study including the theory of reasoned action and technological acceptance model to support attitudes toward change. Also, from management information system theories the researcher chose IT infrastructure which is needed for the study. From organisational change theories, readiness for organisational change construct was selected to measure the level of readiness as this construct actually is constructed to reflect four main dimensions of which behavioural and attitudinal factors is involved and is considered important for this study. Organisational support theory is also added to this study as any

reform in any form of organisation has to have an acceptable level of support that is vital and needed to encourage the transformation, and to block or weaken the barriers. Diffusion of Innovations Theory (Rogers, 1995) is used to support the characteristics of governmental accounting innovations for selected constructs compatibility, complexity or ease of use, relative advantage of accrual basis of accounting, and the role of change of the agent in the reform process.

The source of data collected to conduct this study came from three sources; secondary archival research data, primary data from the questionnaire survey, and interview. The archival data represented in a matter of historical sequence according to documents gathered from the government and other organisations such as the constitution of the republic, laws, bylaws, regulations, final accounting, special studies and reports, consulting agencies reports, international and donor international agencies, and official documents regard the reform change planning, process and application. Data from the questionnaire survey were collected from official respondents who are professionals knowledgeable in the field of accounting and have sufficient experience. This includes governmental general managers for financial affairs, their deputies, accounting, auditing, and finance department heads and their deputies, controllers, and financial managers, and auditors. The questionnaire survey was conducted to cover Yemen central government and its agencies. The ministry of finance controls the function of government accounting and finance, the staff officially not under the ministry or authority or government organisation but under the authority of the finance minister. The same thing happened with the audit function which is controlled by Yemen Central Organisation for Control and Auditing (**COCA**), which functions as an external auditor only. Respondents' responses from the questionnaire were collected and keyed in to SPSS 18 for windows, and then statistical data analysis

procedures and application were taken to get the optimal results, that answered the research questions. The data was then analysed for structural equation modeling (SEM), path modeling and confirmatory analysis, using the SmartPLS 2.0 - M3 software program.

Data from the interview survey was analysed manually and used mainly to confirm the results extracted from the questionnaire survey analysis and to answer in part questions one and two (that are qualitative in nature).

1.6 Scope of the Study

This study gathered data from 203 government officials specialised mainly in government accounting, finance, and auditing in Yemen central government, in July 2009. Top government officials include general managers for financial affairs, their deputies, accounting, auditing, and finance department heads and their deputies, controllers and financial managers, and auditors.

Cross-sectional interview survey was performed; the data was collected from governmental leaders such as ministers, vice ministers, and deputy ministers from academicians of Sana'a University, professional society in accounting.

1.7 Outline of the Thesis

This thesis contains seven chapters. The following provide an overview summary of each chapter :-

Chapter 1: Provides an overview of the research study. It delivers an outline of study background, statement of the research problem, purpose of the study, justification of the study, this outline and a summary of the research study.

Chapter 2: Country background – Republic of Yemen background, governmental accounting development & reform and E-Government initiative - provides a comprehensive overview coverage of the country under study unification process, political structure, geographic importance and population, organisational and administrative reforms and the socio-economic structure of the country. The chapter addresses the current issues on governmental accounting innovations and public financial management reforms including accounting and financial management reforms and the role of E-Government imitative in a broader scene.

Chapter 3: Provides an overview of prior research studies contrition's that are related to the development of this study. That is on the adoption and implementation of accrual basis of accounting by central government in the Republic of Yemen, which is considered very important to the country in general and for government financial management and accounting. It is also important for the development and improvement of the whole public sector. Such reforms will improve the government works at lower costs and will enable the government to acquire more finances and investments. The following

chapter fills the gap that is covered by research of this study as recommended by gurus.

Chapter 4: Research theory, design, and methodology. Provides an outline of the methodological approaches used in this study, which mainly took the mixed method approach to reach sound reliability and a high validity level. The methods selected for this study are the quantitative analysis through the survey questionnaire, the qualitative approach by using the interview survey, and a secondary source of data from the archival research (attached to the real world and to reality).

Chapter 5: Analysis and findings, provides this study after conducting data analysis from the three sources of information collected from the questionnaire survey, from the interview survey, and from archival research, which was mainly presented in chapter two in this study. This chapter expressed the final results found out of the analysis.

Chapter 6: Discussion of the results; this chapter discusses the findings from the exploratory and confirmatory data analysis for the data gathered from the interview survey as well as from the questionnaire survey, sort them, and relate them directly to the objectives of this research study.

Chapter 7: Summary and conclusion presents a summary of the findings of this research study supplied by the drawn conclusions. It explains the main findings and its theoretical implications to government leaders and policy makers in the Republic Of Yemen on the feasibility of the adoption and implementation of accrual basis of accounting. The findings will be of great use in the future for

the valuable contributions that are expressed by this study of information technology infrastructure, readiness for organizational change, and the benefits of E-Government services as predictors of attitudes toward change and the adoption and implementation of accrual basis of accounting, which will initiate further research and development that can help in future reforms and policy establishment.

1.8 Summary of Findings

The results from the interview survey confirms the findings of the questionnaire survey. The final results show moderating effect of the benefits of E-Government services on each independent construct relationship between attitude toward change (the feasibility of the adoption and implementation of accrual basis of accounting) but when tested simultaneously the moderating effect of the benefits of E-Government services found only the following three relationships (Stimuli-->Attitude Toward Change, Relative Advantage-->Attitude Toward Change, Organization Support-->Attitude Toward Change) The mediating role of attitude toward change proved to relate positively and significantly to the adoption and implementation of accrual basis of accounting feasibility for the central government in the Republic of Yemen. Therefore, all independent constructs hypotheses are supported and proved to relate significantly to attitude toward change to accrual basis of accounting and reporting system.

CHAPTER TWO

GOVERNMENTAL ACCOUNTING DEVELOPMENT & REFORM, AND E-GOVERNMENT INITIATIVE IN THE REPUBLIC OF YEMEN

2.1 Introduction

As a major theoretical framework guiding comparative international governmental accounting research (CIGAR), the Contingency Model's (Lüder 1992, 1994) purpose is: *“to specify the social-political-administrative environment prevailing in a country and its impact on governmental accounting innovations. It is finally aimed to contribute to explaining why those innovations took place in some countries and did not in others (Lüder 1994, 1)”*.

This chapter provides a background and details the necessary unique information concerning the newborn state, The Republic of Yemen (RoY), its country profile, geography, location, and population, covering main events and driving forces (factors) that led to the transition and reform. That is mainly by addressing the country's unification, political structure, organisation, and administrative structure, socio-economic structure, and administrative and financial reforms, then narrowing that to the governmental accounting and financial management information system reforms, and concluding with the development in E-Government initiative. The uniqueness of the two Yemens (one Pro-Capitalist and the other Pro-Marxist) unification represented (bright spot recorded in history) the first event after the end of the Cold War era (between the East and the West) and presented an example stimulating other similar countries (e.g. the two Germanys) to follow. The unification of Yemen delivered many lessons to the region and to the world and formed a leading experiment for democracy applicative in a region that has none.

2.2 Country Background

It is of top importance to provide valuable information concerning the Republic of Yemen (RoY). A country which was established on 22nd of May 1990 as a result of the unification of the former Yemen Arab Republic (YAR) and the People Democratic Republic of Yemen (PDRY) – each of which differ dramatically in its political and structural system, geography and population, legal and organisational structure, political and administrative, socio-economic and cultural system. A clear perspective can be observed on the conditions which led to various reforms in the country. In particular, the government needs to reform its accounting system under the civil service modernisation programs. Through public management reform (PMR), the accounting and financial management information system (AFMIS) program which represents the critical foundation new public management (NPM) considered it necessary for the Yemen government and international community (and donor agencies) for better governance, performance, effectiveness, and accountability. The poverty reduction strategy plan (PRSP) of the RoY signed with international community at the deceleration of millennium goals, set forward many goals and objectives to promote Yemen development and diverse its income resources by not just depending largely on the income coming from oil revenues, which will not last for long.

Among other alternatives, Yemen mainly could benefit a lot from the proper use of the investment made on the information telecommunication technologies (ICT) by selling its services to generate more revenues and by adopting and implementing E-Government. That is for better and more efficient governance and service delivery at lower costs, which will eventually increase the state income and therefore such an approach will lead hopefully to reduce the country's poverty and promote its citizenry to a better life.

The decade of the 1990s was considered one of the most dramatic time spans in the rich history of Yemen. Rapid and radical developments had happened and extended to happen until recently. It addressed the political, economical, structural, administrative and financial scenes of the country in a surrounding volatile and changing environment. The unification of the two Yemens, the Yemen Arab Republic (YAR) and the People Democratic Republic of Yemen (PDRY) early in the 1990s initiated the cornerstone of the modern unified country, the Republic of Yemen (RoY).

2.2.1 Unification

Historically, Yemen as a nation is unified which extended back in time to thousands of years and it was known for its uniqueness of civilization. Yemenis, despite the harsh landscape and the dry nature of their country, created sophisticated systems to overcome such problems and many other problems and generated wealth and conducted many commercial activities with the East and the West because of their country's unique geographic location. They gained knowledge in many fields and interacted, as a great nation with other nations and super powers, and became a nation of the peoples of the book since the prophet Suleiman. They became strong believers and defended the religion of God thereafter until the coming of Islam. Yemen as a nation is the first country to adopt Islam and since then Yemen has been a Muslim majority nation. Under the Islamic state, the ruler of Yemen was an Emarah and Yemen was ruled as such until it became independent from the Ottoman Empire. The southern part of Yemen was occupied by British colonists early in the 19th century (1839) and stayed under the British occupation (rule) until its independence in Oct.14, 1963. Whereas, the northern part of Yemen, after its independence from the Turks – the Ottoman Empire – in 1918, formed an Emami regime and engaged in

internal civil conflict. That led to a major war with the Saudi monarch, which led to the separation of the northern governorates (under the Idressi supervision) and the joint Saudi monarch – for a limited period under the treaty and conditions of Attaif between the two countries. It remained like so until today. The Emami monarch in the remaining northern part of Yemen continued until the deceleration of revelation, which led to the establishment of the Yemen Arab Republic (YAR) in Sept.26, 1962. Citizens of the newly born republic inherited huge problems from the Emami regime, ranging from total poverty, illiteracy, social and cultural unrests. This was followed by the sin of an unstable government system because of the East-West conflict and the fear of surrounding monarchs from the two Yemens republic systems' experiments.

This conflict led the south republic of Yemen to adopt and follow the eastern socialist (communist) coalition because of the aggressiveness and heavy load of internal divisions, and the poverty inherited and created by the British in the late 1960's. While the north part of Yemen started to relax and gain some stability in early 1970's after being recognised by the Saudis regime that provided it with economic and financial assistance and gave the Yemeni labor special work permit conditions. The USA in particular recognised the young (YAR), mainly after the death of Jamal Abdul-Nasser the president of the Arab Republic of Egypt and the pull-out of the Egyptian army units from north Yemen.

This type of formula between the two Yemens, one with the West and the other with the East during the Cold War led the two countries to engage in two bloody wars during the 1970's. This led to fear and distrust between the two systems, similar to that between West and East Germany and between the two Koreas. During the 1980's, the YAR and PDRY confronted each other in a comprehensive war, as the borders between them were too stiff

and under heavy military preparation. They showed readiness to meet at any possible moment, igniting in war. Most of the resources of the two countries were spent on military equipment and not only that but each one of them were burdened with heavy debts.

YAR witnessed better economic conditions. Foreign aid and the transfers of Yemeni workers were mainly received in the Kingdom of Saudi Arabia (KSA) and the other Gulf states. That was accompanied by political restructuring and the formation of some political diplomacy and understanding between the government and the major political parties (which then were not allowed to operate inside the country). Some consolidation was reached between the government and the major traditional tribes.

The first Gulf war between Iraq and Iran in the early 1980s led to economic and financial disruption for both Yemens. KSA budget support for the YAR stopped. Yemeni workers' work was badly affected, as a result the government had to urgently obtain other sources of income to at least maintain the support of oil and gas consumption and to import wheat and stop the heavy burden of foreign debts (which had reached 60% of GDP in 1987-1989) as a result. Oil exploration discoveries in 1984 went forward under very strict conditions between North Yemen and Hunt Oil Company, of Texas USA, and resulted in the official exportation of oil production in early 1987 from the fields in the northeast of Sana'a (Marib Governorate). Oil production by 1990 reached 150,000 b/d (Enders et al. 2002; page 3).

On the other hand, with the coming era of Mikhail Gurebatchove and his reform program *perestroika* in the Soviet Union, PDRY suffered because the Soviet Union had cut off the economic aids permanently. That led to the PDRY (a small, centrally planned economy) regime being unable to cover the country's basic needs and was confronted with heavy

burden of debt and debt services. The oil investment of Shabwah field, discovered in 1986, with the Soviet Union and its allies resulted in a production of 10,000 b\dd which did not meet their expectations and they were faced with unfinished oil facilities. The country's political front was unable to engage in direct partnership and investment with the West at that time. The unique geographic location of the PDRY in a richly surrounded pro-western political environment made it very hard to cross over the regional countries unless a proper compromise was reached, with fear and lack of trust abandoned. The country's leadership then had many scenarios on the table to choose; to engage the Gulf states in a manner that is not acceptable to the Yemeni people values by keeping the country in its format un-unified. In addition, to be under the control of regimes that is considered against the goals and values of the country's people. Yemenis fought for long to come over it, in both the South and the North or to go ahead with trends and emotions of the peoples of the two countries and become heroes through the application of the unification of the two brotherly countries and therefore record a bright spot in history. Through unification, many chronic problems were assumed to be solved, which gave inspiration to major political and economic posts that will eventually happen locally and internationally at the same time; the leadership of the South will keep a proper share of power in the new unified state.

The declaration of the newly born state named the Republic of Yemen (RoY) was broadcasted on May, 22nd .1990 for the first time. The new country's Constitution was structured to grant people more freedom of expression and give them the right to select the country's leadership through the process of democracy and free elections. Political parties were officially formed under the country's law. No power would be maintained for long; power is maintained through fair elections and power shall be delivered peacefully. Three hundred and one (301) parliament-elected representatives who then form the government

rule the country. The country also has the consultative (Shura) council, which consists of 111 appointed members (by the republic president). This council mainly delivers advisory services. The country's first combined political leadership was put in an unprecedented test at the regional and international level regarding the second Gulf War in 1991. This political stand against the war had cost the country much and would add a lot of its financial and economic burden in the years to come. Adding to the chronic and inherited problems the war of secessionists occurred in 1994. In 1995, the government started stiff reform programs after an agreement was reached with International Monetary Fund (IMF). The reforms continued. The Sept,11.2001 incident in the USA and the strong stand of the Yemen government by the USA government in the war against terrorist represented a new positive era in the relations and cooperation with the international community and this turned to work in favour of Yemen's reform and modernisation.

The unification of the two parts of Yemen changed established a new structure and form of government. The principle of democracy and peaceful transfer of power is established. The political structure of the country changed to multi-party system, which influence and monitor the free periodic elections and the performance of the ruling party (parties). Accountability and transparency became very important. The country ambitions for better and prosper living standards for all Yemeni citizens are the dreams that have to be realized from the unified country. The financial and monetary structure of the country were not healthy and promising. The government found that it has to go through major reforms to achieve the objectives of unification one of which was the modernization and development of the government accounting and financial system.

The Republic of Yemen (RoY) is a country located in the heart of the rich Arab oil producing countries, with an area of 527,970 sq. km. It has natural resources comprising of petroleum, fish, rock salt, marble, small deposits of coal, gold, lead, nickel, and copper, and fertile soil in the West ‘CIA, the world fact book’ (2008).

According to the 17th Statistical Yearbook for 2006 Yemen’s actual population count as of the 2004 census indicates an annual growth rate of 3.1% (2.3% is the average for less developed countries LDCs). The estimated population for the country is expected to increase dramatically, which will create more fiscal constraints as a result of the increased level of demand on government services and therefore will affect the political structure of the country. For more detailed and comparative review of the mentioned data of the 1994 actual census see table 2.1.

It is essential to mention that almost 50% of the total population of the country as per 2004 census was represented by the category of population being less than 15 years old of age and the population’s annual growth rate is in excess of 3%, which represents one of the highest population growth rates in the world. Such rate in addition to the illiteracy rate and scarce economic resources represent enormous challenges to the government and to the country as a whole.

Table (2.1): Distribution of Resident Population in the Republic by Age, Group, and Sex*

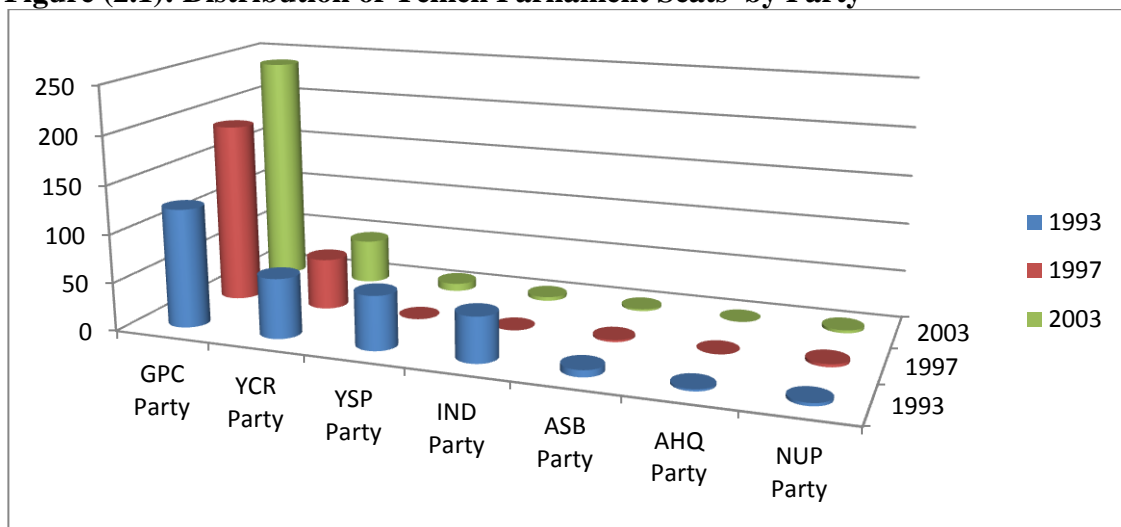
المجموعة العمرية Age group	تعداد عام 1994 Census 1994						تعداد عام 2004 Census 2004					
	ذكور Males	%	إناث Females	%	كلا الجنسين Both	%	ذكور Males	%	إناث Females	%	كلا الجنسين Both	%
0-19	4,592,068	61.5	4,229,032	59.5	8,821,100	60.5	5,846,861	58.3	5,490,763	56.9	11,337,624	57.6
20-64	2,609,015	34.9	2,640,694	37.1	5,249,709	36	3,827,283	38.1	3,833,642	39.7	7,660,925	38.9
65+	272,457	3.6	244,541	3.4	516,998	3.5	362,809	3.6	323,803	3.4	686,612	3.5
Total	7,473,540	100	7,114,267	100	14,587,807	100	10,036,953	100	9,648,208	100	19,685,161	100

*According to the final results of 1994 and 2004 censuses - CSO, RoY

2.2.2 Political Structure

The 1990 constitution of Yemen states “The political system of the Republic of Yemen is based on political and partisan pluralism”. It therefore set the stage for Yemen to become the first multi-party parliamentary democracy on the Arabian Peninsula and one of the few working democracies in the Arab world. International observers were hence surprised when, despite poor infrastructure and very low levels of education, Yemen showed that it could live up to this ambitious aim. The country’s first parliamentary election in 1993 was considered generally free and fair and the country’s opposition parties won a substantial portion of the votes.

Figure (2.1): Distribution of Yemen Parliament Seats by Party



The citizens of Yemen voted the country’s first Constitution into force in 1991, following its unification in May, 22nd. 1990. The Constitution defines Yemen’s political structure and institutions. The president of the republic is the head of the executive branch and is elected in a national poll every seven years. Based on the outcomes the parliamentary elections, he

appoints the prime minister, who in turn appoints the cabinet of ministers. The president also appoints a Consultative (Shura) Council, which currently numbers 111 members. The Consultative Council initially played a purely advisory role mainly to the executive branch, but this role has recently been expanded to include some limited legislative powers. Nonetheless, according to the constitution of the republic, the primary formal legislative organ is the Parliament; the Peoples' House of Representatives, which currently has 301 members. It enacts laws, sanctions general state policies and socioeconomic plans, and approves government budgets and final accounts. It also directs and monitors the activities of the executive branch.

However, this has been for long dominated by the ruling party, the General People Congress (GPC), and is largely ineffective as a check on executive power. Officially, only 22 political parties contested the national parliamentary election in April 2003; in reality, three parties dominate Yemen's political scene: the GPC, the Islah Party (IP), and the Yemen Socialist Party (YSP).

Parliamentary elections are held every six years (McCrum & Faulks, 2004), see table 2.2 below. Yemen held three general elections; one for selecting the republic president every seven years (the first was done in 1999), another for selecting Parliament members every six years, which occurred for the first time in 1993, and the last election for selecting local authorities' officials every five years, performed for first time on Feb. 2001.

Table (2.2): Parliamentary Election Results

Party Name	1993	1997	2003	% of Change
General People's Congress (GPC)	123	187	238	51b
Yemeni Congregation for Reform (IP)	62	53	46	-7
Yemeni Socialist Party (YSP)	56	0a	8	8
Independents	47	54b	4	-50b
Arab Socialist Baath Party	7	2	2	0
Al Haqq Party	2	0	0	0
Nasserist parties	3	3	3	0
Election postponed	1	2	-	-
Total including others	301	301	301	-

a. The YSP boycotted the 1997 election. b. Following the 1997 election, most independents subsequently joined the ranks of the GPC, therefore just prior to the 2003 election, the GPC actually held 226 seats, while Islah were estimated to hold 64 seats.

Source:

<http://www.yemenembassy.org/economic/Reports/EIU/Country%20Profile%20Yemen%202004%20Main%20Report.pdf>

Yemen's Constitution also defines the basis of the country's legal system. Article 3 of the 1990 constitution states : "Islamic Law (Sharia) is the principal source of legislation". Turkish law, English common law, and local tribal customary law are also part of the legal system.

The cash basis accounting is not fit for such political structure and the legal system of the country is structured to be served best by an accrual accounting system that is capable of providing more information on periodic accountability and performance for all government entities. Therefore, reforming the government accounting and financial management system represent a substantial step in the right direction for the country long term objectives. The adoption of accrual basis of accounting will provide reliable information on government spending and on the government assets and liabilities financial position by issuing the government financial statements and balance sheet but not the final accounts. Thus the introduction of the accrual basis of accounting under the modernization project of

the government utilizing for the an effect information systems, information technology, and information communication technology will be in the strategic interest of the country.

2.2.3 Organisational and Administrative Structure

Unified Yemen is a country organised around three overlapping effective clusters, the tribal sheikh system, the religious system, and the official administrative and civil system. These clusters directly or indirectly have a great impact on the format and structure of the political and administrative system of the government. Legally, the country's governance is performed through three functional powers; the legislative authority, the executive authority, and the judicial authority. The central government and local governments (local authorities and municipalities) govern the country under the command of the presidency. The country administrative division consists of 19 governorates and the capital Sana'a district. The country is governed, under the supervision of the presidency, by a central government which in turn (under the Local Authority Law no.4/2000 monitor the local governments; decentralised and have local budgetary autonomy) works and holds it accountable. The country's budget and final accounts are unified in context and content under the cash basis accounting method according to the articles of constitution and the laws under the supervision of the Ministry of Finance and performed independently for the central government and for the local governments and consolidated to form collectively the whole budget and final accounts of the country. The House of Representatives monitor the government's whole businesses including its budget and financial performance. The budget is shaped according to the specifications outlined by the government accounting system manual, which structured according to the specifications of the government financial law. The annual budget and the final accounts (using modified cash basis accounting) of the

government have to be approved by the parliament every year. The Central Organisation of Control and Audit (COCA) serves as the supreme audit institution in the country. COCA is responsible for the audit of the government business and financial activities and reports to the executive branch, mainly to the president and the government but also to the legislative branch. It conducts a series of regular audits of the government ministries and organisations and special audits requested by the higher authorities. The final accounts of the government annual financial work has to be accompanied by COCA annual audit reporting in order to be presented to the Parliament for discussion and approval.

2.2.4 Socio-Economic Structure

Socio-Economic is a branch of economics that focuses on the relationship between social behaviour and economics. According to many studies done by the United Nations and other international agencies, Yemen is one of the poorest countries in the world (of the world's least developed nations), with a GDP per capita of US\$460 in 2006 (Chemingui, 2007). The country mainly suffers from high rate of population growth (over 3% annually); half of the population is below age of 15, and almost half of the population are illiterate. This is in addition to other economic and social constraints. The country is mostly over 99% Arabs, the remaining fraction is represented by Afro-Arab, Euro-Arab, and Jewish. Muslims are the dominant component while Jewish and Christian are minimal. Yemen in its location and regional sight – surrounded by the oil producing rich Gulf States – surprisingly, is very poor.

Yemen traditionally is an agriculture economy. However recently its economy became more dependent on the production of oil which (will not last for long) and the income

generated from oil is subject to price volatility worldwide. The civil war burden of 1994 caused the country to inherit external mounting debts. Effects of the region's conflicts in the 80's and the 90's affected the state economy detrimentally instead of expected prosperity and growth. Therefore, the country's oil production has done little to confront such economic burden and to meet the intended social and economic development and growth.

Currently, the country most important challenges are to accelerate its economic growth and to reduce poverty level. Public spending (in contrast to that of the private sector) has grown sharply on social and investment (ie. infrastructure projects) and contained in other areas. While consolidating public finances and rationalising subsidies, Yemen is expected to reach its millennium development goals (MDG) by implementing a package of MDG major reforms outlined in its Five-Year Plan. The Plan, calls for improving quality of education and making it universal, ensuring both genders' equality, reducing child mortality and malnutrition rates, improving the health indicators, ensuring sustained economic development and growth, and improving governance through improved budget management; better public administration; high level of transparency and accountability. In other words, the government is required to achieve more with fewer resources in hand (Chemingui, 2007; p. 1).

2.3 Economics, Financial and Administrative Reforms

Prior to the unification of Yemen, the economy of the two states was fragile with more economic suffering in the south part of the country. The financial and administrative system was a combination of two systems manually operated under the cash basis of accounting

and no financial and administrative reforms were made. The establishment of the Republic of Yemen (RoY) on the 22nd of May 1990 was a step forward towards achieving political stability, although the elements and ingredients of stability were not to be achieved until the foundations of unity were fully set in after the failed secession attempt following the Summer War of 1994. The Government of Yemen (GoY) sought to confront the economic imbalances such as stagnant economic growth, budget deficits, high inflation, and administrative problems by adopting an Economic, Financial and Administrative Reform Program (EFARP), which commenced in 1995, and which is considered to be a crucial factor in achieving economic stability, vitalisation and stability, which will lead to raising incomes and creating new job opportunities. Two agreements with the IMF and World Bank were signed in early 1994. This cooperation was aimed at determining the content, design, and implementation of a civil service modernisation (strategy) program, which include AFMIS reform project to serve as the basis of the reforms as a first step. Moreover, other reform attempts have included reviewing and revising economic, financial and administrative legislations and restructuring administrative processes in order to improve the effectiveness and efficiency of Yemeni public sector organisations. On the financial administration side, for example, a number of financial, legislative, and administrative procedures have been revised, issued to allow more transparency and discipline in financial organisations. In addition, some training programs (by experts from the WB and IMF conducted at the ministry of civil services and the ministry of finance, such as computerizing the works of the two ministries and amending the budget preparation guidelines and the accounting procedures according to IMF 1986 GFS) have been provided to improve staff performance.

Therefore, Yemen First Five-Year Plan for Economic and Social Development, 1996–2000 (FFYP) included a multitude of components for economic, financial and administrative reforms, besides focusing on the required policies and programs for the alleviation of poverty in its broader concept, including provision of education, health and other basic services.

On the other hand, in 1996 the Government of Yemen in collaboration with the United Nations Development Program (UNDP) embarked on the preparation and adoption of a comprehensive program for poverty alleviation and job creation. That is by comprising advanced visions and effective components that delve into all aspects of policies, data and information, local community development, micro-credit, productivity of families, human resource development, and labour market issues.

Prior to unification, both countries had developed different accounting and administrative systems. In the former South Yemen, a centralised system was built on the foundations of a British colonial administration and amended to fit to communist socialist structure with an accounting system follows the specifications of the old Soviet Union,, while the former North Yemen system was based on Ottoman and Egyptian traditions that in general replicated the old British accounting and administrative system. Both systems agreed in principle (applying the cash basis approach of accounting) but were different in the application, function, and procedures.

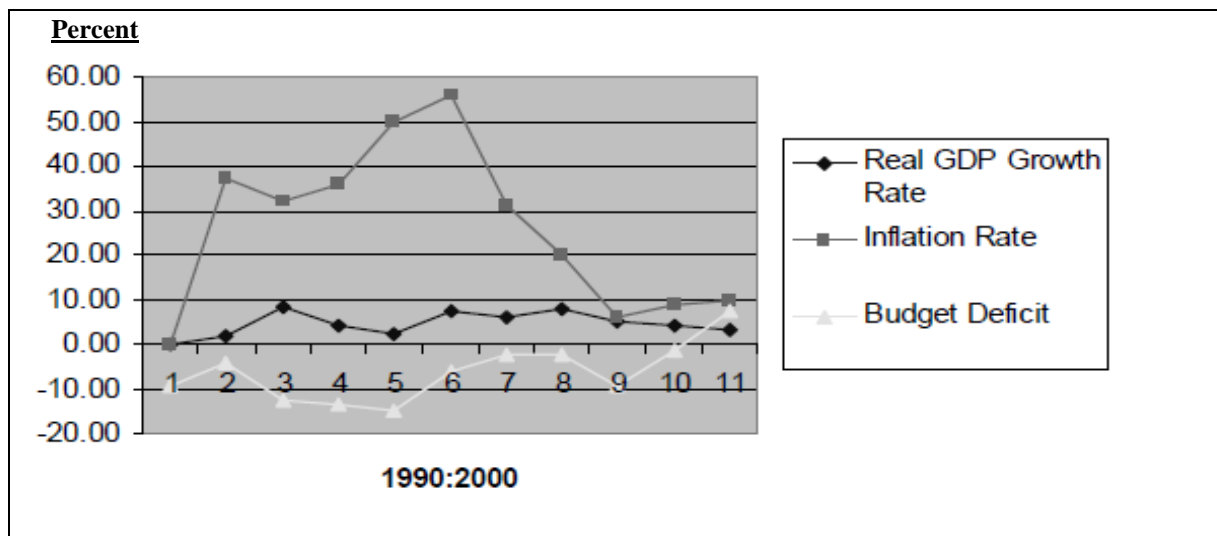
2.3.1 Public Sector Reform

Prior to unification, there were two Yemens; one in the North and the other in the South.

In May 1990, the Republic of Yemen was formed by the merging of YAR the Arab Republic of Yemen (North Yemen) and the People's Democratic Republic of Yemen PDRY (South Yemen). After unification, the new state the Republic of Yemen (RoY) witnessed sharp economic, financial, and administrative imbalances such as stagnant economic growth, budget deficits, high inflation, and administrative problems.

According to Al-Asaly¹ (2001) The performance of the economy of RoY during 1990 - 2000 period is summarized in figure (2.) which shows the economic growth, the rate of inflation, and budget deficit. All economic indicators show that Yemen's economy was deteriorating during the period 1990-1995.

Figure (2.2): Developments in Main Macroeconomics Indicators



Source (A-Asaly, 2001)

¹ S.M. Al-Asaly is a professor of economics at Sana'a University (RoY) and former minister of finance.

Al-Asaly (2001, p.11), also pointed out that:

"The real GDP grew at a rate of 1.4% on average. The real oil GDP growth rate was 7% on average while the real non-oil GDP growth rate was closed to zero on average. Unlike the contribution of oil sector that was positive, the contribution of non-oil sectors was very low.

Having a closer look at the non-oil sector, we will see that most sectors had negative and fluctuated growth rates. Only some service sectors witnessed some significant positive growth, however, these growth rates were instable. Thus, the economy witnessed permanent deep chronic structural problems rather than transient shocks, causing bad effects on almost all economic indicators."

To resolve such problems, the government undertook serious attempts at reforms. The first attempt was in intensifying economic, financial, and administrative reform programs and signing two agreements with the IMF and World Bank in early 1994. This cooperation aimed at determining the content, design, and implementation of a civil service modernisation (strategy) program, which include computerizing and developing the civil service function and AFMIS reform project to serve as the basis of the reforms. The implementation of the strategy started in 1997 and achieved some success. Other reform attempts have included reviewing and revising economic, financial, and administrative legislations and restructuring administrative processes in order to improve the effectiveness and efficiency of Yemeni public sector organisations. On the financial administration side, for example, a number of financial legislations and administrative procedures have been revised and issued to allow for more transparency and discipline in financial organisations. Also, some training programs (performed by experts from the WB and IMF conducted at the ministry of civil services and the ministry of finance, such as computerizing the works of the two ministries and amending the budget preparation guidelines and the accounting procedures according to IMF 1986 GFS) have been provided to improve the performance of the government staff. In human resources management, a census of the civil service has been completed, a computerised database of civil servants was established, restructuring

plans(of the civil service works) for nine pilot ministries and agencies were launched, and the Civil Service Fund was set up. In information management, more freedom had been given to the press (on the dissemination of information about the government civil service periodic reports and reform and on AFMIS reporting and reform).

The core of the public sector financial management is generally taken to be budget planning and preparation, appropriation by the legislature, budget implementation, accounting and financial reporting. Audit and evaluation are commonly, but not always added to this list.

Public financial management is typically described and defined per say as follows :-

Financial management is defined as “encompassing all or parts of the processes and functions of planning and programming, budgeting, budget execution and accounting, and the audit and evaluation to ensure to the maximum practical extent that the resources entrusted are acquired and used lawfully in an efficient and effective manner”.

The process to achieve effectiveness requires reliable costing information of the government operations that can only be obtained from an integrated financial management process. Scott (1995) specified the principles that are normally used to guide financial management reform in the following:

1. Use a structured planning and programming process for evaluating and choosing alternatives for achieving desired objectives;
2. Make resource allocation decisions within a unified budget;
3. Integrate budgeting and accounting;
4. Use accounting principles that match the delivery of services with its cost;
5. Encourage financial accountability- measure both inputs and outputs; and
6. Prepare consolidated reports.

According to Scott (1995), sound and proper financial management function requires a rigid foundation in financial information, which can be achieved by the establishment of an integrated system of budget formulation, budget execution and accounting system that focuses on the costs of past and future decisions. An information system capable of performing the function of public financial management is fundamental in the process of structural efficient reform, organisational change, and other aspects. While financial accountability and the measurement of both inputs and outputs, which have been taken by most countries seriously, may not be as part of a wider public administration reform framework as suggested.

In the narrower scope that is granted by many typical approaches to public financial management, the field is frequently identified as a key component within the wider systems of public resources management and policy formulation, alongside the development of information system programming, personnel and property management systems.

The leading experiences of accounting and financial management reform in countries such as New Zealand, Australia, UK, and USA accompanied by the support of IFAC, OECD, WB, IMF, and the UN encouraged other governments in the world to follow suit. According to Scott (1995), while other countries in the world are assessing the concept, countries such as Singapore, Malaysia and some Latin American countries who implemented aspects of a results-based public resources management model and continued to put more attention on public financial management modernisation to achieve efficiency, effectiveness, and result-oriented objectives. That is by emphasising the concepts of public resources' accountability in the pursuit of economic stability, economies in public expenditure, efficiency and effectiveness. That is also by taking into consideration, in a

broad view, the role of public financial management and the potential contributions it give to public financial management and development.

The focus should be in the role of public financial management, which supports public administrative reforms to meet developmental needs; the individual system of public financial management and the different mechanisms and approaches by which that can be achieved, are not as relevant as the principles of public administrative reform that they help to put and keep in place.

Accordingly, the focus is on financial management as a critical component of the total system of public administration and the role that it can play in implementing Governments' policies to promote national economic, social and other developmental goals.

Public-sector management and its reform is the major component of the governance issue, both conceptually and in relation to the efforts of international organisations in promoting improved governance. Public sector management reform in Yemen is concerned with the civil service, the government budget, public investment, accounting and financial management systems, auditing, accounting, auditing and other financial management systems, strategic planning, program evaluation, public finances, including aid coordination, economic management, the executive decision-making system, the structure of agencies, and the allocation of responsibilities. It also includes relationships between different levels of government and the framework for management of public enterprises and semi-autonomous government bodies (Scott, 1995).

2.3.2 Accounting & Financial Management Information System (AFMIS)

The Ministry of Finance performed many reforms in the field of public finance administration since 1995. However such reforms were considered not effective enough to achieve sound government financial management. Realising that objective, the Ministry of Finance along with the WB and IMF performed many studies in public finance administration (budget system, accounting and financial accountability, and tenders' system). The outcomes gained from these studies pointed out to the importance of continuing the civil service reforms further reforms to improve the government financial management and should be given priority in its execution for the following reasons :-

1. It helps the government in the establishment of a sound and sustainable system infrastructure for its macro-financial policies, which will improve the prediction in medium to long term; sustainable development and poverty reduction.
2. It will enhance the effectiveness and efficiency and the effectiveness, efficiency, and the level of accountability in using public resources provided through the general budget of local and external sources.
3. These reforms are considered a prerequisite for public administration and good governance, creating a solid foundation for the measures to be implemented in reducing the level of corruption and enhancing the effectiveness of various aspects of the civil service.
4. It will work and help to facilitate the flow of aid funded reform programs from international organisations and donor countries for their dependence on the quality of public financial management.

Given the importance of public financial management reform as a comprehensive, coherent process, dealing with many aspects and the entire ministry, it is needed to concentrate government efforts and external support. The Ministry of Finance in collaboration with the World Bank and the Dutch government and the participation of all government agencies concerned hold three workshops in order to identify and reform priorities by extracting specific and realistic issues agreed upon procedures to implement areas of financial management reform.

Workshop (1) 16-18.4.2005: Budget Classification System Reform

This workshop addressed the budget classification system currently working in Yemen, based on Government Finance Statistics GFS system of 1986 and compared with 2001 GFS. An expert from the International Monetary Fund identified the differences between the 1986 GFS and 2001 GFS in all aspects including the economic classification, functional classification, and the accounting basis. A review of the experience of Egypt to transform to the Government Finance Statistics Manual GFSM2001 and the difficulties accompanied the application of the system. Then reviewed the paper work of the Ministry of Finance based on the mechanism of gradual transition to GFSM 2001, which outlined the procedures and regulatory requirements, technical and material resources needed to perform the transition process. The workshop concluded its sessions and come out with the following recommendations :-

1. The gradual transition to the system of GFS 2001 of the IMF in all its components (economic classification, functional classification, the accrual basis of accounting, and the degree of coverage and comprehensiveness);

2. Government general revenues and general expenditures to be classified economically into five chapters each;
3. The primitive process of preparing for the transmission to GFS 2001 system should begin on 2005 and initiate the transition from 2006 (budget of 2007) and ends with the application of the full system in 2014. The transition period to be divided into two phases **the first phase (2006-2010)** and **the second phase (2011-2014)**;
4. Emphasis on the process of balance, the process of gradual transition and the process of computing;
5. The need to provide technical support and adequate financial requirements and any to help Yemen move to GFS 2001 System by the WB, IMF, and other donors, and
6. The need for developing and rehabilitating the Institute of Finance of the Ministry of Finance for supporting the process of reforms in the field of training and rehabilitation.

Workshop (2) 9-11.5.2005: Public Tenders' System Reform

During the workshop, full review of manuals and typical documents of the goods and supplies, public works, and services working in place was discussed. A number of papers have been presented including the consulting company on the proposed modifications and modernisation to the system. Then a number of agreed upon recommendations were developed to be carried to the ministerial leadership.

Workshop (3) 16-18.5.2005: Public Financial Management Reform

The workshop reviewed the recommendations of the previous studies to reform public financial management to determine priorities in different areas, taking into account the

interdependence and integration between them and the measures that are of priority for these areas in order to reach a common understanding among the participants in this workshop on the issues and priority areas and the difficulties and challenges facing the process of reform of financial management.

During this workshop, a review of the concept and objectives of the reform of public financial management and some international experiences in this area by an expert management of fiscal policy at the University of Oxford was made. Then they studied and discuss the priority actions for the reform of public financial management presented in the two previous workshops and financial accountability in accordance with the recommendations contained in the report on financial accountability prepared by the World Bank. The workshop at last came up with the findings and recommendations summed up as follows :-

Part one: Public financial management strategy

The government outlined its financial management strategy and found it consisted of the following four major components :-

1. Public budget reform; improve the level of development priorities and the basis of decision-making related to budget, development and improvement procedures for implementation of the budget, and developing modern information systems in public financial management to support the process of accounting and reporting;
2. Promote and strengthen financial control and financial accountability procedures and internal audit;

3. Reform government tenders system by establishing an information system compatible with the computerised financial system, and
4. Development and raise the capabilities of officials working in public financial management in the fields covered by the reform.

A matrix of priority actions ordered based on its importance and ease of implementation of these priorities including the implementation period and the risks that may face the implementation process has to be prepared.

According to the recommendations of the workshop, the Ministry of Finance in co-ordination with the participating government's agencies draws public financial management reform strategy and the mechanism for implementation and follow-up.

Part two: Implementation mechanism, monitoring, and evaluation

To achieve the objectives of the reform strategy, the Ministry of Finance proposed the following :-

- Forming a ministerial committee
- Form a technical committee
- The formation of specialised teams in all areas of reform

Therefore, the Ministry of Finance, basing on the above detailed results, raised the strategy of public financial management reform officially to the cabinet for approval.

The Cabinet of Yemen was briefed on the note No. 405 dated 3/8/2005 submitted by the Deputy Prime Minister and Minister of Finance on the strategy for the reform of public financial management and approved by the work to began from the date of 9/8/2005 and ends with the implementation of its provisions and hereby issued the decision No. (253). AFMIS is a project included under (253) cabinet decree.

Phase One: (2006 - 2010)

AFMIS is a reform project introduced to the Republic of Yemen ministry of finance, under the reform program of Yemen civil service. The International Monetary Fund (IMF), the World Bank (WB), and the international donor agencies supported the project. The project is an integrated complete software package introduced based on the research foundations of experts from different countries. Based on the treasury reference model provided by Hashim & Allan (2001) the framework for this project is a modified version designed especially for the Republic of Yemen, Ministry of Finance. AFMIS conceptual design, approved by the government of Yemen, and submitted officially on Sept.28.2005. However, AFMIS as per the ministry of finance request is source-coded. Even though the conceptual design of the system stated the purpose of the AFMIS stage 1 is based on the interviews with key users in the ministry of finance, technical specifications for the AFMIS, and other countries' application experiences. Actually, the initial project started by computerising the government accounting and budgeting works. However, the intended objectives from AFMIS that will be covered in the year 2006 and later on until the end of 2014 stated as the targeted date for completing the whole project, which will also cover the full adoption and implementation of accrual basis of accounting. Part of the project application objectives is to move gradually to full accrual basis of accounting by end of

fiscal year 2014. This means that cash basis is the initial stage for the application of AFMIS followed by the recognition of commitment accounting. AFMIS development and execution will progress and cover three main stages, as follows :-

- 1) - Stage one, is a pilot stage and will cover four main ministries; ministry of finance, ministry of education, ministry of health, and ministry of public works and the central bank of Yemen CBY. The four ministries will be interconnected electronically and then the Ministry of Finance will be linked with CBY. If this stage succeeds then proceed to the next stage. The work in this stage was initiated in 2006 and applied in 2008.
- 2) - Stage two, executing and operating the system in the remaining ministries in the capital Sana'a.
- 3) - Stage three, executing and operating the system in all governorates and districts of the republic.

The minister of finance issued a ministerial decree number 85 for 2006 concerning the issuance of government accounting system manual which covers the effects created by the cabinet decree number 253 for 2005. The state budget is divided into two main tables of accounts, one for expenses and the other for revenues, then to be divided into three parts; one for the operating budget, the second for the transactions in non-financial assets, and the third for the transactions in assets and liabilities. Chapter two, article 7, page 6 of the government accounting system manual stated clearly that :-

"Governmental accounting shall be applied in the implementation of the general budget of the state and follows the cash basis in its preparation and execution, the gradual transition is to apply the accrual basis in accordance with the following stages :-

1. Follow the cash basis and include commitment accounts.
2. Follow the cash basis and include commitment and payable accounts.
3. Apply the accrual basis for all financial assets and liabilities and non-financial assets shall continue using the cash basis.
4. Apply and follow full accrual basis of accounting." (MOF, 2006)

There is a definition for accrual basis of accounting and the intention to use it is clear but no specific time to achieve that. Only stages one and two above applied.

In this new manual there are two blocks of accounts one is called the expenditure accounts that is for long and short term assets and the other one is the revenue accounts that is for liabilities, obligations, and commitment accounts. The final account and the continuance use of the cash basis are still in use, but there is no mentioning for a specific date to extract government financial statements (balance sheet, income statement, statement of cash flow, and so on). The final account for the fiscal year 2011 was issued based on the cash basis accounting.

Phase Two (2011-2015)

On the 4th of January 2011, the Ministry of Finance signed with WB grant (IDA6350GRTD) in the amount of \$12,000,000 for project number (P117363) regarding public finance modernisation project (PFMP). The project to begin on the 19th of January 2011 and to close on 31st of December 2015 (extended for one more year because of delay in the execution in phase one).

The objective of the Public Finance Modernisation Project for the Republic of Yemen is to improve the efficiency and transparency of the management of public finances by

strengthening decision-support systems and building capacity of the government's central finance institutions (WB, 2010). The project execution plan outline to cover the following components :-

1. Enhancing decision-making mechanisms of budget management.

This will support the Ministry of Finance in improving its budget management practices, and could be achieved by improving the quality of budget preparation and providing effective control mechanisms in the budget execution systems. For improving the quality of budget preparation, this component will support capacity building in macro-fiscal forecasting and analysis, linking the national development plan with annual budgets, and bringing extra-budgetary funds into the main budget.

2. Improving financial management information systems.

This will support the Ministry of Finance in extending the scope and coverage of the Accounting and Financial Management Information System (AFMIS) and the Loans and Grants Management Information System (LGMIS).

3. Enhancing the capacity of public procurement institutions.

This will support the strengthening of public procurement control systems by providing support for capacity building for Government staff and for the High Authority on Tender Control (HATC).

4. Strengthening the institutional capacity.

This will contribute to strengthening the capacity of the COCA, which is the country's supreme audit institution, by :-

- (1) improving Central Organisation for Controls and Audit's (COCA's) skills and knowledge of AFMIS;

- (2) strengthening COCA's audit manual and methodology, to take account of the introduction of AFMIS and other reforms of Public Finance Management (PFM); and
- (3) developing and monitoring the implementation of COCA's medium- and long-term strategic plan.

5. Project management.

This will provide for goods, training, consultant's services, and incremental operating costs of the project management unit (PMU) to support project coordination, implementation, monitoring and evaluation, and management.

2.3.3 E-Government Initiative in Yemen

The initial step that set the stage for future development in the information technology in the Republic of Yemen was the establishment of Communications and Information Technology City in Sana'a. The Opening of the first phase of the city occurred in Sana'a on 5th of June 2002. The technology city complex consists of the following divisions (components) :-

- 1. The General Institute for Telecommunications;
- 2. Telecommunications Networks;
- 3. Yemen Internet Gateway;
- 4. The Centre for Manufacturing and Developing Software Programs;
- 5. The Internet Club;
- 6. E-Library;
- 7. The Centre of Creative Development;

8. Telecommunications and Information Technology Journal;
9. E-Rial (the official currency of the country);
10. Audio-Text Centre; and
11. Training and Software Development Companies

Wilson (2002) reported that the Republic of Yemen launched a ten-year US\$60 million first phase project intended - to publish all ministries' information online - to migrate towards E-Government initiative. All ministries shall be connected to a network and all government web sites to Knowledge View's Rapid Publish content management and cross-media publishing system. That will enable Yemen government bodies to classify and display data available from multiple sources in the form of (photos, wire feeds, legacy systems, and online databases). Then the content management application will be able to convert the data into standardised format and XML representations. Rapid Publish thereafter will be able to edit and combine the content items and create value-added, context-specific documents that have considerable advantages. Yemen government, by using the Rapid Publish applications, will be able to control E-Government efficiently and be able to lower its operations' costs. Such event will help the government to reach its objectives (as the first stage) regarding government to citizen (G2C) services.

Early in 2002, the steering committee of the National Programme for Information Technology outlined the Yemen National Programme for Information Technology definition, objectives, framework, and the expected benefits from the application of such programme. The National Programme for Information Technology intended at the end of the road to the implementation of Yemen E-Government, which will lead to an efficient government administration operating at the lowest cost possible.

During 2002, the steering committee of the National Programme for Information Technology met officially four times and addressed many issues concerning the development and improvement of Yemen ICT infrastructure in coordination with experts from Microsoft, Oracle, Cisco Systems, IBM, Hewlett-Packard, and Sun Microsystems. Co-sponsors were the UNDP Yemen office and the UN Economic and Social Commission for Western Asia. Yemen Ministry of Telecommunications and Information Technologies leadership worked hard and prepared the UN for the Regional workshop on E-Government, which was held in Sana'a on early Dec. 2003.

On Dec.1-3rd 2003, Yemen held a regional workshop on e-government in Sana'a, the capital, which called for setting up a web portal for citizens and mobile Internet training units for government offices. Prime Minister Abdelkader BaJammal explained that the government's priority is to educate the younger generation on the use of information and communications technology (ICT) at an early age. This will prevent the country from falling into the trap of having the latest technology in place without the capacity to reap its benefits.

The Ministry of Telecommunications and Information Technology organised the event, which drew over 250 participants, including experts from Microsoft, Oracle, Cisco Systems, IBM, Hewlett-Packard, and Sun Microsystems. Co-sponsors were the UNDP Yemen office and the UN Economic and Social Commission for Western Asia. UNDP Resident Representative James Rawley pointed out that UNDP is working with the Government of Yemen towards a knowledge-based society with open access to information and communication technology and services. He said UNDP is supporting this because it recognises the enabling role of ICT for promoting development.

The workshop aimed to help decision-makers identify and deal with major issues within such areas as public administration reform and e-government services, legal and regulatory aspects, e-tools and technical requirements, and case studies. It spotlighted the urgent need for an e-readiness assessment as a prerequisite for future ICT development and called for formation of a national ICT advisory council and development of a national action plan for using ICT in socio-economic development.

South-South cooperation was a key element, and participants from e-government projects in the United Arab Emirates (UAE) and Qatar, the Central Informatics Organisation of Bahrain, and the State Government of Karnataka, India, presented experiences and success stories. Participants also came from the public sector and UNDP offices in Tunisia, Saudi Arabia, Sudan and Iraq. Table 2.3 provides statistical data on internet users in the republic of Yemen from 2000 until 2010 accompanied by the level of income per capita, as can be seen the growth in numbers is considered high from 15,000 to 420,000 however with technology development and growth it is considered small.

There was little intention to the project of E-Government in Yemen as was the intention shifted to other issues and did not even focus on the principles laid down by the Prime Minister (then Mr. Bajamal) of paying the attention to the young generation on technology and computer education from elementary schools. The government head changed several times and the intention on such matter was little to mention. However, more attention was paid to mobile telephone services and the cash income it generates. The results for that was the establishment of Yemen Mobile, a government owned company.

Table 2.3: Internet Usage and Population Statistics:

YEAR	Users	Population	% Pen.	GDP p.c.*	Usage Source
2000	15,000	17,900,000	0.1 %	US\$ 410	<u>ITU</u>
2001	100,000	19,600,009	0.5 %	US\$ 500	ITU
2005	220,000	20,764,630	1.1 %	US\$ 550	M.of.T
2009	370,000	22,858,238	1.6 %	US\$ 550	<u>ITU</u>
2010	420,000	23,495,361	1.8 %	US\$ 1,274	<u>ITU</u>

Note: Per Capita GDP in US dollars, source International Monetary Fund.

On August 2008, based on an official request from the Minister of Telecommunications and Information technology presented to the cabinet, the cabinet, in its weekly meeting, net discussed a report presented by the minister of Telecommunications and Information technology over the project of E-government and made this information available for the public via the Internet.

The cabinet asked the Ministry of Telecommunications to set up a special website for the E-government on the net in accordance with the steps mentioned in the report. The objective of the project is to make information available for all citizens inside and outside of the country directly via the Internet.

2.4 Chapter Summary

This chapter addresses the current status and the developments regarding the issues of E-Government and public sector modernisation and reform. More attention is paid to the developments and reform of the country public finance especially the adoption of accrual basis of accounting and reporting. Even though the Ministry of Finance is carrying a comprehensive public financial management modernisation project (AFMIS) that intended to shift the system totally by the end of fiscal year 2014 to a full accrual basis of accounting, but it is not progressing as projected due to many obstacles and barriers related in part to behavioural aspects. However, in 2011 the MoF decided to adopt IFAC's IPSAS cash basis of accounting.

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction

This chapter contains the relevant literature and theories of government accounting and electronic government. The chapter serves two objectives. First, it provides a presentation of accrual basis of accounting and E-Government for better understanding of the main concepts of this research. Second, it discusses the prior studies in the area of accrual basis of accounting and E-Government. After this introduction, section, 3.2 provides a brief discussion of governmental accounting. Section, 3.3 provides a discussion on the conceptual and theoretical prospective of accrual basis of accounting, and it discusses the widespread norm of accounting systems in the public sector. Specifically, mentioned cash accounting and accrual accounting systems. It also presents the relevant literature in accrual basis of accounting adoption and implementation in public sector. While section 3.4 addresses and classifies prior research studies on accrual basis of accounting reform change. Section, 3.5 provides a discussion on E-Government and includes its definitions, background, functions and capabilities, and prior studies. Finally, section 3.6 summarizes and concludes this chapter.

3.2 Government Accounting Philosophy

What is government accounting? Harris (2005, p.155) states that :-

"Although government accounting is not a guarantee, it is an important tool ... of sound financial management, it merits a thoughtful public discourse and serious academic research... Despite the challenges, governmental accounting and auditing are of fundamental importance... Although not sufficient to establish public accountability, they are tools that are necessary in modern nation-states to establish public accountability." (Harris 2005, p.155)

The author expressed that the fundamental value for the development of government accounting lies in the need for establishing efficient and accountable management of public money in nation-states. There are some tools that are necessary for accountability. These tools can be addressed in the functional definition of government accounting. Thai & Grimm (2000, p.241) defines government accounting functionally as :-

“ the art of analysing, recording, summarising, evaluating, and interpreting a government entity’s financial activities and position, and communicating the results to those who are interested in government financial conditions.”

Government accounting’s significance can be evaluated through the values it delivers to policy decision-makers, administrators, and public sector executive managers, who need reliable, relevant, and timely information to appraise government performance and to lay a course of future action[s]. Buckley & Lightner (1973, p. 4) describes Government accounting as :-

“An information system consists of many functions ranging from data collections, processing, and control to summarisation, distribution, and interpretation”.

Governmental accounting, in a narrow sense, is defined by (Chan, et al. 1996) as :-

“A system that measures the effects of economic activities and financial transactions of public institutions. In a broader sense, the term is used to encompass not only the financial measurement activity, but also budgeting, financial reporting and auditing.”

Philippines Senate in 2007, based on consulting academics and profession experts, presented Senate Bill no. 440 on Government Accounting to Congress. S. 3 (Definition of Terms) of the Bill defines government accounting as :-

“ the proper recording of all receipts and expenditures and other financial transactions of government or any of its subdivisions, agencies or instrumentalities, the maintenance of records that reflect the propriety of transactions and give evidence of accountability for assets and other resources available for use, and the classification of data in a way that provides useful information for control and for effective and efficient management of government operations, in accordance with generally-accepted accounting principles where applicable.” (Philippines Republic 40th Congress, Senate Bill No.: 40, 2007).

3.3 Theoretical Prospective on Government Accounting

Modern governments' scale and functions require more resources. Nonetheless, scaled governments resource, tight budgets and increasing budget deficits require better accounting systems to improve accountability and efficiency in government operations. As many governments consider effective accounting systems to be a weapon against fraud and waste of resources, international agencies and donors' countries as well realise the value of accounting in maintaining sound and operational financial systems. Therefore, reliable accounting numbers provide them with better information on where government's money was spent and how it was spent. With all of that comes the potential need in the public sector for the adoption of new approach of governmental accounting namely the accrual-basis accounting system that has been adopted in some countries (e.g. New Zealand, UK,

Canada, etc.). Some notable institutional and conceptual innovations in governmental accounting have occurred during the last three decades indicating the great visibility and influence of the accrual basis of accounting system. The emphases have shifted from bureaucratic control system to accountability system reporting to the public. As a result, government officials held accountable for their stewardship of both financial and capital assets and obligated to provide the public with clear, reliable, and comprehensive financial statements (Chan, 2003).

3.3.1 Government Accounting

Government accounting is a major and important field of accounting. This field of study is neglected for long because it was assumed that the bureaucratic system applied by governments across the world needs from the accounting and information systems can be obtained only from cash basis of accounting system. That was because government officials' needs of accounting and budgeting information is satisfied by cash basis accounting. In addition, the adoption of other accounting basis is considered good for the government. However, its costs will not outweigh its benefits. This trend of thinking continues until the end of the Cold War. The advent of computerisation and the rapid developments occurred in information systems and especially in information technologies starting in the mid 80s change the way of thinking.

Moreover, governments' income mainly comes from taxes, duties, and some other minor resources of income. Most of the countries' governments all over the world continued to record huge budget deficits and face high risk because the resources collected for the tax payers to finance governments' operations would not be enough even though it already

represents a huge burden on tax payers and continuing to do so will lead them to react negatively on government officials and accuse them of bad administration.

The spread of technologies, globalisation, democratisation, political mutual benefits among the world nations forces politicians and administrations to rethink and reinvent governments' information systems including the accounting systems. That is intended toward better management and political competitions in the short and long term.

Therefore, the pace toward government reforms including government accounting (for more efficiency, effectiveness, and better management of scarce resources) increased rapidly during the last three decades. Research in governmental accounting and information systems since then attracts academics and professional bodies in accounting across the world to participate in this field and the priority put in the transformation from cash basis to accrual basis of accounting as that can be clearly observed from the international accounting and monetary bodies such the WB, the IMF, UN, IFAC, etc.

3.3.2 Government Accounting Development

Chan (2003) argues that differences among international and local accounting regulators and standard setters should be set aside. Instead he recommends focusing on the broader principles that are aimed at promoting governmental fiscal accountability which can be summarised as follows :-

- The objectives of government accounting are to safeguard the public treasury and property, and to measure and communicate accurately the government's financial

conditions, so as to demonstrate financial accountability and to facilitate decision making.

- The Government should prepare and publish their budgets, maintain complete financial records, provide full financial disclosures and subject itself to independent audits.
- The form and content of financial reports should be guided by the rights and intended users need to be known.
- The Government's accounting system should measure the cash and other financial consequences of past transactions and events including, but not limited to, budget execution. The accounting system should also be capable of keeping track of the levels and changes in assets, liabilities, revenues, and expenditures or expenses relative to budget amounts.

The above accounting principles provide a solid foundation for deliberation and setting the needed government accounting standards.

Historically, both public and private sectors used cash-based accounting system until the sixteenth century. Nonetheless, governments continued to apply cash-based accounting while private sector shifted and started to develop 'Generally Accepted Accounting Principles' (GAAP) which took into account accrual accounting in response to economic and financial development. These developments were mainly represented by the emerging of the firm theory and the distinction of lenders and owners from managers. In addition the

development of public companies and financial markets created a need for better and more transparent information on how well companies were managed. Furthermore, the growing competition drove a requirement for better management information, on which to base decisions such as price setting.

The environment in the public sector differ from the private sector in many aspects. Below are the major contrasting differences between private and public sector functions :-

- Governmental fiscal activities impact the economy. For example, tax cuts are used to stimulate demand.
- Generally, governments have the power to create money and to coercively impose levies and taxes.
- Government objectives are broader than private sector companies' objectives and include equality, justice, and proven reduction.
- Governments are accountable for a broader range of stakeholders.

Moreover, the activities of the public sector are closely scrutinised through (i) budgets and forecasts where the executive branch prepares the annual budgets and the multi-year forecasts for scrutiny and consideration by the legislative branch, and (ii) appropriations where the legislative branch (the Parliament) authorises the executive branch (the government) to incur expenditures and (iii) reporting as the executive branch at year end to prepare financial statements for scrutiny and considerations by the legislative branch.

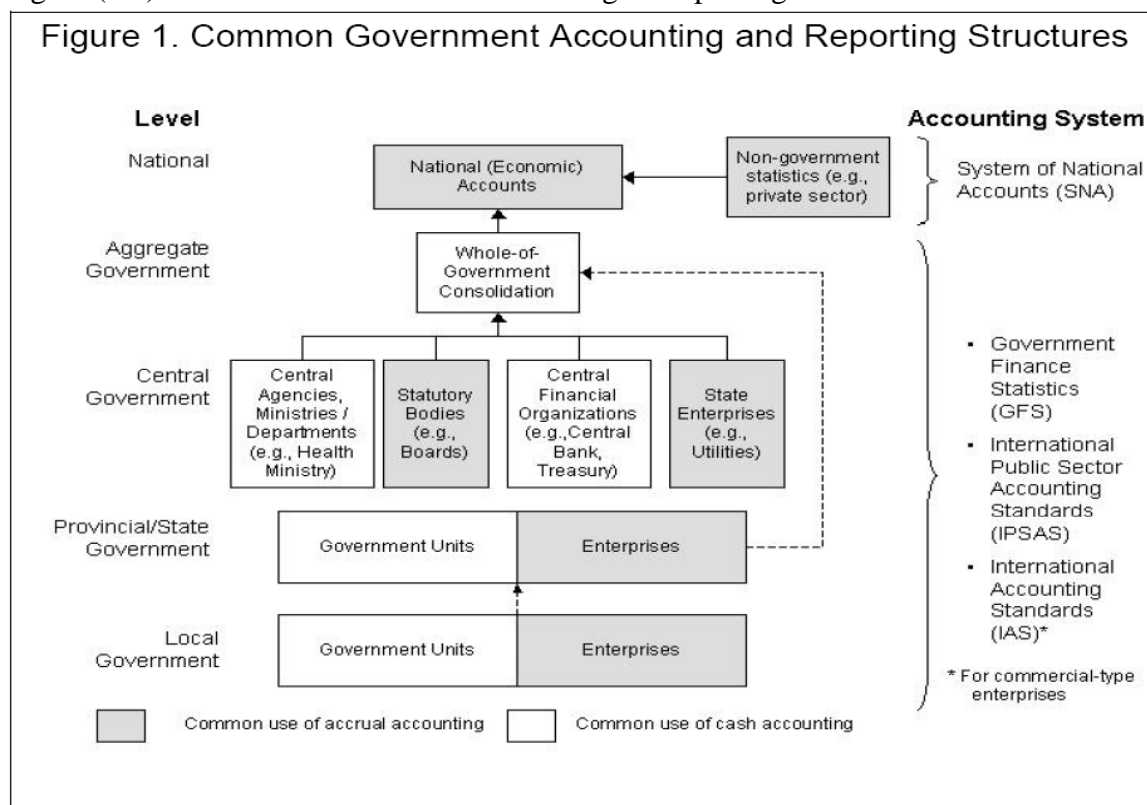
Government structure's context is generally more complex than that of the private sector (Athukorala, 2003). Figure 1 provides a comparison between common government levels and sectors. Historically, accounting and budgeting methods have generally differed

between levels and sectors. For example, central governments might use cash accounting whereas provincial and local governments might use accrual accounting.

3.3.3 Governmental Accounting Innovations

Prior literature of government accounting change provides two identified approaches (models) for government accounting innovations namely the result approach which looks at the final outcome of letting the process being hidden in a “black box”. This approach is mainly attributed to Lüder (1992). Lüder’s model **is a** comprehensive contingency model of introducing accounting innovations in the public sector called “A contingency model of governmental accounting innovations in the political-administrative environment” later known as the “the Contingency Model”. This model was developed based on a comprehensive comparative study of several developed western countries. The model is based on multi-theory approach but fundamentally is an economic model and explains the environmental conditions that have an impact on the introduction of accounting change. The second approach focuses on the process itself from the initiation stage to the outcome. This model was initially developed by Hussein (1981) and referred to as “*The innovative process in financial accounting standards setting*”. The model is derived from marketing and organisational theories Zaltman et al. (1973). Hussein, in his remarks for future research, emphasised the importance of using multiple methods to conduct such process research (using questionnaires and interviews).

Figure (3.1): Common Government Accounting & Reporting Structures



Source: ADB, 2003

The Contingency model is classified as a paradigm in government accounting. Research critics on this model continues and many modifications to the model have resulted (e.g., Lüder 1994 and 2001). The contingency diffusion of innovation combination model developed by Godfrey et al. (2001) was based mainly on the Lüder (1992) contingency model and Rogers (1995) diffusion of innovations model. Innovations as described by the Contingency Model of Governmental Accounting are defined as “conceptual not merely procedural changes of the accounting system to ensure the supply of comprehensive, reliable, and meaningful financial information needed for appropriate financial accountability and sound financial management” (Lüder 1994, p. 1).

The adoption of accrual basis of accounting is taken as a measure of reform, which seems reasonable because the accrual basis fundamentally requires the recognition of government

non-financial assets (e.g. fixed assets) and long-term liabilities (e.g. pensions). Such information tends to be neglected by cash-system whose function is limited to monitoring the execution of the cash budget. Thus, the adoption of accruals does represent a qualitative innovation change in governmental accounting.

Chan et al. (1996) suggests future research to identify the attributes of governmental accounting systems and defined what constitutes 'innovations'. The authors also outlined the processes that generate and implement innovations, track the consequences of innovations, and trace the diffusion of innovations internationally. Governmental accounting innovations are regarded as one category of innovations. As a result, research published in the Comparative International Governmental Accounting Research (CIGAR) cites considerable literature on innovation diffusions. Prior Literature has attributed a diffusion of innovations to some factors in the organisation such as relative advantage of new innovation over old practices, compatibility with values and beliefs and current practices and complexity of the new innovation. Whether or not this is the case with governmental accounting, innovations represent a potential area for a research topic (Chan, et al. 1996).

3.3.4 Governmental Financial Management Reforms

The trends of New Public Management (NPM) actually started and took effect at the Clinton Administration during the 1990s in the US when Osborne & Gaebler (1992) presented their views for government reinventing. To perform reforms of this kind, the initial step was to reform the accounting system and make it capable of providing the

requirements of the administration under the new system (NPM). Accrual basis of accounting reform was seen as the core step for such reform change. Wynne (2004) argued that transition to accrual basis of accounting is a long term project. Experience of some governments and international organisations over the last decade indicate a need to change the accounting system as a crucial footstep to implement the economic and financial reform. Cash basis accounting and accrual basis of accounting represent two ends of a spectrum. The following summarises the different bases of accounting in government accounting.

3.3.4.1 Adoption of Accrual Basis of Accounting

New Zealand was the first country to adopt accrual basis of accounting in its government accounting system in the early 1990's. This country had some difficulties but the application of the change in accounting policy proved to have sound values. International Monetary Fund (IMF), World Bank (WB), United Nations (UN), Government Accounting Standard Board (GASB), OECD, International Financial Accounting Federation (IFAC), and other international bodies encouraged governments and stated to fully adopt accrual basis of accounting. The adoption of such policy is a system reform change that provides governments with more meaningful financial information, better reporting and control over assets and liabilities and promotes accountability and transparency for better government decision making. Generally, the adoption of accrual accounting is taken as a measure of reform. This seems to be a reasonable approach because the accrual base fundamentally require the recognition of non financial assets (e.g. fixed assets) and long term liabilities (e.g. pensions). Such information tend to be neglected by an accounting system whose

function is limited to monitoring the execution of cash budget. Thus the adoption of accruals does represent a qualitative change in governmental accounting (Chan *et al.*, 1996). Christiaens & Vanhee (2002) stated that accrual financial accounting system records revenues and costs when earned leading to results with respect to the equities being part of the balance sheet. It also discloses financial economic information in terms of “true and fair value”.

Lüder (1992, 1994) contingency model of governmental accounting innovations aims at specifying the socio-political-administrative environment prevailing in a country and its impact on governmental accounting innovations. The model also explained why those innovations took place in some countries and did not in others. This economic model provided a theoretical framework applied later by many researchers and still valid until today. Lüder’s (2001) latest model is the Financial Management Reform Process Model, which is a theoretical model developed based on research conducted in many other countries but still under the contingency approach.

Hepworth (2003) specified the preconditions that have to be met for a successful introduction of accruals accounting, which can be summarised as follows :-

- Consultation and Acceptance : organisations need to be culturally prepared for the introduction of accruals accounting and be willing to recognise and accept the benefits that the change will bring about and the implementation cost in its widest sense. Pre-consultation is needed and has to be available within the government departments.
- Participation of the Accountancy Profession : The accounting profession must have the capacity and be prepared to be interested in and involved with the public sector.

This is not only because the accountancy profession has the required expertise in accounting standards but because it has traditionally trained financial managers in the private sector.

- Comprehensive management training : Training of department managers to use an accruals accounting system and to achieve the benefits from its operation.
- IT capacity : This is a necessary act in response to the new and additional requirements that the introduction of accrual accounting and budget control.
- Introducing incentives and penalties system.
- Accruals approach should be introduced as part of a fully integrated reform system process.
- Rules and procedures of the accounting cycle should be strictly followed.
- Availability of resources for the reform process and for political consensus.

According to Chan et al. (1996, p. 11-12), the Contingency model hypothesises that contexts influence the nature of governmental accounting systems. In this sense, contexts may be as important as content. Accounting researchers might feel they know more about accounting than about the environment of accounting. Thus, it is more intellectually rewarding to explore the contexts instead. A greater amount of research attention has been paid to the contextual variables than to the behavioural variables. People make innovations. As such, their attitudes and behaviour do matter.

Chan (2002, P. 27) stated that most of CIGAR work is on Normative approach he stressed the need for Positive approach to supply policy makers and their advisors with factual information about the type of government accounting that is compatible with the political

and governmental system in place. Even though not much research is made on an accrual basis of accounting, there is applicability to the government. With current trends of total government systems' change enabled by E-Government initiatives in many countries, it is likely to see more research in the future.

3.3.4.2 The Advantages of Accrual Basis of Accounting

Wynne (2007) listed some advantages of using accrual accounting system. These advantages can be summarised as :-

- (i) Accrual based financial accounts have more information than cash based accounts and have a greater focus on outputs rather than inputs;
- (ii) Information available from accrual based accounts provide management and decision makers with better information quality;
- (iii) Accrual accounting system enables managers to compare the cost of services provided the government sector with the costs of the of those services generated by the private sector and non for profit companies;
- (iv) The system provides a more transparent approach to evaluate management performance since results are not affected by the timing of cash payments and receipts and include information about assets and liabilities;
- (v) The costs of capital assets are spread over the useful life of these assets and the management of capital assets is encouraged as the accounts include asset values; and
- (vi) It provides a more effective and reliable assessment of the financial health of the organisation and the sustainability of government policy.

IFAC Public Sector Committee in 2003 (Study 14 *Transition to the Accrual Basis of Accounting: Guidance for Governments and Government Entities*) summarises the advantages of reporting on an accrual basis in the public sector as follows :-

- It shows how a government has financed its activities and met its cash requirements;
- It allows users to evaluate a government's ongoing ability to finance its activities and to meet its liabilities, and commitments it shows the financial position of a government and changes in its financial position;
- It provides a government with the opportunity to demonstrate successful management of its resources; and
- It is useful in evaluating a government's performance in terms of its service costs, efficiency, and accomplishments.

3.3.4.3 The Disadvantages of Accrual Basis of Accounting

The major disadvantages of the move to accrual basis of accounting are the costs and complexity of applying the system. IFAC Public Sector Committee has summarised the costs of introducing accrual basis of accounting in (i) identifying and valuing existing system, (ii) identifying and valuing existing assets, (iii) developing accounting policies, (iv) establishing accounting systems including the investment in new automated system, and (v) developing the necessary skills and providing training for both the preparers and users of financial information.

There are other disadvantages of the introduction of accrual basis of accounting in the public sector. This system is designed to measure profit, a concept which is largely meaningless in the public sector since surplus can sometimes arise from the failure to provide agreed services. Maintenance of public assets is more important than providing information on their value. For instance, the backlog of maintenance in the UK health service was nearly 10% of its budget in 2000, but this had not been clearly identified in its accrual-based accounts.

Losing some budgetary control inside government units as finance staff, according to accrual accounting, decide only when cash is paid but non-financial managers and suppliers decide when invoices are issued. For example in UK, after ten years of introducing accrual basis of accounting, the Department of Health admitted that comments that “there remains an unexplainable variation in the reported costs for many clinical procedures; costing and activity recording must be improved”. Accrual basis of accounting is a new innovation. Experience remains limited to some counties who have applied the system during the last decade. The complexity of accrual accounting gives parliament and legislative and control parties (i.e. Parliament) less surveillance and, thus, the government is less accountable. The system requires greater professional judgment by both the preparers and the auditors of government accounts.

3.3.4.4 The Risks of Moving to Accrual Basis of Accounting

Wynne (2004) argued that the limited experience of governments moving to the accrual basis of accounting means that there are still a significant number of risks involved in adopting this approach. According to Wynne, these inherent risks may include :-

- (i) loss of financial control with the introduction of a more complex system;

- (ii) Reduction in budgetary control. For instance, in the UK, expenditure in excess of budget occurred in nearly one in five ministries and that Parliament has retained cash reporting in addition to accrual information to monitor governmental expenditure;
- (iii) The possibility of government accounting being brought into disrepute if accrual accounting fails;
- (iv) The possibility that international accounting standards could be applied with no real understanding of the issues involved, especially as they are principles-based standards;
- (v) The 'gaps' that may exist in the standards not being properly addressed;
- (vi) Standards not being continually made up to date and relevant decisions on accounting treatment being made on political grounds;
- (vii) The external auditor being unable to prevent politically-based amendments to the accounts;
- (viii) Inadequate timescale and budget not being allowed for the change;
- (ix) IT systems not being adequate;
- (x) The process of financial management and expenditure control being made more difficult for members of parliament, government, staff of the ministry of finance, and other ministries; and finally
- (xi) The lack of having trained external auditors to verify the government accounts.

3.4 Accrual Basis Versus Cash Basis of Accounting

Debates on the adoption of accrual basis of accounting versus cash basis accounting is well established in the literature. However, it is essential here at glance to remind with some conceptual aspects.

Business accounting/accrual basis of accounting is as a system that records revenues, costs, assets and liabilities in (economic sense) business firms. This system is considered unique and world-wide known and is an essential component of the management of business in nearly all profit companies and enterprises.

However, the way in which governments, government agencies, and not for profits record their financial economic activities transactions are called Public Sector or Governmental Accounting. Generally, public sector accounting systems intended at authorising and recording cash receipts and expenditures in accordance with an agreed budget. In many European countries, such cash basis accounting system is also called a ‘cameralistic accounting system’, which is not consistently regulated nor generally accepted across different public entities and different countries.

Many governmental accounting reform studies exhibit endless conflicts and debates that happen when governments are being reformed or intending to shift towards accrual basis of accounting in light with New Public Management objectives. Starting to implement an accrual basis system that is business-like, accounting frequently creates confrontations in addition to many technical, managerial and political obstacles compared with the traditional ruling cash basis accounting system. Mainly the technical problems of combining and

integrating accrual basis of accounting in governments' agencies are theorised to be one of the explaining aspects concerning the adoption problems.

The adoption of accrual basis of accounting by public sector organisations considered as self-evident on a number of levels. At the Meta level, Brunsson et al. (2000) spots the global pressures for what they call 'A world of standards.' In their opinion :-

"There are plenty of people in the modern world who know what is best for everyone else. Self appointed experts and pressure groups abound, all within their own good cause, and all trying to convince states, corporations, and individuals how much better off they would be, if they would only follow certain specific rules of behaviour".

According to Christiaens and Vanhee (2002), a number of studies or parts of studies considered business-like accrual basis of accounting an essential element and therefore is needed in government and governmental entities starting from a dissatisfaction of the cash basis accounting system. Their refusal is attributed to the traditional dissatisfying concept of cash basis accounting in which only receipts and disbursements are recognised and recorded. To some extent they might be right. In addition, there are many issues indicating to the shortcomings in the functioning of cash basis accounting in real live practice (Jaruga et al. 1998; Christiaens and Vanhee 2002) are an important reason for the need to perform reform change.

All those 'pro-studies' could be seen as being part of the leading forces that focus on the advantages of accrual basis of accounting adoption and on the related management tools.

For instance, Jones (1995) consents on the lasting necessity of being able to obtain budget balances by means of cash basis accounting. However, he condemns the exclusion of assets and liabilities. Others consider that governments are similar to enterprises from a financial economic angle and argue that there should be one world of similar accounting application in which enterprises and governments should prepare their financial statements (Anthony 1989; Mellemvik & Monsen 1995). But the idea of uniqueness need not to be shared by everyone. Jones & Pendlebury (2000) found different potential accounting methods suggesting that a government might adopt more than one method of accounting at the same time.

On the other hand, other studies are not favouring the need and presupposed uniqueness of one business-like accrual basis of accounting system to come over the advantages of the traditional cash basis accounting system. One could call them opponents. As they stress the particularity of government characteristics such as the absence of shareholders, the overwhelming focus on profitability growth and the need for a sound system of financial controls in a democratic government.

Montesinos et al. (1995) encourage the cash basis accounting (cameralistic) system with reference to the legal control role, which monitors the budget execution process and accountability. Caperchione (1995) speculated that accrual basis of accounting is a step forward, however, undertaking an accrual accounting reform does not mean automatically the delivery of managerial tools appropriate for governments and governments entities.

Monsen & Näsi (2000, p. 2) are rather dissatisfied that apparently the experiences of local government accounting are not considered when adopting a reform. They declare the

difficulty of summing up the results of governments activities by only accrual accounting figure. Thus, they argue that the cash basis (cameralistic) accounting point of view in managing the tax money remains a material objective. See Table 3.2 for comparisons.

Table (3.1): Overview Appraising, Critical Studies Considering Cash vs. Accrual Accounting Reforms

CAMERALISTIC CASH ACCOUNTING	ACCRUAL ACCOUNTING
<p><i>Conceptual studies favouring cameralistic/cash accounting</i></p> <p>Montesinos, Pina & Vela 1995 Caperchione 1995 Monsen & Näsi 1997, 1998, 2000</p>	<p><i>Conceptual studies favouring accrual accounting</i></p> <p>Likierman 1994 Jones 1995 Anthony 1989</p>
<p><i>Conceptual studies combining cash and accrual accounting</i></p> <p>Caperchione 1995 Jaruga & Nowak 1995 Jones & Lüder 1996 Christiaens 2000</p>	
<p><i>Accounting practice studies concerning technical implementation of combined reforms</i></p> <p>Jones & Lüder 1996 Caperchione 1995 Montesinos & Vela 1996 Cotte, Milot & Nante 1995 Christiaens 2000 Caperchione 2000</p>	

Source: Christiaens (2002)

3.5 Reporting and Classifying Prior Studies on Accruals Adoption

This part reports the major studies on governmental accounting innovations studies including the adoption and implementation of accrual basis of accounting. These research studies' summaries are classified into different dimensions that are considered representative as follows :-

3.5.1 Adoption and Implementation of Accrual Basis of Accounting

Tickell (2010) performed a study investigating Fiji attempt to migrate to accrual basis of accounting and financial reporting format. The study utilised a qualitative fieldwork research in 1994, 2004, and 2008 employing semi-structured interviews for data collection to determine the reform stages, adopted strategies, and the level of success in each attempt. Findings - due to low skilled public service, high turnover, and insufficient level of infrastructure capital and equipments it is recommended to taking a different approach from that used by developing countries. In conclusion, a number of recommendations were presented. Key personnel have to be well compensated to be kept from moving out to the private sector, project leaders underestimating the level of training on a daily base required for staff that will carry out the implementation of accrual basis procedures, willingness of the nation to spend on upgrading the country infrastructure (e.g., computer hardware), and so on.

The study highlights the importance of a nation to understand its capabilities. Nations should determine their needs and design the projects to fits their needs. Concentration was made on skilled staff-retaining and adequate IT infrastructure has to be maintained.

Connolly et al. (2006); to determine the main benefits and drawbacks that have been experienced as a result of implementing accruals basis (resource) accounting in UK public sector, a case study approach was used and data collected by semi-structured interviews with key actors who were involved in the implementation, maintenance, and oversight of resource accounting in Northern Ireland. The study, from the point of view of the accountants who are involved in the application of the new system and can evaluate it, looks at the function of the new system. The findings show that the actual implementation of accruals accounting is very different from the planned implementation in terms of cost and timing. The outcome is an expensive and complex system, which provides little benefits until now. In conclusion, a continuum and lengthy change has to start very soon.

Ellwood et al. (2007) based the assumption that accrual basis of accounting development and adoption in the public sector is a technical tool intended improve transparency and accountability, and examined the role of public sector accounting in implementing neo-liberal reforms. A comparative methodology used on the development and use of accrual basis of accounting in UK and New Zealand public sector financial management reforms. Findings propose that accrual basis of accounting in both nations provides a means, which reduces the government's role to purchaser of services and rules – set by others – enforcer. Thus, promoting privatisation and trade liberalisation, this goes with neo-liberal principles. It shows that accrual basis of accounting's need for neutral information across and between sectors is not there rather accrual basis of accounting appear to function as a political instrument that is used to come over controversial issues. Therefore, looking at the overall effect of public sector financial reforms and the role and implications of accounting standard setters is needed.

Saleh & Pendlebury (2006) examined the developments of governmental accounting in Malaysia and the potential of Malaysian government to adopt accruals accounting. The study utilises a comparative approach between UK and Malaysia (which concentrated on management accounting initiatives since the 1960's) on the move to accruals accounting. The study described, based on data collected from a survey, the views and opinions of Malaysian government accountants on the possibility of the developments and innovations of external reporting by the government of Malaysia. The study revealed significant factors in the development of governmental accounting in Malaysia; increased professionalism, technological change, demand from public, financial crisis, political incentives, and demand from creditors. The change to accruals accounting for external financial reporting is little; however, in Malaysia the willingness to adopt private sector remedies suggests that accrual accounting is capable of providing a measure of full cost of resources consumed might be as an attractive option. In conclusion, the study of the Malaysian context contributes to the debates on the use of accruals accounting and provides an assessment to the government of Malaysia to consider in improving its financial management procedures.

Arnaboldi et al. (2009) examined the implementation of accrual basis of accounting in local government in Mat-land. It draws on Mat-land's ambiguity conflict model of 1995. A combined research approach used – analysis of public documents and debates - a survey of local authority capital accountants and information case study of management's. The study revealed complex reform initiative outcomes, which resulted in maintaining the accounting changes within the domain of accounting having limited effect on the potential majority of information users.

Barton (2007) examined the Australian Government accounting and budgeting dual systems and suggest improvements. He affirmed that government nature and role determines its financial management information and reporting requirements and the information should be relevant, reliable, comparable and understandable. He regrets the quick termination of the traditional Australian cash accounting and budgeting system when accrual basis of accounting was adopted and argued that ordinary cash information is still needed. It is declared that accrual basis of accounting was needed for improved management information and evaluates the two systems adopted; the Government Finance Statistics system (GFS), and the Australian Accounting Standards system (AAS). He Categorised and explained their differences and the shortcomings of each one. Currently it shows that the system of two different sets of budget and financial statements has no timely cash information is unsustainable. He suggested the re-introduction of cash basis accounting and budgeting again based on GFS as a component of a single accrual accounting system but comprising the best features of AAS as well. In conclusion, the study pointed out deficiencies in Australian government accounting and provided solutions.

Vinarri & Näsi (2008) investigated the effects of applying private-sector accounting models to a Finnish city and its water utility. The study detailed the theoretical background and the required accrual accounting used in the Finnish municipal sector for both budgeting and financial accounting. Describes how the city and its water utility reported infrastructure assets, income, and expenses for the period (1994-2004) in an innovative way. The regulation of municipal accounting permits more room for creative accounting than general accounting standards does, in particular to asset valuation and charges for water services. Since in the city an investor in (not a provider of) essential services permitted it to use the investments of past generations in the water utility to finance deficit spending, this violates

transparency. In conclusion, accrual basis of accounting might be misused in the public sector thus; further review and developments and clear regulation of public sector accounting practices is needed.

Andriani et al. (2010) examined accrual basis of accounting information usefulness used for decision-making process internal context in the public sector of west Australia. A questionnaire survey approach is used. Data collected from public sector managers. Results found that accrual accounting is more useful than cash accounting in 16 out of 19 of the decision in such circumstances. This indicated that perceived usefulness of accrual accounting system is continuously improving. The perceptions of information usefulness derived from an accounting system over time will change, as users get experience and gain familiarity with the system.

Robinson (1998) critically evaluate the arguments on the application of accrual basis of accounting to non-profit core government activities and use of the 'deprival value' variant of current cost accounting for decision making in the Australian public sector. This demonstrates the defects in current cost accounting by discussing the use of full costs in in-house bids for competitive tendering and as measures of performance, compares the capital charging systems used in Australia, New Zealand and the UK; arguing that while they may improve decision making for investments cost reduction; they are unsuitable for other cases. This summarises accrual basis of accounting role in representing the fiscal position of the public sector and the implications it carries for accounting methodology.

Falkman & Tagesson (2008), describes and explains the outcomes of Sweden municipal accounting reforms. In Mid-1980s, Sweden municipal administration was decentralised.

Lay down municipal accounting reforms, noting that like private accounting legislation, this provides a framework referring to a standard-setting body. The Council for Municipal Accounting, consequently increasing the importance of standards, decrees and guidelines.

Developments and tests, hypotheses based on positive accounting theory using empirical data for the financial year 2003 :-

- Based on an e-mail survey;
- Secondary data from the Association of Local Authorities, from the four foremost auditing firms and from the municipalities; and interviews with 12 municipalities financial managers. He finds little impact of the standards issued by the Council of Municipal Accounting on municipalities actual accounting practices. He explains that it is due to limited competence, negative attitudes of accounts preparers, shortage of audit quality, and ambiguous standards. He believes Sweden municipal accounting reforms lack the essential institutional mechanism needed to legitimise the reform. Adds that weak accounting norms in the context of the accounting system drove to a situation where municipalities and their officials are able to respond to the accounting norm system with differently, depending on their own circumstances and political self-interest.

Guthrie (1998) argues that accrual basis of accounting adoption in the Australian public sector seen as a means to change its extent and approach identifies its four main features; financial reporting, management systems, whole of government reporting (through consolidation), and budgeting. Discusses the thought benefits of the accrual basis of accounting approach, compares it with previous cash basis accounting system and delineates its development along with other administrative reforms. He takes into

consideration the relationship between 'rhetoric and reality' regarding the benefits in each of the four identified areas, condemning the naive acceptance that accrual accounting is a 'good thing' and that commercial processes can be applied to public sector activities. In conclusion, further research on the actual effects of these accounting policies' changes.

Carlin (2005) inspects the impact of accrual basis of accounting (AA) and financial reporting on the public sector globally; and compares it with that in the Australian public and private sectors. He Lays down the moves towards AA in the public sector internationally and critically analyses the related research debates. He points out that the impact and role of AA should be looked at as antecedents to interrelated reforms. He compares one Australian state's public sector agencies financial reporting (1998-2001) with a listed company's sample, to display the differences in their approaches to asset valuation.

Government departments use historic cost to value (less than a third of) their assets (with replacement cost the most popular alternative) however, companies in the private sector use it for about 85% of their assets. Government departments have higher asset valuation increments and depreciation charges, in spite of having less capital intensive and use longer asset lives. He points out that this affects cost estimation and therefore resource allocation decisions, eg. when comparing public and private sector costs. In conclusion, more systematic and direct approaches to identify the consequences of the adoption of accrual basis of accounting are needed.

Torres (2004) examines accrual basis of accounting implementation in governmental financial reporting, evaluating the extent to which such method of financial reporting has been adopted and whether evidence that government accounting systems are met. Utilising

comparative approach, this study compares governmental accounting systems in 22 Anglo-Saxon countries - Australia, Canada, New Zealand, United Kingdom, and the USA; the Nordic countries of Denmark, Sweden, Finland and the Netherlands; the European continental countries of Belgium, France, Germany, Greece, Portugal, Spain and Switzerland, and the Mercosus countries of Argentina, Brazil, Paraguay, Uruguay, Bolivia and Chile. He utilised International Public Sector Accounting Standard as a benchmark to evaluate government accounting and reporting systems. He compares government financial reports' contents and examines the extent to which they contain the recommended information to be disclosed by the standard. The results identify the link between the use of the accrual basis of accounting for financial reporting and the introduction of public sector reform, specifically New Public Management, suggesting that it is to some degree due to the heterogeneity among the government accounting systems. Relating to governmental accrual basis of accounting, in conclusion, the research shows that it can fit public administration styles in both developed and developing countries.

Tikk (2010) reviews the implementation of accrual basis of accounting in the Estonian public sector entities, provides a brief overview of governmental accounting theories' historical developments, and examines the introduction of accounting policy based theory. Major problems and risks associated with the introduction of accounting system change process elaborated and proper solutions offered. A comparative and descriptive approach is used.

The results show that accrual basis of accounting provides financial information that is needed for decision making objectives, which improve the quality and the quantity of services provided to the citizens. Estonian accounting regulation succeeded and had a

remarkable evolution. However, the transition to accrual accounting created many problems that needed to be solved. In conclusion, the results of this study contribute to economic growth and development of business environment. Research studies on the move to accrual basis of accounting by public sector entities are quite scarce.

McKendrick (2007) performs a study of current developments in the Romanian government accounting specifically the introduction of accrual basis of accounting instated of the cash basis accounting. It assesses the application of the new system for attending EU membership by 2007 as an incentive for reform change in Central and Eastern Europe countries thereafter, and details the process in Romania. Reviews on governmental accounting innovation theories taking into account the Romanian experience in order to draw from the study some conclusions. In conclusion, the following matters:-

- A comprehensive and regularly update of the financial regulations;
- A strategy and timing for decentralisation and independence of audit units;
- Enough time for the introduction of accrual basis of accounting;
- Qualified staff have to be involved in the reform process;
- Management commitment and support;
- A capacity building of technical innovations that goes with institutional needs; and
- Staff training; and insuring the quality of information produced, must be considered for a successful implementation of accrual basis of accounting.

Vickland & Nieuwenhuijs (2005) specified a number of significant factors contributed to the successful implementation of the public sector financial management information system in the Republic of Bosnia and Herzegovina (BiH). It was funded by USAID and implemented by Emerging Markets Group within the period of (1999 – 2004), aiming at

modernising accounting practices and contributing to a more transparent efficient public sector. The study describes the project's environmental context, intention, features, challenges, and barriers. It carries on by outlining the critical success factors contributed to the success of the intended project in a tough environment. The project implemented in a rather unique environment since its initiation after the end of the civil war and the formation of the country. The country inherited the payment systems from former – socialist - Yugoslavian. No proper public financial management systems exist. Therefore, the project team essentially started from scratch. The project team planned and implemented the accrual basis of accounting system, in a deferent matter done in many other countries, relieving the government from transforming their financial management system from cash basis accounting to accrual basis of accounting.

Tiron & Blidisel (2007) reports on the experiences of applying accrual basis of accounting information in the public sector higher education in Romania, contributing to a better understanding of the prospects of using accrual basis of accounting in public entities. The change from cash basis to accrual basis of accounting points out to a change in conception for that human resource role is material. Financial accounting departments' specialist is fundamental. Therefore, the centre objective of this study is to examine the perceptions of Romanian public sector higher education institutions' accountants and finance officers on the adoption and implementation of accrual basis of accounting. It utilised a mix method approach logical empiricism positive. Data (quantitative) was collected through questionnaire survey and qualitative semi-structured interviews with senior management to gain their views and rationale on the implementation of accrual basis of accounting. The interview function is to support the questionnaire survey. The results show and confirm the transition to accrual basis of accounting and other techniques of the private sector to the

public higher education sector. The findings from both the questionnaire survey and the interviews shows that public sector higher education entities, accountants, and finance officers agree with accounting and financial departments' heads on the use of accrual basis of accounting. There are difficulties (barriers) to the feasibility of implementing accrual basis of accounting and long-term benefits will surpass the costs of the system's implementation. The human factor is considered very important and material to the success of the reform change because people are affected by any reform change directly or indirectly.

Jorge et al. (2007) describes and analyses the Portuguese status in governmental accounting reform, aiming at discussing the implementation of accrual basis of accounting in governmental units by addressing the reasons lies behind the problems related to putting the accrual basis of accounting system into practice and in reading the generated information from the system (accrual basis financial statements).

The study addresses five main sections. After the introduction, section presents a description of the Portuguese public administration and governmental accounting reform and harmonisation with international context. Section 3 detailed the country's financial management and accounting recent reform changes and the current state of the reform. He then presented the recent studies carried out on the country reform and implementation of accruals accounting by highlighting the issues related to the new system application. The last section of the study, discusses why accrual basis of accounting might be a problem in other countries. In conclusion, for good results to be presented in reality the implementation of accrual basis of accounting system needs more time and users of information have to learn how to read and use financial and economic information presented from the new system.

Christiaens & Vanhee (2002) summarises the technical problems associated with the introducing of business like accounting next to the existing and completely different cash basis (cameralistic) accounting in governments. He tries to point out to the many accounting disagreements are attributable to the lack of knowledge and practical means of merging harmoniously the diverse governmental accounting systems, which is a prerequisite for NPM application. Taking into consideration prior research findings, a technical integrated approach that combine both the cash cameralistic accounting system and the new accrual basis of accounting system to form a new analytical system, worked out. Intending to keep the strengths and advantages of the former cameralistic systems and the accrual basis of accounting, the integrated concept of a "Mega General Ledger" tested based across Belgian provinces that are experiencing a reform change in accounting. Implementing business-like accrual basis of accounting system to government entities may provide better mean by using the projected integrated accounting approach. That could provide the answer to the diverse governmental accounting systems.

Table (3.2) expresses the main features extracted, to a certain extent, of cash basis accounting and accrual basis of accounting.

Table (3.2): Main features of cash and accrual accounting systems

CAMERALISTIC CASH ACCOUNTING	ACCRUAL ACCOUNTING
Definition Budgeting system is a means to define income and to allocate resources. Cameralistic accounting records these resources and appropriations, it is a system of authorized spending and financial controls	Financial accounting system records revenues and costs when earned leading to results with respect to the equities being part of the balance sheet
Objective Budgetary and appropriation processes Showing the compliance with budgetary and other legal limitations Limits to spending; Control of the public purse	Disclosing financial economic information in terms of "True and fair view"
Concept Strongly based on internal decisions in respect of the authorized budgets	Based on financial economic relationship external-internal
Method Differing accounting methods, e.g. <ul style="list-style-type: none"> ▪ <i>cash accounting,</i> ▪ <i>modified accrual accounting,</i> ▪ <i>debt charge accounting,</i> ▪ <i>encumbrance accounting</i> 	Principally always <i>full accrual accounting</i>
Accounting techniques Single entry	Double entry
Reporting Aims at service providing, compliance with regulations, balance of budgets Accountability	Aims at disclosing performance measurement in terms of economic and financial results & Profitability

Source (Christiaens & Vanhee. 2001, p. 5)

3.5.2 Adoption and Implementation Change Process

Alam (2006) conducted a study to value the process of accounting change in Indonesian local government and to explore how different reform drivers with diverse interests and preferences compete and collaborate in the process of governmental accounting reform in a developing country context. A qualitative case study approach used using semi-structured

interview for data collection from key informants and from related local government documents and regulations. The results show that accounting reform process characterised by rivalries and alliances among drivers of reform, which confirm the involvement and nature of politics in formulating accounting policies. It concludes that such study highlights accounting changes on the Indonesian local government bureaucratic environment.

The study reveals the level of political involvement of reform drivers in the formulation of accounting policy changes, which goes in line with Lüder contingency theory.

Baker et al. (2006) from the perspectives of new institutional theory, examined the forces that led the Canadian federal government to change to accrual basis of accounting from modified accrual accounting. New institutional theory used to explain the accounting policy choice. An archival (historical) approach was used for this study covering the period from 1963 to 2003. Findings show that the decision to change to accrual basis of accounting from modified accrual accounting was to a great extent to coercive and normative influence of the Office of the Auditor General supported by the Canadian Institute of Chartered Accountants normative influence and with other federal government's organisational field mimetic isomorphism. In conclusion, the transition to full accrual basis of accounting is a long road but promising.

Harun (2007) conducted a study to identify the problems encountered by the Indonesian government in the adoption of accrual accounting for public sector financial management and reporting since early 1990s, and suggest solutions to it. The study used a narrative qualitative approach in addressing its issues of the study.

Results of the study show a lack of progress in government accounting reform, which goes in part to a lack of newly empowered electors interest and understanding of the issues. Former governments were reluctant to press hard for accounting reform, because improving accountability poses a major threat to politicians' and bureaucrats' mainly in their income levels. Moreover, there is a shortage of accounting skilled employees because of current human resource management policies applications in the public, which contribute to little prospect of successful reform.

The study suggests a possible solution by establishing a parallel independent profession to civil service to undertake government accounting functions. Mostly, government accounting reform introduction provides extra effort and sophistication that has to be carried over by the experienced in the government, unless a well designed package of compensation and support is provided to encourage them to carry out the reform work and feel strongly of their partnership; it is such noble work.

3.5.3 Governmental Accounting Reform Change Discourse

Harris (2005) presented an overview of the discourse of governmental accounting and auditing in the United States throughout the past 25 years to serve as an introduction, and identified works from that period that might be useful in determining future discourse and in informing future research. The history of the discourse, showed issues that received attention and showed issues that might be worth attention in the future. Based on a review of 975 abstracts from various scholarly publications data were classified and seemed sufficient to provide a representative view of major themes in the applied and scholarly

discourse. The overview is then put forward into five themes – key happenings, publication outlets, applied discourse, scholarly discourse, and research.

In 1980, there was No Governmental Accounting Standard Board (GASB) nor Federal Accounting Standards Advisory Board (FASAB) and no single Audit Act. The U.S. Federal and State Governments did not publish audited financial statement and the primary reporting was not on accrual basis of accounting. Local governments' spending accounts for 11 percent of U.S. total GDP while the Federal Government's spending accounts for 7 percent. Government accounting was not a subject of interest, but was neglected for decades. It does not reach 18 percent of research in accounting. No candidate running politically for an office ever achieved election by promising to institute improved accounting and auditing practice. However, developments in governmental accounting depend on the accounting profession, who endure accounting change, which when unfrozen, crises happens that motivate stakeholders to demand for change and on public servants who are willing to spent time, effort, and resources to support reform change. The past two and half decades gain more momentum in governmental accounting and auditing developments.

Research in Governmental and Nonprofit Accounting (RIGNA) is the only dedicated scholarly journal to governmental and nonprofit accounting and reporting. Collaborative research in government accounting-by-accounting researchers with others who have backgrounds in other disciplines is not common.

Table (3.3): Contrasting Models of Accounting

Issue	Traditional State - Local Accounting	Private Sector Full-Accrual Accounting
Measurement focus	Financial resources-primarily cash and other current assets offset by current obligations	Economic resources-all assets offset by all claims, current and future, against those assets
Basis of accounting	Modified accrual for general fund (Primary operations) and some other funds. Full accrual for funds with business-like activities.	Full accrual for all reporting
Accounting entity	Funds-multiple funds with multiple sets of financial statements	Reporting entity-one entity with one set of financial statements; reporting for two types of activities non-business and business-like activities
Method of aggregation	Combining data	Consolidating data

Source: Harris (2005, p.163)

Table (3.3) shows the major points in the debate over the model of accounting for state/local accounting. The discourse of this argument involved other issues, such as reporting entity nature, fiduciary funds accounting, non-exchange transactions accounting, and non-compensated absences accounting. However, the four issues shown in Table 3.3 are central to the discourse. Of these four stated issues, measurement focus was central because accounting basis derives from measurement focus.

In conclusion, there are areas in governmental accounting and auditing that has to be covered in research. The discourses of accounting and of auditing merits contributions as accounting and auditing are essential aspects of sound financial management. Presumably, the public in general is well served by sound financial management and use of public

resources. Effective accounting fosters accountability, and accountability for the public purse is essential for a government accountable to its people, which at the end represent democracy.

Broadbent & Guthrie (2008) appraise and analyse the field of public sector accounting research. As many nation states provide essential public services. In recent years, many countries have been put into modernisation programs, which, in part, mean that these public services now are managed, delivered, and governed properly by private and third party sector entities. Utilising a literature-based analysis and critique of public sector accounting articles published in the chosen journals within (1992 – 2006). A meta-analysis description of the research characteristics talked about, and a conceptual analysis of the literature selected utilised to assess the field and address a potential future research agenda. Results from the descriptive analysis point out to several interesting emerged patterns related to public service research. In Australasia and UK, research done was evident. The scope of research in different levels of government (jurisdiction) shows that the bulk of research was organisationally-based. At last, considering the various functional types of accounting, management accounting found to be the largest researched area.

3.5.4 Comparative Studies in Accounting & Reporting

Scott et al. (2003) traced the development of financial reporting in two publicly funded hospitals in New South Wales over the period 1857 to post -1975 with particular focus on cash and accrual accounting. A historical analysis approach used data collected from secondary and primary resources to describe change patterns on the hospitals financial

reporting and to identify the social and political influences associated with such reporting. This study provide historical contest for recent introduction of accrual accounting, accountability, and insights into the nature of accounting change in general and in particular public sector organisations.

Kober et al. (2010) examines three accounting systems usefulness (cash, Generally Accepted Accounting Principles (GAAP) accrual, and Government Finance Statistics (GFS) accrual) for public sector decision-making. A questionnaire survey method used. Data collected from internal users, external users, and preparers in Australia. He finds "that GAAP accrual information is perceived to be more useful and understandable than the other two systems for most decisions examined. The relatively higher ratings for GAAP accrual information differ from previous studies and may reveal an experience or familiarity effect whereby perceptions of usefulness enhanced because respondents become more used to the system. This effect may explain the lower ratings for GFS accrual".

Stalebrink & Sacco (2003) dissimilar public sector accounting compliance and liquidity model with the more popular efficiency-oriented accrual basis model identifying three motives supporting the adopting of the latter : provide better information - for internal and external users - and a wish to bring governments more closely with international capital markets. He evaluates the extent to which the direction of accounting measurement (eg. depreciation and valuation) affects the accrual basis of accounting model based on an Austrian economic framework and elucidates the differences between this approach and traditional neoclassical economics, pointing out to relevant research. He proposes that the public sector specific characteristics can guide to the use of discretion to misinform (eg. by covering inefficiency) and questions whether the entities of the public sector have the

capacity and/or the motivation to choose the suitable measurement method. Pointing to the need for more research on 'explicit reporting' by public sector entities.

Pina & Torres (2003) studied the transformation of governmental accounting in sixteen Organisations for Economic Coordination and Development (OECD) member countries and the EU, based on the International Public Sector Accounting Standards (IPSAS). A de facto approach is used for analysing the information disclosed by central government financial reports. The results show that intermediate variants have been exercised by the countries studied between the two extremes of cash basis accounting and accrual basis of accounting. Accrual basis of accounting is more in line with NPM initiatives than that of the cultural categories studied. Cost consideration should be taken into account across the move into more sophistication of reformed systems and should be balanced with the benefits of the application of accrual basis of accounting reform and NPM reforms.

3.5.5 Determinants of Accounting Policy Change

Ingram (1984) stated that prior research examined the probable economic determinants of accounting policy choices of local government entities. Also, based on the survey results conducted by the Council on State Governments (CSG) in 1980, of the major accounting and reporting practices of individual state governments, he characterised both the general status of state government accounting and the diversity of accounting practices observed across state. This study provided preliminary evidence on the association between economic factors and cross-sectional variations in accounting practices of state governments.

Ramadhan (2009) investigates government budgetary accounting practices and reporting requirements across the units of Bahraini government. Assess previous research use of funds, budgetary basis of accounting, budgetary process, and various approaches to public budgeting. He looked at and described Bahrain's governmental accounting and reporting practices, basis on archival documents, interviews with key staff in three large ministries, an interview with civil service bureau finance manager, and a survey of accountants who are working in many ministries and government organisations. He recommended a variety of reforms for Bahrain's government accounting system and future directions for budget management, mainly on performance and program budgeting system adoption, and the introduction of accrual basis of accounting; and contingency reserve funds. In conclusion, future research should examine the Bahraini government accountants' perceptions on the introduction and implementation of accrual basis of accounting in government units.

3.5.6 Accrual Basis of Accounting & New Public Management (NPM)

Pina et al. (2009) tried to measure the degree of accrual basis of accounting system implementation in EU local government and attempted to provide an answer to why accrual basis of accounting has overcome the resistance to other New Public Management (NPM) reforms in countries that are somewhat doubtful of them. Analysis carried out through the comparison of the accrual accounting legal requirements in force in each country, and the published financial statements, taking their IPSASs. The results show relatively different degrees of accrual accounting implementation and legal conformity. The reason behind the accrual accounting diffusion in part lies to the dual systems implemented in European Continental nations, which do not require profound organisational changes that answer the

democratic demands of citizens for higher responsiveness, transparency and accountability, while traditional budgetary statements continued for monitoring compliance with legal requirements and for administrative decision-making purposes.

Groot et al. (2008) discuss new public management (NPM) and investigates attitudes towards it. He Outlined the appearance of NPM in many countries and identifies three theoretical directions that give rise to different reform themes. A questionnaire survey methodology was used, asking 105 Dutch and Belgian respondents – attendees at an NPM seminar - regarding their attitudes towards NPM reforms and their views on future developments.

Results show a minority thought that the current NPM decentralisation would continue or that good performance was due to NPM even if reforms to planning and control were seen as important to management. Respondents from local government and educational institutions had more faith that NPM could break through organised professional groups than those from central government and profit institutions. Respondents with accrual accounting experience were more likely to believe it and could be implemented in all government entities by 2010 but most thought that government decisions were still based on cash accounting and that politicians would work with 'new cameralistic accounting'. In conclusion, the study provides some indication of public sector managers, controllers, and consultants attitudes towards NPM.

Olson et al. (2001) review the new public financial management (NPFM) reforms' studies where services have to be efficient and effective, defined according to NPFM, and in which NPFM had not yet proved to meet its objectives. They defined accountability and responsibility, and observed the conflict between disaggregated public sector organisational

structures and enlarged centralised monitoring and evaluation. They described accrual basis of accounting and with evaluatory trap, where only those innovations can be measured easily are adopted, while successful services are privatised and the unmanageable remain public. In conclusion, accountants are gradually not in support of NPFM reforms, referring to the essential purpose of the service.

A major feature of NPM is the adoption and implementation - of private sector techniques - of accruals accounting. Starting from Generally Accepted Accounting Principles (GAAP) - of the private sector - public sector accounting policies should change when applicable environmental conditions of the public sector permit that.

Mellett et al. (2009) investigate the adoption and implementation of accrual basis of accounting by NHS in Wales. The study main concern is on the accounting reform that was part of Resource Accounting Based (RAB) specifically, accounting for capital assets. The study employed a mixture of qualitative - interview - and quantitative – questionnaire survey - research methods. The study finds that imitating private sector accounting techniques can be imposed and complied with. However, its integration into the culture of the organisation will take a substantial period of time and evidence benefits accrued outweigh the costs.

In conclusion, the diffusion of accrual basis of accounting for fixed assets has been limited to top management only indicating a managerial indifference to accrual accounting consequences on the ownership of fixed assets.

Lapsley et al. (2009) commented on the nature and extent of adopting accrual basis of accounting all over the public sector of international economies, by focusing on two aspects

its clear nature and implementation problematic nature. The study documented a series of different trajectories in different countries as they progressed with the adoption of NPM ideas. At the meta-level accounting can be seen as the global pressures that come from pressure groups and expert knowledge for “a world of standards”, and arenas of standardisation (accounting regulations). On the other hand, within the world of the public sector, NPM paradigm has had a profound impact on accounting practices. NPM is considered as a model of reform that privileges quantification and results where accounting plays a central role. The research team observed that NPM and the related accounting reforms had continued to be profound across many countries.

Christiaens (2003) describes the current governmental accounting reforms – moving from (cameralistic) cash basis accounting that is used to measure and control the budget spending to accrual basis of accounting that is similar to the one used in the business like corporations – in two of Belgian local governments. That is intended to deliver some insights relevant to practice for better understanding of the adoption problems and to meet the need for harmonious accounting practices. The study utilises a comparative approach. The results shows a lack of governmental accounting conceptual framework, the absence of clear practicable relationship between the accrual accounting reform and NPM reform, such as accountability and accounting output information for better public administration and the other objectives. It also reveals the existence of heterogeneity among countries of the EU in dealing with local governmental accounting reforms. In conclusion, the professional accountants and the researches in accounting can examine governmental accounting reform changes and provide their expertise in the follow-up and audit of an accurate implementation of the government accounting reform.

Cortes (2006) investigates significant accounting and budgetary reforms that are currently been introduced within the framework of a wider reform known as New Public Management. These reforms led to the adoption of accrual basis of accounting in several developed countries (i.e. transactions or events-recognised effects when they take place, irrespective of the timing when cash is paid or received). However, in 2003 it has only been adopted in budgeting by three countries : New Zealand, Australia, and the United Kingdom. The international position is analysed with a view to the adoption of the accrual basis of accounting and budgeting.

3.5.7 Accrual Basis of Accounting, NPM and IT

Cohen et al. (2007) examined IT failure to support new public management (NPM) reforms in Greek municipalities and described the assessment model of the software developed. They provided previous research on accrual accounting literature, IT malfunction, and information system/IT evaluation in the public sector; and outlines Greek efforts to introduce accrual accounting in local government. They pointed out that the legal framework required two independent accounting cycles within the general ledger that create problems in developing and evaluating software systems. They mapped-out the development of an assessment model - based on systems theory - and provided a flow chart that showed how it could be applied. They also analysed the deficiencies found in the systems over a period of four months, after an appraisal period reported to software vendors. It was reported that they managed to adjust their software to acceptable levels over the coming two months. Findings suggest that factors contributing to IT failure included public sector accounting staffs' lack of skills, legislation introduced and drafted poorly, and

software vendors provided no development analysis by software vendors. In conclusion, this study delivered a cautionary story on the failure of IT that others can learn from.

3.5.8 Accruals Accounting Adoption and Change Agents Role

Christensen (2001) describes the private consultants' role in Australian public sector organisations' adoption of accrual basis of accounting. He utilised a case study methodology, by using private sector accountants to implement accrual basis of accounting all over the public sector of New South Wales government. He supports consultants against Lapsley and Oldfield (2001) and claims following the line of Saint-Martin (2000). He interviewed nine respondents (one user, three producers of information, and five consultants) between March 2000 and November 2003, and supported that by written evidence gathered from the Treasury of New South Wales from 1987 onwards. The focus was on the Arthur Anderson actions, extracting analogous between New York and New South Wales. He applied Oliver's (1991) hypothesis of acquiescence, by which cash accounting was deinstitutionalised by consultants who fully believed that accrual basis of accounting would serve the public sector better. The results shows that the private consultants were on the lead of the profession in identifying a market for accrual accounting in the public sector, but delegated the actual work and could not solve the technical side of accounting recognition problems.

Christensen (2003) reviews prior research on the escalating use of consultants in public sector accounting, accounting profession growth and relevant institutional theory. It is a case study of the consultants role in the implementation of accrual basis of accounting in New South Wales (Australia) public sector utilising documentary support and interviews

with some leading individuals concerned. It traces the development in accrual accounting following consultant-run seminars and a change of government in 1987/88 and consultant's activities (Arthur Andersen) in promoting change and providing services. It relates to the bureaucrat's responses to mimetic isomorphism ideas (DiMaggio and Powell 1983) and the accountants' dealings to a real belief in the convergence of private and public sector accounting and the wish to expand business opportunities.

Christensen. (2006) aims to add empirical data to address Humphreys' questions and to further develop an explanation of the NSW case that "can aid future assessments of public sector accrual basis of accounting. By explaining the roles of consultants, bureaucrats and politicians in the early adopter of accrual accounting, better understanding of the phenomenon of public sector accounting reform change can be achieved. The fundamental focus is on Humphrey's doubts regarding the epistemic community underpinning the adoption of accrual accounting by the NSW Government; whether the NSW officials were naive, stupid or self-serving, whether the consultants were open in their actions, and issues of effective theorisation of the change to accrual accounting". At last, some brief comments are supplemented in an effort to reinforce Humphrey's call for action and to prompt further research of public sector accounting change.

3.5.9 Accruals Accounting Evaluative & Regulative

Humphrey (2005) questions the value of accounting reforms and as a result, how management consultants hunt business. He observed the soundness of the evidence utilised by officials to consent groundbreaking accounting reforms, and the genuineness of consultants in endorsing them. He commented on Christensen (2005) and the greatness of

claims, including the benefit claimed for accrual basis of accounting. Results show that public sector assets valuation is not necessary when it comes to investment, but up-to-date and clear financial data are necessary. He pointed out to the difficulty to understand accruals accounting in the context of public assets valuation.

Barton (2009) assesses the introduction of accrual basis of accounting, in particular the business model in Australia. He sums-up six government activities that need to be described, and its involved externalities. Identifies the actual reasons behind the reform, and describes how it was planned and implemented starting from 1984. Concentrate on ten features of marketisation reforms in 1996-1999, and on the reforms of accounting from 1999 to 2008. Results show that the Government Financial System (GFS) won the internal argument, as the values of market are adjusted or discarded. Costs are still fixed and above private sector range in asset revaluation, capitalisation charges, and additional accounting costs.

Newberry & Pallot (2005) look at the New Zealand political significance public sector accounting legislation. Argues - utilizing a case study approach - the advantages and disadvantages occurs from the adoption of accrual basis of accounting and outputs-based appropriations; and in the way New Zealand accounting and financial management, legislation has assisted privatisation and eroded the independence of offices of parliament, the judiciary and universities. The study found out that the proposed Public Finance Management Bill will put together the parliamentary scrutiny and control of Crown financial activities even harder; and explicates why in some detail. They pointed out to the need of debate, transparency and accountability regarding the legislation effects and the

idea that 'technical accounting matters' do not raise constitutional/political issues. Open democratic debate on questions such as the attraction of privatisation and the preferred size of government is needed. In conclusion, the vague effects of public sector accounting legislation and to its surface neutral technical mechanisms.

Carnegie et al. (2005) assesses the use of accrual basis of accounting and monetary valuation in the public sector (PS) and points out to the responsibility of the accounting profession and regulators for its misuse. They identified monetary valuation limitations and questions its increasing use in the PS where the objectives and assets are often very different from those applied in the private sector. They demonstrated that by using specific cases from Australia and New Zealand covering museums, libraries, local assets etc. and considers the implications for accountability. Results show that pure financial information is criticised even in the private sector, which is less informative for PS services; Australian PS accounting standards require it and only support other indicators. The authors criticise the accounting profession's 'monetary fixation', observe that PS preparers played a minimal part in developing PS standards and call for qualitative and non-financial quantitative information to provide suitable evidence of PS performance. They cite the 'fiasco of accounting for land under roads' to show how impractical PS standards can be and suggests that the profession has pursued 'jurisdiction' over the weakly organised PS without providing information fit for use. In conclusion, they argue that the application of private sector accounting techniques in the public sector should be clear.

Montesions & Vela (2000) follow up government accounting standard setting developments in Spain and demonstrates the current framework. Discuss the major factors affecting governmental accounting reform, currently using a modified accrual basis.

However, budgeting system is on a modified cash basis accounting. Expressed that the national accounting figures were specifically derived from governmental accounting, and added that some estimates, condemn differences between the two, and they still exist. They evaluated the EMU effect on Spanish practices, confessing that innovative accounting had been used to meet the convergence criteria, and provided examples for that. They considered that the national financial accounting information improved but suggest that further developments from a 'managerial perspective', e.g. the development of management information systems and performance indicators. They expected convergences between national accounting and governmental accounting systems and between governmental accounting information systems of EMU member states to happen.

Lüder (2000) describes and demonstrates government's financial condition information basis and European regulatory frameworks surrounding it. Utilising Germany as an example to criticise defects in the links between government accounting, finance statistics and national accounting; and points out that privatisation has made the situation worse. He provided some examples on innovative accounting of countries, which are trying to meet the convergence criteria for attending the EMU to demonstrate the loopholes in its methods of assessment (i.e. the deficit-to-gross domestic product and debt-to-gross domestic product ratios). He deems that for these ratios to be meaningful, national procedures/practices have to be standardised and government accounting must be on an accrual basis.

Ridder et al. (2005) examined German local government reaction to the inconsistency of having escalating responsibilities to deliver services in conjunction with declining financial resources, looking at the alterations that they are performing to the accounting systems.

They described Germany reforms that have been taken off in public financial management, discussing the move to accrual basis of accounting and output-based budgeting and the ways used to introduce them. They focused on one of these approaches, that were being piloted in North Rhine-Westphalia - the Neues Kommunales Finanzmanagement (NKF) - cross-organisationally, describing the standard used in accrual accounting and output-based budgeting that was developed and how it was implemented. They evaluated the implementation success, looking at the availability of resources in the municipalities to support a successful implementation. They also looked at the energetic of the change process to identify if the abilities to promote the implementation process were developed. They reported research that explained the implementation of NKF in six pilot municipalities chosen to test the implementation under diverse conditions. The authors pointed out to the gaps in both the resources and the adaptation affected the new system implementation.

They found that the framework implementation was influenced by the resources available in the municipalities and the ability/willingness of the municipalities to adapt to the new approaches of performing the work. Overall, they conclude that the distinctive adaptation of the new standard framework by the municipalities lead to a diversity of outcomes. They discuss how future implementation of the NKF is developed. They outlined the theory driving the new system and described how its implementation analysed.

Lye et al. (2005) demonstrated how a change from cash basis accounting to accrual basis based accounting in New Zealand core public sector happened. The grounded theory research methodology is used in a field study surroundings. The study findings pointed out to "six antecedents of the change - key people, axial principles, communicating ideas,

contextual determinants, ethos, and knowledge. These antecedents converged to create a synergistic process of change, which then led to policy innovations. Within such change process, accounting change was a means to an end, where accrual basis of accounting was introduced in order to achieve ministerial control and measure performance of government entities to present relevant information for management decision making". In conclusion, there is no general reform application that can be practiced by all countries.

Morphett (1998) evaluated the progress made towards a set of international financial reporting standards for public sector organisations, paralleled to those for private sector entities. Listing the nations progressing towards accrual basis of accounting in the public sector and clarified that standards will be developed for four diverse bases : cash, modified cash, modified accrual and full accrual. He pointed out to the bodies that undertake and fund the improvement work and looked at it as a 'first step into long way to international harmonisation' (Morphett, 1998, p.23).

Stanton & Stanton (1998) assessed the consequences resulting from standardised accounting approach for all Australian government assets and liabilities under accrual basis of accounting no matter what type of goods or services were produced. They show this is problematic for "heritage assets" whose stated economic objective does not confirm the presentation of financial information. They looked at value-in-use and the insufficiency of neo-classical economic theory, which is either indeterminate or tautological, looking only at market orientations and avoiding subjective questions of value. They explained that chances of costing can only be made if resources (unlike heritage assets) can be transferred to other purposes, but that improved methods exist, other than those currently in use.

Bradbury (1998) reported on the publication of the first five exposure drafts (EDs) by public sector international standards issued based on current international accounting standards (IASs). The author thinks that IASs use, as a base should enable public sector standards to be improved rapidly (expects to reach 20 within the coming 2 years!) but identifies some specific issues to the public sector, e.g. tax revenue recognition. He points out to the four common accounting bases governments adopt (from cash basis accounting to full accrual basis of accounting) and the coverage of the five EDs already produced. He predicts the initial set of accounting standards to be completed by the end of the year 2001.

Copley et al. (1997) talked about Governmental Accounting Standards Board (GASB) Exposure Draft 'Basic financial statements and management's discussion and analysis for state and local governments' in 1997. They chronicled its formation and sketched its proposals, such as reporting on an entity-wide perspective. They pointed out that citizens need information in general and accounting information in particular, although asking whether reform presents other benefits, such as lowering budget would imbalance it. Referring to the literature, they deduced that accrual basis of accounting as projected, and will not boost citizens' use of government financial reports; however it will cease political bias in presentation.

West & Carnegie (2010) searches the conditions and implications of a chapter of accounting reform change came up from the extended application of accrual basis of accounting within the Australian public sector. The issue under investigation is the reporting of the library collections of Australia's public universities as assets in general purpose financial reports. A survey methodology is used. It covers the annual reports of Australia's 36 public universities from 2002 to 2006. The findings of analysis is informed

by new institutional sociology (NIS), concentrating on the mimetic processes, and the concept of “accounting’s margins” (West & Carnegie, p.201). The survey shows substantial diversity and subjectivity in the accounting practices adopted, as well as occasions of sudden and dramatic changes in carrying out values. The financial reporting of library collections is portrayed as a “chaotic margin” of accounting, and the technical propriety of trying to express and account for these non-financial resources in financial terms is rendered problematic.

The reliability and usefulness of the reported information, with inferences of the accountability of the institutions surveyed in addition to the accounting profession in the relatively neglected domain of the public sector. According to Scheers (2005), governmental financial management systems’ reform in the past decade has witnessed major developments in accrual basis of accounting and in results-based oriented budgeting and reporting. Australia applied an accrual basis of accounting framework for outcomes and outputs budgeting and reporting since fiscal year 1999/2000. On the other hand, the United Kingdom moved to a resource-based (or accrual basis) financial management system in April 2001. They assessed the Australian and British reforms, including aspects related to parliamentary control, political accountability, managers’ role, the process of political decision-making, financial control, and the decisive factors for success or failure. They utilised a qualitative comparative approach based on secondary and primary data from in-depth interviews with experts. The results show reforms are not panacea to solve all problems of financial management; as such, both positive and negative effects will accompany reform. Political dominance and accountability increased and the financial control was assured. There is also a high potential for parliamentary control. Reforms provided financial instruments for effective and efficient internal management. The success

factors should be kept and failure factors should be avoided by learning from other countries' experiences. Greater support and involvement with reforms is preferred and documented explanation of accrual output information to users, especially politicians, should be maintained. Reforms have to be developed and applied by department line managers who can then get professional help from a consultative body. Commitment to reform department line managers have to be acquired and resistance have to be avoided. The role of chief financial officers is very important for the reform, and that role should increase with the implementation process. It is the acknowledgement of the important role of audit function with respect to the implementation process.

In conclusion, one of the success factors found in both nations is the periodic evaluation and adjustments applied as needed. Such factor should be used for each reform change to get optimal results from any reform, as there is no perfect reform.

Paulsson (2006) examines accrual basis of accounting's information use in Swedish central government agencies and Government offices. A multi-method approach through questionnaires and interviews was used to collect data for the study and current reforms to public management in the Swedish central government, including accrual basis of accounting. He investigated using accounting information by government political, non-political officials, advisers, and managers in government agencies. He found that agency managers utilise general accounting information more than officials, and non-political advisers more than political advisers; however, there are large deviations for exact types of accounting information, explicit agencies, their financial condition and dissimilar phases of the budget process. This implies that the state budget is still prepared on a modified cash basis rule, which decrease the use of accrual basis of accounting information, and that management accounting information is applied more than financial accounting (while

agencies believe that accrual basis of accounting to be easy to handle and have no need to go back to a cash basis accounting). In conclusion, the study delivers evidence on accrual basis of accounting information usage in deferent context as a management instrument. The benefits of introducing the accrual basis of accounting system have to be weighed against its cost.

Anessi-Pessina & Steccolini (2007) examined the coexistence effects of both accrual and cash basis accounting in Italian local government. They assessed prior relevant research to extract the research questions and summarised the Italian local government accounting system, which presented accrual basis of accounting in 1995 as a voluntary addition to budgetary accounting. However, they asked for accrual basis reporting. They evaluated the 1998 and 2003 financial statements based on a stratified sample of 30 local governments and compared the budgetary reported current surpluses with the net income from accrual basis of accounting. They found correlations between surpluses and net income and depreciation at 0.66 in 1998 and 0.31 in 2003 in addition to sizeable errors to 'the norm', indicating that little attention was paid to accrual-based generated reports. Unexpected gains/losses amplified and frequency between 1998 and 2003, possibly reflecting escalating difficulty in reconciling surpluses with net income and big variations between different authorities. Accrual basis of accounting principles seemed not to be well understood and reconciliation became difficult over time.

Christiaens & Van Petegham (2007) evaluated Flemish municipalities' compliance with accounting reform changes over time. They recognised the significance of accounting information in the implementation of New Public Management reforms, with reference to problems associated with the implementation of accrual basis of accounting reforms in

Flemish municipalities. They related research assessed and hypothesised on the longer-term compliance of these municipalities developed taking into the account the factors affecting it, which then tested by analysing 1995, 1997, and 1999 annual reports and the obtained survey information from 63 municipalities. They explained the methodology and the compliance index used.

The weak levels of compliance increased slightly during 1995-1997 but then remained standing, i.e. implementation difficulties were not solved. The only positive factor that had an effect on this was the participation of consultants. They pointed out such failure to the unclear objectives of the new accounting system, lack of accounting environment research, the use of top-down reform approach and the lack of decision-makers support, and interest (i.e. politicians). Furthermore, there was no standard setting body for public sector accounting standards and no systematic fines for non-compliance or rewards for compliance in Belgium.

3.5.10 Theoretical Development, Questioning & Reasoning

Ryan (1998) stated that Australian government agencies are changing cash basis accounting to accrual basis of accounting. Focuses on how public sector accounting systems are formed by political incentives, and on why general purpose financial reporting dictates government. He utilised an agenda-setting framework intended to explain how accrual basis of accounting became top priority and why it was applied in three phases : the 1976 Royal Commission on Australian Government Administration's support of accountable management, the 1988 financial reform of New South Wales introducing accrual basis of accounting, and political commitment, completed by 1996, all over

Australia. He set up the endpoint as the issue of AAS31, 'Financial reporting by governments', which resulted in total acceptance of accrual basis of accounting. In conclusion, this is the final achievement of the Public Sector Accounting Standards Board's principles championed by government 'policy entrepreneurs' whom a combination of events took place.

Jaruga et al. (1998) laid down Polish public sector accounting changes since the 1980s and early 1990s, demonstrating the diverse boundaries that came out by different criteria. They pointed out to the five Acts that determine accounting standards and argued that the 1994 Accounting Act based on international standards, then applied it to the business activities within the budgetary sector. They continued and explained on the 1991 Budgetary Law framework and its influence on plans of accounts, and its effect of the tax law. They showed that although pressures for more public accountability, cash basis accounting was still the basis for budgetary reporting and accrual basis of accounting is used only for special purposes financial reports. They utilised flow chart to show the pro and against forces operating for accounting innovations and expects more changes to come in the budgetary reporting system after the implementation of the new constitution in October 1997.

Christiaens & Rommel (2008) proceeds with some empirical observations by presenting the Belgian and Flemish experiences over a range of governments. Specifically, the study focuses on "frequently cited problems of adoption. Next, these practical problems are linked to a conceptual discussion of technical and political issues that have been underestimated in the development of the accounting reforms. Firstly, the accounting

framework underlying accrual accounting is not in harmony with the governmental context because of differing accounting objectives and accounting systems. Secondly, the issue of reporting accrual accounting information and budgeting is discussed, with emphasis on the technical deficiencies".

According to Zan & Xue (2011), transformations taking place in China are "of crucial importance in the development of the world economy. The international community is turning its attention to China's move towards a market economy and assessing the likely impact on the years ahead. This paper aims to plot the evolution of administrative reforms in China with particular reference to the state (and therefore public sector), because the modernisation of the state is an issue that will persist into the future, and because the state itself was driving the country's transformation towards a market economy in a deliberate way.

The paper revisits the debate on administrative reforms at different levels, i.e. fiscal, budgeting, government organisations, and public sector units (PSUs). In addition to reconstructing the evolution of norms and procedures as part of deliberate strategies by the centre, the paper also investigates how actual practices at the micro level have followed this process of reform, with reference to the administration of cultural heritage at the municipal level, based on a field research project.

A lack of understanding of the role played by actual accounting transformation seems to characterise the current debate on policies. Serious discrepancies can be found between expectations and actual changes; between macro and micro policies, and micro practices. A holistic focus on various trends of reforms is taken, looking at debates that are usually separated, also linking them to actual changes in accounting practice".

Lüder (1992) provides a comprehensive contingency model of introducing accounting innovations into the public sector. The model derived from a comparative study of the United States, Canada, and some European countries. The contingency model contains four major modules : stimuli, social structural variables about users of information, structural variables describing the politico-administrative system, and implementation barriers. Whether a more informative accounting system introduced is subject to the specific combination of favourable and unfavourable circumstances in these modules : favourable conditions were found in Canada, Denmark, Sweden, the United States at the federal level, and those states that adopted GAAP. Conditions unfavourable to innovations exist in Germany and France, and to a lesser degree in the United Kingdom and the European Community.

According to Hepworth (2003), of many national governments, UK is one of which has successfully implemented the reform change by moving to accrual basis of accounting. However, the change in itself should not be considered as an end because it will not solve the problems arising where improper cash basis accounting systems exist; control or management will not be better where inadequate control and meager management exist; nor will it get better external audit or the legislature's control over the executive. Prior to the introduction of such reform, cash basis accounting should be robust, control should be secured, external audit should be performing well and the legislature should have a capability to call the executive into account. This study lays down preconditions that governments have to meet to ensure that the full benefits of accrual basis of accounting are accomplished.

Dutta & Reichelstein (2005) inspected an alternative accrual basis of accounting rule from the angle of motivational and control perspective. They considered alternative asset valuation rules for an array of familiar production, for financing and investment decisions, the decisive factor for distinguishing among these rules is that the equivalent performance measure that should supply managers with robust incentives to maximise present value decisions. Such objective congruence is shown to need inter temporal matching of revenues and expenses, though the precise form of matching required for control purposes commonly differs from GAAP. The practitioner-oriented literature on economic profit plans (EPP) has made various, and at times contradictory, recommendations concerning adjustments to the accounting rules used for external financial reporting. Authors' objective congruence approach provides a framework for comparing and evaluating these recommendations.

Van der Hoek (2005) stated that, conventionally, "governments used to set up input-based budgeting systems and cash-based accounting systems. However, these systems do not provide the information that is necessary for a government to operate efficiently and effectively. Therefore, a growing number of countries have already transferred or are planning to transfer from cash-based to a less degree of full accrual accounting in the public sector". More often, the implementation of some level of accrual-based system is associated with wider financial management reforms including performance management, which necessitates information on cost. Study centred on the Dutch experience on the shift from cash basis accounting and budgeting systems to an accrual basis of accounting system.

Mir & Rahaman (2006) investigated the role of accounting and leadership in the commercialising of Australia's New South Wales State Mail Service (SMS). He detailed the SMS reform story and process undertaken. They Described how the cultural change

required posed challenges, which led the general manager to initiate a participative management style and to introduce new management control techniques, and a team approach. They described performance management system, collaborative budgeting process, and employee empowerment. They listed some ways in which the team associates and managers strengthened cultural change. They pointed out how general managers used accounting information as a convincing tool, managed the company's change to accrual basis of accounting, over passed the communications gap between accounting and other staff and commenced the idea of other departments as internal customers. The results showed how transformational leadership along with an effective use of accounting and management control systems assisted organisational and cultural change in a government agency.

Ouda (2010) suggested a "Prescriptive Model" for central governments to transform from cash basis to accrual basis of accounting. The core of the proposed model is to provide an inclusive transition framework, which will explain the complete reform process. The new model contained all related factors and tried to resolve the deficiencies of the previous developed models on governmental accounting innovation (e.g. Contingency Model, its developments, and the Basic Requirements Model). It concentrated not only on the contextual and behavioural variables and on establishing a climate suitable for the accounting reform process, but on the content, technical and capacity variables. The initiation stage of developing the Prescriptive Model is that the previous explanatory models mentioned above were unable to explain the complete reform process by compiling all relevant variables required for putting forward the accounting innovations into actual practice. The fact that the change to accrual basis of accounting is a major cultural change, administrative and technical change have to be considered. For a successful adoption, the

transition must take place and be performed in phases according to a clear outset established plan of progress. Thus, the proposed Prescriptive Model contains three phases : the reform decision-making phase, the transition phase, and the post-transition phase, adding to that the outcomes' results and overcoming of the transition barriers.

Chan (2003) pointed out that the aims of government accounting and financial reporting "is to protect and manage public money and discharge accountability". These specified objectives, and the public-produced goods and tax financing, naturally bring about differences with private sector (commercial) accounting, which has not yet reflected in either government accounting standards in English-speaking developed countries or in international public sector accounting standards. In summary, all mentioned are greatly influenced by the practices of the private sector, which utilised the accrual basis of accounting and consolidated reporting. He argued to adopt a symmetric and gradual approach toward accruals, a blend of government-wide, and fund reporting. He suggested a number of wide-ranging accounting principles to encourage political and economic accountability.

He refers to the reasons behind the international mounting attention on government accounting :-

- Modern governments' growing scale and functions demand the use of more money, which in turn require more financial accounting. To manage with less public money in order to improve efficiency and economy requires different accounting systems.
- International organisations and donor countries know that accounting in governments can be used as an effective instrument against fraud and waste, and

thus realised its value in maintaining sound financial systems. Reliable accounting numbers helps them to know where the money went and how it was spent.

- The accounting professional bodies found out the potential in the public sector to extend their services and skills.
- English-speaking, developed countries came together to champion a new form of government accounting.
- Comparative International Government Accounting (CIGAR) and International Public Management Net work (IPMN) generated visible forums for active exchange between academics and practitioners in cyberspace across the globe.

From Accountability to Accounting

The global climb of governmental accounting is due to the increasing demand for accountability in a democratic market economy. Democratic governance and market transactions necessitate and promote the principle of reciprocity —the exchange of benefits of equal value— upon which accountability is based upon. Accounting information can be utilised to monitor and put into effect the terms of economic, social, and political contracts. When a government is involved in market transactions - whether through buying or selling services, lending or borrowing fund - it is put-into economic accountability. When it collects taxes to finance public services, it incurs political accountability.

Government accounting development is linked to separation of powers; checks and balances between legislators, executives, and judicial branches of the government. All governments do a level of planning and control, only democratic countries' governments have to open its books to auditors and to the public by providing general-purpose financial reports. Fiscal transparency is a feature of limited government, to provide information to

give up authority. Government officials provide required information that does not go against their interest. Therefore, only financial disclosures are delivered in response to demand.

The regulation structure of government financial disclosures reflects the trends of accountability in the government and its political system. In administrative hierarchy, subordinates are held responsible by their superiors and have to provide feedback information reflecting their performance.

While legislators supervise, the works of the executive level in the execution of the approved appropriations of the budget the government then has to disclose information to persuade others to provide it with resources. As such, governments have the incentive to sell varying securities to investors, buy goods and services from vendors on credit and financial aids provided by grantors. In such voluntary exchanges, information can be used to forecast the ability of the government to fulfil the contracted conditions. When such transactions are done, the accounting information in monitoring contractual performance base, as governments are not fully obligated to disclose financial information to out of advantageous persons at short term such as taxpayers. Mandated standards tends to allow for more information access to those who unable to demand it or to have their rights to know.

To execute accountability, institutions are needed. With reference to government accounting, these are the standard setting bodies and their disseminated standards. As thus, it important to lay down the general purposes of government accounting and contrasted it with that of private sector accounting.

Purpose of Government Accounting

Government accounting mainly has three general purposes :-

1. Basic - To safeguard the public money by preventing and detecting corruptions and grafts;
2. Intermediate - To facilitate sound financial management; and
3. Advanced - To help the government to discharge its public accountability at its three levels principle agent relationship :-
 - a. Accountability of bureaucracy to the chief executive;
 - b. Of the chief executive to the legislator; and
 - c. Of the government to the people.

Hussein (1981) stated that most accounting change literature points out that economic benefit and technical considerations are not the only factors that affect the adoption or rejection of accounting changes. The suggestion that changes in financial accounting standards is a social process resembling diffusion and adoption of an innovative process, is described and explained. Study objective is to describe and explain an innovation process model that is not the same as other models used to study the process of adopting GAAP standards.

Findings show how innovation theory can be applied to examine the process of adopting generally accepted accounting standards. The process approach to innovation study is used.

There are five aspects of this process approach :-

1. nature of the process, i.e. initiation and implementation;
2. awareness that innovative possibilities exist and knowledge of their uses;

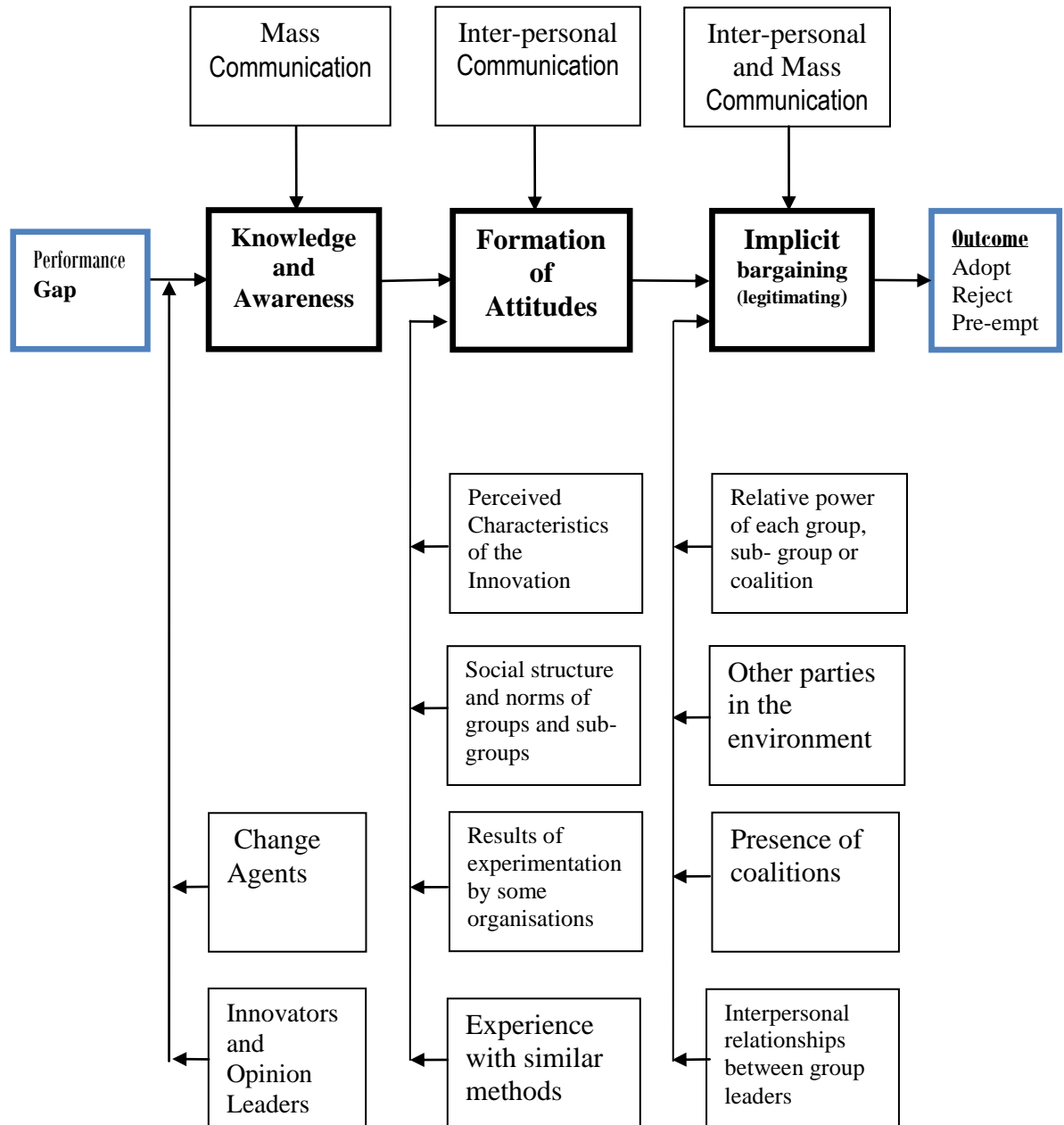
3. formation of attitudes about perceived and objective characteristics of innovative processes;
4. the implicit bargaining-legitimizing-sub process; and
5. outcome, i.e. adoption or rejection of a change in standards.

Hussein (1981, p. 28) pointed out based on his review of the literature, to two approaches to studying innovation. The result approach, which looked at the outcomes keeping the process veiled in a 'black box', and the process approach, which pays attention to the process itself from the initiation stage to the closing stage, the outcome.

Change agents either external or internal play significant role in the initiation stage by providing the advice. Internal change agents, on the other hand, are members of the group participating in the change process (Hussein 1981, p.29).

Hussein (1981, p. 28) explained in the formation of **attitudes towards the change**, based on the existence of stimuli, the importance of the systems members' attitude towards the innovation. Part of many factors influencing the outcome of the innovation is the perceived characteristics of the innovation that influence the attitude formation about the innovation, not the objective characteristics that are importance in the innovation process.

Figure (3.2) : Hussein's Model of the Innovation Process with Respect to Accounting Change



Source : Hussein (1981, p. 29)

3.5.11 Technical Application of Accruals by Governments

Pallot (1997) inspected the issue of including infrastructure assets into public sector accounting. He observed that the prerequisite for New Zealand public bodies to report on a full accrual basis of accounting meant that central and local governments had been struggling with this issue since 1989. He appraised the local government's practice in New Zealand to date, monitoring the role of the Institute of Chartered Accountants of New Zealand (ICANZ) in setting the standards. He was looking at different ways to improve accounting for infrastructure assets. He argues that while substantial progress had been accomplished a need for reliable standards of accounting for infrastructure assets is needed. Asked for an inclusive system of concepts, which will be able to deal with the incremental public dimension of government.

Adoption of Accruals Accounting by Countries Near Yemen

Beschel and Ahern (2012) stated that the accounting systems in the Middle East and North Africa countries in general are not well developed and a mixed record of reform exist. **In Syria**, for instance, the government accounting system still operates on a single entry basis of accounting, which makes the system more prone to mistakes, because a ready reconciliation between the flows and stocks is not there. The European Union project tried to introduce double entry accounting through a new IFMIS system, but no success has been recorded. They found extensive delays in preparing the final accounts **in Morocco and Tunisia**, which decrease the quality of the accounting systems. The final accounts in these two countries are pending for two years, after the end of the financial period.

However, Beschel and Ahern (2012) found that the accounting system **in Egypt** is on a double-entry using a mix of cash and accrual concepts, which complicates interpretation of the accounts. A total cash based accounting system is suggested by the IMF to be adopted as part of a medium term transition to accrual accounting, but the system has not been reformed. The IMF has recently commented that accrual accounts “of questionable utility” persist, as well as a variety of memorandum accounts. Public expenditure and financial accountability positive scores point out that account reconciliations are in general prepared on a timely basis. This does not give assurance on the quality of the government accounting framework.

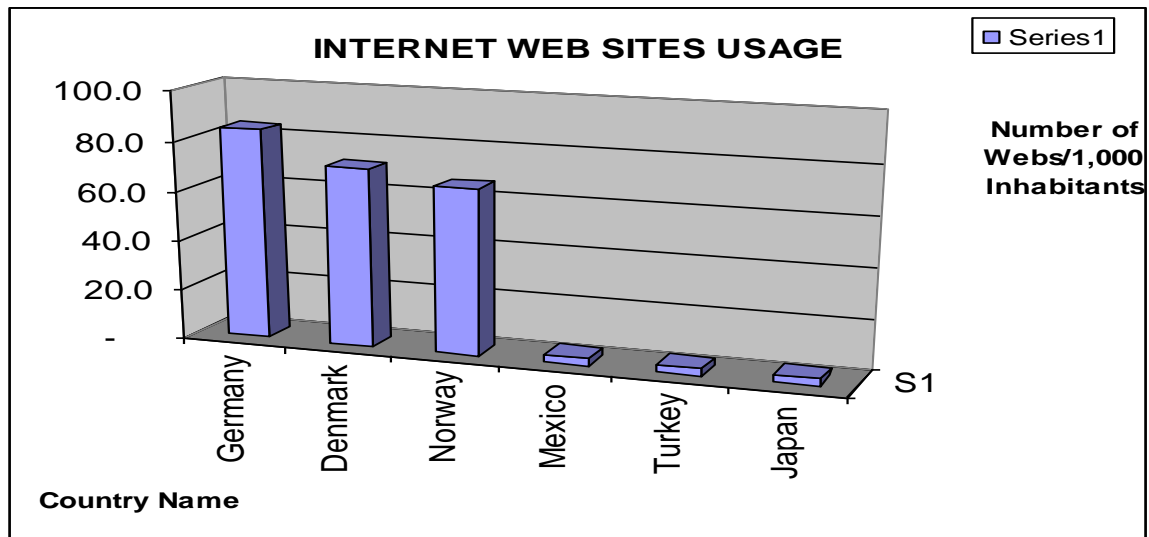
Jordan might have made better progress in the accounting reforms. It is in the process to adopt the International Public Sector Accounting Standard (IPSAS) as part of a comprehensive reform project to implement GFMIS. Given that the reform affects the work of a large number of civil servants, solid commitment from senior staff within the Ministry of Finance for the reform is needed. Therefore, a strong commitment from the senior staff in the Ministry of Finance is essential to come over the challenges of reforming accounting methodologies towards cash or accruals because the reform affect the work of many employees across the public sector.

In reviewing the literature, it is worth mentioning that Gulf Cooperation Council (GCC) six monarchy rich countries (Kingdom of Saudi Arabia, Sultanate of Oman, United Arab Emirates, State of Kuwait, Qatar, and Kingdom of Bahrain) near Yemen found to have made no attempts to reform their government accounting systems and in particular the adoption and implementation of accruals accounting.

3.6 E-Government

Swarts (2004) found that only twenty percent of the world population have access to Internet services. In 2003, the UN World Report on the Public Sector revealed that out of 193 UN member countries, 173 operate Web sites while the number was only 143 in 2001. In 2004, only eighteen countries, mostly Africans, are completely off line. The U.S. is the leading country in E-Government “readiness”, followed by Sweden, Australia, Denmark, U.K., Canada, Norway, Switzerland, Germany, and Finland. Figure 1 shows internet web site usage in some developed countries. Germany scores the highest (84.7 Webs/ 1000 inhabitants) followed by Denmark and Norway.

Figure (3.3): Internet Web Sites Usage



Source: OCED report

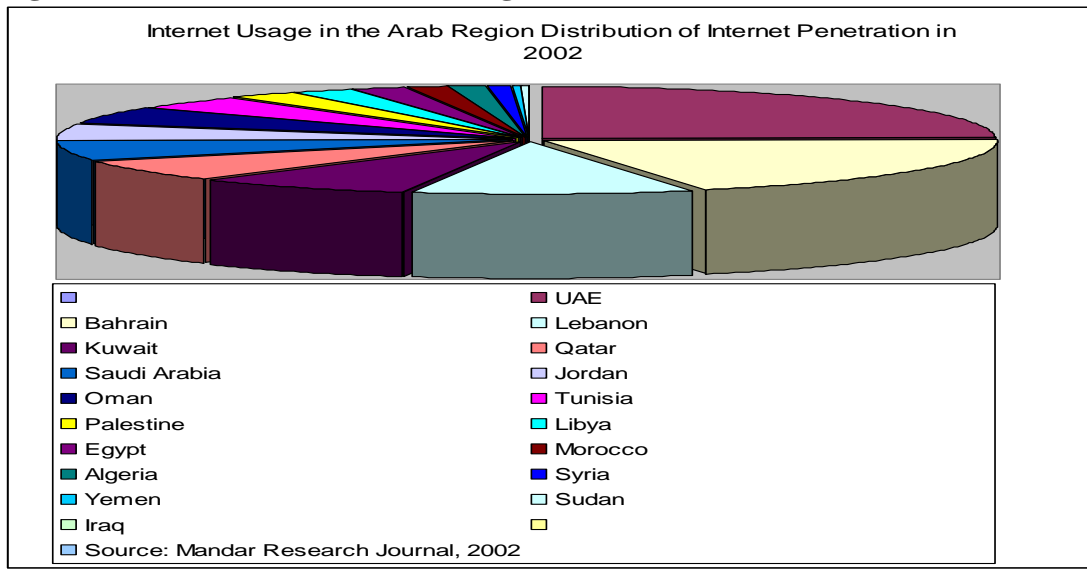
Table (3.4): Internet Web Sites Usage

COUNTRY NAME		Web sites Per 1,000 Inhabitants
Highest >	Germany	84.7
	Denmark	71.7
	Norway	66.4
Lowest <	Mexico	3.0
	Turkey	3.0
	Japan	3.0

Source: OECD, 2005

International organisations such as OECD have helped in promoting and supporting good governance programs including E-government applications in many countries and regions. According to OECD report in 2005, the organisation has provided regional programs to support the ongoing process of governance reform in Middle East and North Africa region (MENA). The program is being carried out in cooperation with a broad range of regional and multinational organisations, including the Arab League, the World Bank, and EU, as well as the private sector and civil society. This program focuses on the development and implementation of a series of reform initiatives. Six working groups were formed to provide support for national reform. The focus is on civil service and integrity, e-government, administrative simplification and regulatory reform, governance of public resources, public service delivery, and civil society and the media. A condition of support of the OECD to these countries is their readiness to undertake ambitious policy reforms and to join in a process of monitoring and review. That is in one extent to improve the overall initiative. Such investment programs aim to improve the attractiveness of the region for foreign investors. Pons (2004), in addressing e-government definition, took the dimensions' applicability by defining the G2G, G2B, G2C, and C2C approaches. He focuses mainly on applying the framework on G2C only. Figure (3.4) shows the level of Internet use in some Arab countries.

Figure (3.4): Internet in the Arab Region



Grant & Chua (2005) reviewed some of the E-Government literature in order to reach some definition of the term. The authors argued that while some of the definitions are narrowly focussed on using ICTs and internet delivery of more efficient and effective government services, a wider view defined E- Government as a broad-based effort to transform government and governance. E-government can also be defined functionally as (i) the use of technology to enhance the access, delivery of government services to benefit citizens, business partners, employees, (ii) electronic information-based services for citizens with reinforcement of participatory elements to achieve objectives of balanced e-government, (iii) the use of ICTs as tool to achieve better government, and (iv) the use of ICTs in all facets of the operations of a government organisation.

The above definitions offer slight insight into deeper issues and considerations in relation to the construct. The focus is concentrated on the service delivery component of e-government efforts and fails to capture the most complex aspects of transforming the government. E-

Government is a detailed and complex development that is difficult to conceptualise, yet e-government implementation have to realise the upper stages of maturity and that the understanding and knowledge of the area is still in the process of formation. Grant et al. (2005) suggested that an operational definition of E-Government should stem from its six main characteristics which include: -

- Strong service delivery and information provision component
- E-government is a transformation effort
- Diverse number of solutions and patterns of development
- IS/IT- Based development, but not limited to IS/IT
- Convergence of integration, sophistication, and maturity
- International phenomenon

The authors develop a Generic Framework for E-Government through their observations in three countries (US, U.K, and Malaysia). They found a strong service component in e-government visions and realisations and a prevalence of a practitioner perspective that focuses on “quick wins”. On the other hand, Norisset et al. (2005) based on data collected over five years and heavily focused on 2001 and 2002, finding that the extent and quality of e-government at different levels of U.S. government continued to evolve and appear to be a rapid moving target. Despite the growing number of e-government studies that are emerging in the public administration literature, little have been examined on the continuing evolution of e-government from a longitudinal perspective. Prior studies are limited to studying the nature and scope of e-government at a particular time. In their study, they addressed input dimension – adoption studies, the impact dimension – organisational process and organisational output, and the barriers confronting e-government. They conducted their survey on local e-government in the U.S. and come up with the following findings : as "local government web sites mature, they will become more sophisticated and therefore, more transactional, more integrated vertically and horizontally, and more likely

to take on portal-type characteristics. The trends toward adopting more transactions is merely remaining slow. Electronic government is continually evolving. As many practitioners have said, e-government is a moving target. It is important that research continues to explore e-government adoption and impacts especially with longitudinal data from all levels of government as well as in-depth case studies of e-government initiatives. That is to keep pace of the practice and to gauge impacts of this dynamic, innovative, and relatively new IT, which has great potential to transform government services delivery and the face of the government itself".

While many governments worldwide, to some extent, adopted an e-government initiative, officials in government agencies up to now are lacking the vision to more evolving of e-government as time passes. Koh et al. (2005) in their case study (G2C) posted an evolutionary path of increasingly complex interactions with constituents as governments provide higher levels of e-government services to their citizens. In the proposed e-government transformational process model five phases of interaction types; "informational, interactional, transactional, integrated, and collaborative were set. Only in the last stage is true knowledge sharing and partnership between the citizens and the government accomplished. The study revealed (the city under study) is far from reaching the collaborative stage where citizens are empowered to become partners with government. Their recommendations (in order to facilitate the transformational process) to the city's government were to institute a constituent-centric, knowledge- sharing culture and focus on key enablers; strategic alignment and focus on, data and system integration, and security and privacy policies". Gilbert et al. (2004) found that there is a relationship between willingness to use each of the factors identified. There is strong correlation between time, financial security, trust, information quality, and willingness to use the government online

service, and a medium correlation between cost, experience, visual appeal, low stress and willingness to use the government online service.

With all diverse factors and complexity concerning, the adoption and implementation of sound E-government. E-Government system needs to address many professional aspects. Tan et al. (2005) expressed the importance of stakeholders' interests in e-government. They found that the emergence of organisational e-governance has made obsolete old administrative wisdom about power distribution in the public sector and the rising need to view stakeholder management as an important competitive imperative of e-government. As such, business-IT integration in public administration should evolve along the direction of a strategic convergence of stakeholder interests. Therefore, it becomes more or less related to reconsideration of the public sector professional standards to meet such global challenges.

Wallace (2004) foresees the urgent need for cross-local governments, national governments, and international body governments to develop international public sector accounting, auditing and regulation standards. As it is until today governments vary in their use of the accrual base of accounting and the cash base of accounting, some use the accrual base while others use the cash base. Moreover, Mosso (2005) concluded that the accrual accounting would remove the cash flow bias currently embodied in reporting social security financial reports and projection; this would provide additional useful information for policy-making, and would focus on recording the exact due liabilities.

Osborne and Gaebler (1992) proposed that citizens should be regarded and treated as customers, suggesting that the delivery of government services should be redesigned with a customer focus. This is an early visualisation of the concept to public sector modernisation

and the transfer of government services for more effective and efficient way. The intention here is to utilise information technology in combination with a business-like approach to manage and perform government operations for better service delivery at the lowest possible cost of operating government organisation.

Mintzberg (1996) distinguished customers from clients, citizens and subjects pointed out that someone do not have to call another a customer in order to treat him or her well or to ensure that services are designed and putting their needs in mind. Normally, customers buy products, clients buy services, but citizens have rights “that goes far beyond customer and client buying” citizens not only have rights but also have duties and are subject to pay taxes, drafted in armies, and respect laws. This does not mean that there is no need for reinventing government, but it limits the extent to which the nomenclature of B2C relationships parallels that of G2C relationships.

The unspecific image of government "is of a slow-moving bureaucracy, unwilling or unable to change and years behind other industry sectors in its use of new technology and new business models (Accenture, 2000a). In this model, citizens and businesses engage with government in many areas, creating cast amount of paperwork – an inconvenient and confusing process". With some exception, the image here is one that will be familiar to many citizens who do not have access to an e-government. Burn and Robins (2003, p. 26) observe “e-government is not just about putting forms and services online. It provides the opportunity to rethink how the government provides services and how it links them in a way that tailored to the users’ needs”. Bearing in mind all the risks that may encounter e-government initiatives, “governments must develop a far more sophisticated view of IT if

they are to serve and devolve real power as an integral part of its approach to e-government and provide more freedom of information” (Burn and Robins 2003).

In this case, if governments can achieve this radical conception of their role, then there is potential for e-government transformation “not only the way most public services are delivered, but also the fundamental relationship between government and citizen” (Symonds, 2000, p. S3). This implies not only e-government but also e-governance, if real power is really to be devoted to citizens. There are many opportunities for e-government applications, whether they involve the provision of information, handling complains and queries electronically, processing applications for permits/licenses electronically, paying taxes, duties, fees electronically.

The government to e-government transition process "offers governments a unique opportunity to enhance not only their operational transparency, clarity of purpose and responsiveness to citizens" (Marche et al. 2003), but also their own internal efficiency and effectiveness, important concerns in times of economic downturns and increasing public pressure for internal accountability. However, achieving transparency require significant “internal process of redesign that hides the internal complexity of transactions” (Marche et al. 2003, p. 76) from citizens who do not care which department provide a particular service, or who they are paying, so long as they can get it. This transparency is likely to increase citizen empowerment as they will be able to access information of their own choosing, rather than accepting whatever explanation provided (Slevin; 2000).

The Yemen E-Government portal, at its current (up to 2008) stage see figure (3.4), represents a hierarchal functional structure, which does not go with the NPM approach. To some degree it provides catalogue data and some forms'.

www.yemen.gov.ye/egov/static/ministry-english.html.

This portal is changed and a new portal for Yemen E-Government in Arabic started early in 2009. Therefore, the current link to access Yemen E-Government portal (starting from 2009 - until now) is at: <http://www.yemen.gov.ye/portal/>.

Figure (3.5): Yemen E-Government Portal



Siau & Long (2005), in their synthesised stage model (a five-stage e-government evaluation model), found that quantitative and qualitative data may be collected to evaluate e-government development level.

Meanwhile, Davison et al. (2005), developed the “government to e-government” transition process model and found that six transition paths can be identified four of which are more likely to result in effective e-government transition.

In a different approach Dias and Rafael (2006) proposed a general model for one-stop e-government and a distributed architecture for its implementation. Following basic paradigm that the public administration is composed of unstructured networks of entities where information is uploaded or downloaded to/from each other and to/from services, repositories to deliver client centred services based on HTTP, SSL, XML, and PKI technologies.

- E-Government is defined as the transformation of public sector’s internal and external relationship through Internet-enabled operations thereby strategically deploying ICT to optimise government service delivery and governance.
- E-Governance is defined as "the development, deployment and enforcement of the policies, laws and regulations necessary to support the functioning of an e-Government" (OECD, 2003).
- Operationally, it is defined as "the application of (ICT) to transform the efficiency, effectiveness, transparency, and accountability of informational and transactional exchanges within the government, between governments and government agencies at federal, municipal and local levels, citizens and businesses; and to empower citizens through access and use of information" (Tambouris, et al. 2002).
- E-Government provides the tools, which enable the modernisation process to be wide-ranging and effective. It facilitates increased flexibility and co-operation with

ongoing change, increased value for taxpayers' money through more efficient use of resources and performance that is more robust and financial management systems.

E-Government and Public Sector Accounting & Reporting

According to Homburg (2004) E-Government concept is matched with the concept of NPM as they produce a perfect combination. PFM is derived from NPM and accrual accounting reform is a by-product of PFM. As the objective of the NPM changed to focus on outputs or outcomes, the accounting system has to change to meet such change in objectives and that is shifting from the cash base to the accrual base accounting.

At all levels with all research done, yet e-government development research still at moderate level and more research needs to be done – especially that relates to accounting and finance.

3.7 Prior Studies on the Adoption of E-Government

The starting call initiated by Osborne and Gaebler (1992) in their book on 'reinventing government', appealed for refreshing the government and to reinvent the government by addressing several objectives : increased efficiency, decentralisation, increased accountability, improved resource management, and the marketisation of public services. Due to the massive and organisation-wide introduction and use of modern information and communication technology (ICT) inside public management, and especially the Internet, that took place at that time.

Heeks (1999) in his book "Reinventing Government in the Information Age" pointed out to international practice in IT-enabled public sector reform, and asked the question 'how can information and ICT play a greater and more overt role in the process of "re-inventing" the organisation and functioning of the government. Within this vast question are the minimum issues of the reform prospective of contemporary ICT and the origin of the essential factors that may account for the success or failure of ICT supported reforms in public management. He at first addressed the relationship between the increase of the information society and its multiplication across public administration and management, accolade all types of reform initiatives all over the world. However, information systems-supported reforms cannot judge to always be successful, especially if a technological perspective prevails. A gap is found between the reform conceptions and the organisational reality. Later on several important factors identified and classified as contributing to the success and failure of the ICT-supported reforms. These identified factors are :-

- information systems;
- technology & people;
- management;
- organisational processes;
- organisational culture;
- organisational structure;
- organisational strategy;
- organisational politics; and
- the specific environment in which the government organisation operates.

A model called ITOPSMO-Model was introduced to clarify the gap between the rhetoric and reality of change. This model's use was dual. It specified dissimilar sets of critical

factors that account for the success and failure of existing ICT based reforms (evaluation ex post). Then, it assisted in identifying probable factors that should be taken into account, if government organisations intended to commercialise its ICT-based reform (evaluation ex ante). Other issues related to ICT's effectiveness and government reform had been addressed.

Heeks and Bailur (2007) mentioned that in recent years, there has been continues growth in the quantity of research output on e-government. For better understanding of these researches, the authors in this study used content analysis of eighty-four studies in e-government-specific research channels. The study's analysis focused on five main topics : "perspectives on the impacts of e-government, research philosophy, use of theory, methodology and method, and practical recommendations. Normative evaluation identified some optimistic features, such as recognition of contextual factors beyond technology, and a diversity of referent domains and ideas". Besides that, though, research draws mostly from a not strong or puzzled positivism and dominated by an over-optimistic, a-theoretical work that has performed little to add up to either knowledge or practice in guiding forward e-government. However, a lack of clarity and lack of firmness about research methods along with poor treatment of generalisation is noticed. They recommend ways of strengthening e-government research and outlined several constructive issues, such as the role of research philosophy and theory, and the institutional factors – mainly pressures of competition and time – that may hinder the development of e-government research.

Fang (2002) pointed out that governments around the world encounter the challenge of transformation and the need to reinvent government systems to distribute efficient and cost effective services, information and knowledge via information and communication

technologies. Development of information and communication technologies catalysed and led forward to E-government. What is E-government? In this study, E-government is defined "as a way for governments to use the most innovative information and communication technologies, particularly web-based Internet applications, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes. E-government presents a tremendous momentum to move forward in the 21st century with higher quality, cost-effective government services and a better relationship between citizens and the government. An important aspect of e-government is how it brings citizens and businesses to their governments". The study outlined eight different potential types or models in an e-government system that is useful to define scope of E-government studies : "Government-to-Citizen (G2C), Citizen-to-Government (C2G), Government-to-Business (G2B), Business-to-Government (B2G), Government-to-Government (G2G), Government-to-Nonprofit (G2N), Nonprofit to- Government (N2G), and Government-to-Employee (G2E). This paper also examines some examples in E-government practices and presents a generally-applicable framework for analysis of challenges and problems in E-government development. Emerging with E-government, theories and practices of public administration have stepped into a new digital era. This study proposed that contemporary issues related to E-government in public administration are administrative interfaces, e.g. people-computer interfaces in management of a digital administration, e.g. digital process or procedures and its system in management, and virtual organisation, e.g. government online system etc. Studies of these issues will be more beneficial for development of theories and practices of public administration in 21st century". The study concludes by analysing the concepts and theoretical framework related to these issues given the broader context of structural

initiatives for E-government development and outlined the recommendations for further studies of E-government in public administration.

‘Why reform the government?’, Kudo (2004) asked. The answers to this question, he found, differed relatively to context and timing. Occasionally reform change is stimulated by a lack of financial resources. Other times it comes up because of a change in political authority. While in some other times it might be strained by citizens’ claims. But mostly it occurs in response to corruption and or scandal. Furthermore, in most cases, more than one factor jointly pushes forward toward government reform. That is why reformers adopt many strategies ranging from institutional restructuring, rationalisation of administrative procedures, introduction of new managerial techniques, and currently the implementation of e-government.

ICT thereafter in combination with the Internet presented the essential ingredients required in the development of E-Government. Early in the 1990s several studies on E-Government were present, but not focused and no formal or official model existed then.

Kraemer and King (2003) mentioned that the Internet and e-government set forward a lot of discussion across governments at all levels. The time has come back to look once more at the relationship between information technology and administrative reform change. Their research study investigated the theoretical perfection of information technology as a tool of administrative reform change, and examined the extent of achieving that in the U.S. The study conclusions drawn on the findings reached, questioned why they shall be expected in the future with applications and use of information technologies after e-government. The study completed with arguments about the early evidence revealed about innovative

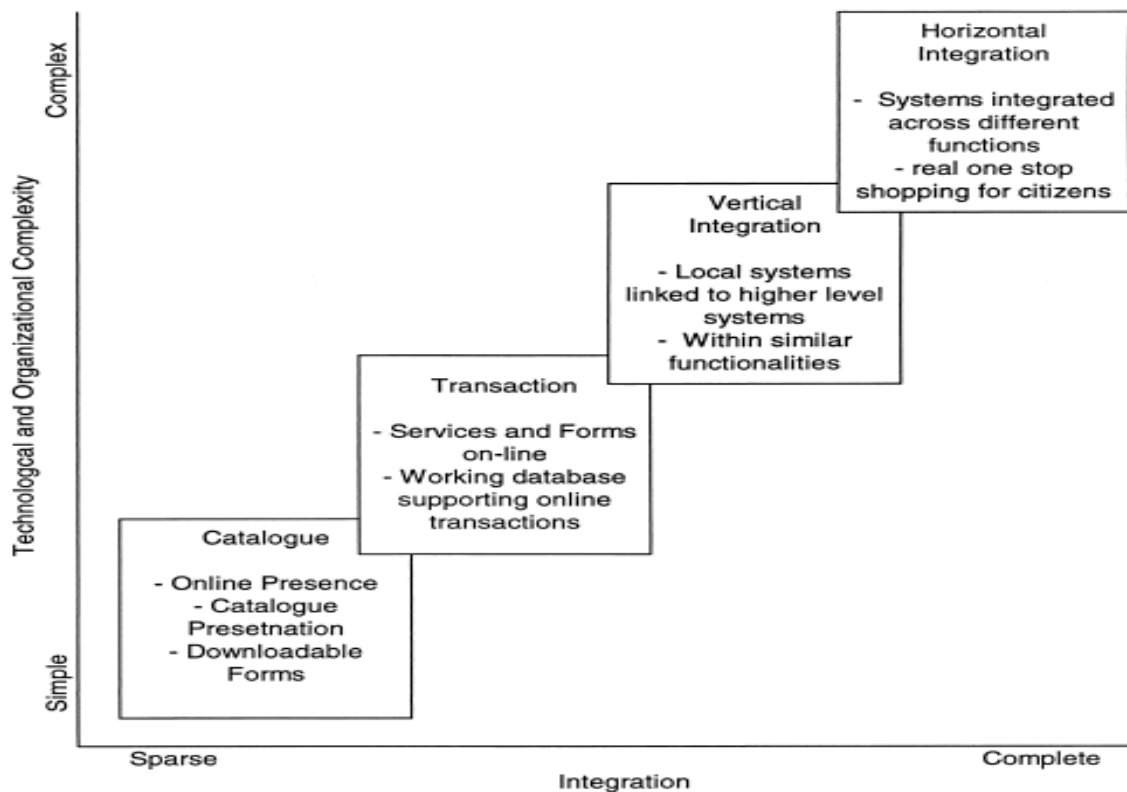
applications for government to be fully service delivery automated, 24x7 through e-government and e-democracy. Not to mention, the study defined e-government "as it usually refers to the use of IT within the government to achieve more efficient operations, a better quality of service and easy public access to government information and services" and also defined e-democracy "as it usually refers to greater citizen participation in democratic processes". It added more clarity, for example, when Senators Lieberman and Thompson defined e-government as a way "to better use IT advances to achieve greater effectiveness and to provide citizens with an easy, electronic access to government programs, services and information".

Davison et al. (2005) intended to develop a model that would describe the "government to e-government" transition process. Literature and practice were reviewed on e-government, alongside the related literature on strategic alignment and maturity models for technology adoption. The study offered evidence for the model's validity utilising case-type material collected from the web sites of e-governments worldwide. The results pointed out to "six transition paths that can be identified, four of which are more likely to result in effective e-government transition. More work is suggested to test the validity of the model, which could involve historical and longitudinal studies of the government to e-government transition process in diverse governments around the world". This transition model could be of value to e-government strategic planners who are seeking possible transition paths towards an effective and efficient model development of e-government. The study undertook modest investigation of the transition process through which governments have to go as they move from traditional government to e-government.

Layne and Lee (2001) described different stages of e-government development and proposes a 'stages of growth' model for fully functional e-government developed to help public administration officials think about e-government and their organisations, as E-government put forward many challenges for public administrators. This study approach is based on technical, organisational and managerial feasibilities and related examples and experiences. E-government is an evolutionary phenomenon, thus e-government initiatives should be derived and implemented. A growth model of four stages is proposed for fully functional e-government : stage (1) cataloguing, stage (2) transaction, stage (3) vertical integration, and stage (4) horizontal integration as described in figure (3.6) below.

There are many government websites and related e-government initiatives helped in grounding and explaining this model. The model stages an outline of the multi-perspective transformation within governmental structures and functions during the transitions to e-government throughout each stage. At each stage technological and organisational challenges escort these metaphors. Meanwhile, this study portrays how e-government turned out to be in conjunction with the conventional public administration structure.

Figure (3.6): Dimensions and stages of e-government development



Source: Layne & Lee (2001)

Siau and Long (2005) mentioned that mounting interest in e-government raises the question of stages of development needed for e-government. Not many stage models for e-government development have been projected. With no general e-government stage model, different research studies in e-government might be based on diverse stage models. As such, it will present difficulty in comparing and understanding different research results. This research study synthesises the existing e-government stage models into a common frame of reference for researchers and practitioners in this area. The study used a qualitative meta-synthesis methodology to synthesise different e-government stage models. The meta-synthesis followed the steps used in meta-ethnography. This study analysed and combined five obtained for the literature on e-government stage models, translated the

stages within those models into one another to develop a new e-government stage model. This new stage model consists of the following five stages : web presence, interaction, transaction, transformation, and e-democracy. The study contributes to e-government theory development. As the new five-stage model offers a synthesised conceptual framework researchers can use to assess and comprehend e-government development. This synthesised e-government stage model provides a road map practitioners can follow in their e-government projects. The study utilises a modern and new research methodology to synthesise the available research. It is considered one of the first studies in the information systems area that used a meta-synthesis approach to consolidate the existing qualitative research. It is also the one that systematically came up with an e-government stage model.

The adoption of accrual basis of accounting is an essential element in the introduction of New Public Management. In fact for New Public Management to work properly it needs information generated based on accrual basis of accounting.

Homburg (2004), study mentioned that "E-Government and New Public Management" (NPM) are two notions that are frequently used in debate about modernising the government. Both of them refer to different forms of reform change of the public sector and to some extent address the same problems public administration is currently confronted with such as the lack of accountability, underperformance and weaken level of legitimacy. The fact that e-government and NPM deal with the same problems does not mean that the contents of these concepts really overlap. Both concepts "contain various elements and multiple dimensions; intuitively, some of these elements may be understood as overlapping, however a clear concrete framework pointing out where new public management and E-government overlap and reinforce one another, is not there yet. Based on theoretical and

empirical support, a framework for categorisation of reforms is offered". The framework highlights various types of reforms, and recognises the requirements for architectures and accountability routes in technological and institutional reforms.

Torres et al. (2005) addressed the adoption of web-based technologies "to deliver government services that had become a global trend in public administration. Because e-government inherits the administrative reform policies inspired by New Public Management (NPM) reforms implemented throughout the EU over the past twenty years. As e-government aims at going beyond NPM reforms, its goal is to convert the relationships between the public sector and the society as a whole and to investigate innovative means or channels of service delivery". Therefore building and management of websites is considered an essential component of modern public administration, as little is known about how these initiatives are being implemented. Putting into account the considerable investment in time and various resources directed to governmental online initiatives, it will be more appropriate and essential to begin evaluating governmental Web site initiatives in terms of quality and effectiveness. The objective here is to study e-government initiatives development at both regional and local levels in the EU by obtaining the opinion of those agents who are directly involved in these projects.

Yapa and Guah (2012) analysed how new public financial management system must tackle the efficiency and effectiveness of the public sector and the emerging accrual basis of accounting with e-governance for greater e-transparency on public-sector accounting in Sri Lanka. Regardless of the preparation of e-framework in 1983, Sri Lankan public-sector accountancy's atmosphere during the last two decades elevates some concerns about efficiency, effectiveness, and accountability of the e-framework. The results emphasised,

based on evidence, the importance of the economy and efficiency in using public funds to provide more convenient access to government accounting information for citizens in Sri Lanka.

Brown (2005) revealed that electronic government comprises "all government roles and activities, formed by information and communications technologies (ICTs). Going well beyond similarities with e-commerce, e-government covers the four main areas of governance and public administration : the state's economic and social programs, its relationships with the citizen and the rule of law (e-democracy), its internal operations, and its relationship with the international environment". E-government constructed on "three evolving forces: technology, management concepts and government itself". It promoted numerous issues that are "reshaping the public sector environment, including the International Institute of Administrative Sciences. Four features of e-government have permanent impacts on public administration : citizen-centred service, information as a public resource, new skills and working relationships, and accountability and management models". The challenges of e-government are even more intense in developing countries, although it presented solutions. Public administration in all countries needs a new thinking approach and leadership to make sure that e-government recognises it's full prospects.

Justice et al. (2006) pointed out that "fiscal transparency and citizen participation in budgeting processes are widely encouraged as means toward democratic accountability and responsiveness in the allocation and use of public sector allocated funds". During past decade, academicians and practitioners passionate about e-government value emphasised the prospective for using information technology to improve democratic way of governance. Taking these two streams of public administration theory and practice

collectively, this study developed "the criteria for appraising e-budgeting efforts and applied them to a sample of Web sites operated by state and local governments. Even though practitioners are ahead of academics in exploring the potential of e-government for improving fiscal accountability and responsiveness, practice lags behind the relevant basic recommendations of the Government Finance Officers Association". Such finding point out to research and practice agendas aimed at enhancing e-government utilisation to enhance fiscal transparency and participation.

Rehman et al. (2012) aimed at identifying "the critical factors that enable citizens to adopt e-Government services" in a society at its elementary stage in the adoption of e-Government. To achieve that an integrated conceptual model has been projected and validated based on sound theoretical settings, keeping in mind the local context of the Pakistani society. The proposed model highlighted a complete set of possible factors influencing the adoption of e-Government services. This conceptual model development was based on related literature review and on conducting expert reviews with government officials, academic researchers and software engineers in Pakistan. Based on expert reviews, the results show that awareness, trust in the internet and trust in the government are the important factors specific to the context of the Pakistani society. The findings of this study also confirmed that "awareness is a significant variable that had influence on the citizens' intention to use e-Government services, to get information or to perform a transaction using the government web site. Information quality variable found to be a significant whenever getting information from the government website. Perceived ease of use, service quality and transaction security found to be significant variables that influence citizens' intention to conduct transactions with the government. Using the integrated conceptual model is a robust way to explore the main factors that have great effect on e-

Government adoption. The targeted populations of respondents used in this study are internet users". Henceforward, this research work "shall be extended by including technology divide-citizens called offline respondents, i.e. less frequent internet users. The results of online and offline respondents shall be compared so that the perception of technology divide-citizens may also be included in identifying the factors that influence the adoption of e-Government services". The study's major findings are useful for policy and decision makers, in understanding the needs of the citizens. The projected model can be used as a directive for e-Government strategy formulation and implementation by the Government of Pakistan. The integrated conceptual model is anticipated to surmount the shortcomings of the previous models by adding the related variables to make the model complete. The conceptual model is customised and validated to fit the local context of Pakistani society.

Alomari et al. (2012) mentioned the growing debate on factors that affect e-government adoption in a developing country of Jordan. To change from traditional connections between government and citizens, in Jordan, to interact by the web requires more exploration to realise the factors that might affect e-government adoption by citizens. Their study aimed at reporting on a study that identifies "the main factors that influence citizens' intention to adopt e-government websites in Jordan, utilising a theoretical framework of diffusion of innovation theory (DOI) and the technology acceptance model (TAM). A survey questionnaire of 400 Jordanian citizens that are internet users, investigated the influence of the abovementioned factors on the adoption and use of e-government websites. Multiple regression analysis was used to test the hypotheses. In opposition to previous research, trust in the internet, relative advantage, compatibility and perceived ease of use

found not to be significant predictors of intention to use e-government websites. Trust in government, website design, beliefs, complexity and perceived usefulness found to have significant factors in Jordanian citizens' intention to use e-government websites". The study examined what influences "adoption and use of e-government websites by citizens in the Middle East. The study identifies the relationship between the constructs of "beliefs" (religious views) and website design and e-government adoption, and investigates the influence of attitudes towards e-government's adoption in Jordan. Despite previous studies similarities between the constructs related to DOI (relative advantage and complexity) and those related to TAM (perceived usefulness (PU) and perceived ease of use (PEoU)), this research demonstrates the importance of including these constructs when considering the adoption of e-government in a Middle Eastern country".

The implementation of e-government aims at simplifying and improving the relationships and transactions between public administrations and their users or customers. In this line, Domínguez et al. (2011) analysed the factors that promote the development of e-government in national governments of 192 countries universally, discriminating between developed and developing countries. The findings emphasised that the development of e-government requires countries to have a degree of economic development needed to enable their citizens to have a certain standard of living, both economic and cultural, as well as essential internal government reforms that will promote administrative effectiveness. If these essential factors are fulfilled, then national government's online presence is favoured by governments which will rule with a majority in their parliaments and with an important fiscal capacity.

García-Sánchez et al. (2012) noticed that previous studies attempted to analyse the determinant factors of the implementation of e-government and presented serious limitations due to multicollinearity and endogeneity problems. Therefore, the aim of this study is to investigate the factors that promote the development of electronic administration in national governments of 192 countries worldwide, using simultaneous equations to overcome the cited problems. The findings stressed the bidirectional relation between government effectiveness and the sophisticated online presence of the administration. Astonishingly, countries with higher economic and political resources availability may not necessarily explain greater e-government development than others.

Affisco and Soliman (2006) aimed at presenting "a conceptual framework for choosing and developing e-government applications as part of an overall sound strategy of e-government service delivery (EGSD)". The projected framework presented in this study was based on prior literature in the fields of e-government and service delivery in organisations. Particularly, the framework upgrades Heskett's work in organisations' service delivery to e-government field. Operations management strategic framework for EGSD constructed in this study embodies an answer to the needed for a strategic point of view on the electronic delivery of government services. The study framework contains "seven building-blocks – four basic elements : market segmentation, service mode development, operations-strategy redesign, and service delivery, in addition to three integrative elements : differentiation, leverage of value, and alignment of strategy and system". The framework presented in this study holds two significant gaps in government transformation field to supply electronic services. At first, it provides an exact framework and the needed steps required to successful e-government applications' implementation. Then, the framework gives an instrument researchers on e-government studies can organise and develop. The developed

framework here is flexible and can be adopted by governments at various levels; federal, state or local in both developed and developing countries around the world. Moreover, it recognises the substance of having an incorporated preparation for e-government projects. It also directs the delivering government services via internet projects globally. In addition, it distinguishes the current effect of fluctuating service levels before diving into an e-government mission.

Electronic government, or e-government, "increases the convenience and accessibility of government services and information to citizens". Notwithstanding, the benefits of e-government – for example, "increased government accountability to citizens, greater public access to information and a more efficient, cost-effective government – the success and acceptance of e-government initiatives, such as online voting and license renewal, are contingent upon citizens' readiness to adopt this innovation. In order to develop 'citizen-centred' e-government services that shall supply contestants with accessible, relevant information and quality services, which are more convenient than traditional 'brick and mortar' transactions, government organisations must at first understand the factors that influence citizen adoption of such innovation".

Carter and Bélanger (2005) in their study incorporated "constructs from the Technology Acceptance Model, Diffusions of Innovation theory and web trust models to form a economical yet comprehensive model of factors that persuade citizen adoption of e-government initiatives". Their study used a survey a broad diversity of citizens at a community event. The findings pointed out that perceived ease of use, compatibility and trust worthiness are significant predictors of citizens' intention to adopt and use an e-

government service. The implications of their study for further research and practice are outlined.

Government agencies around the globe are assembling their services and making it available online this becomes clear and obvious. However, the success of e-Government initiatives is contingent upon citizens' readiness and willingness to adopt these Web-enabled services. For that, Carter and Belanger (2004) used Moore and Benbasat's (1991) perceived characteristics of innovating constructs to discover the factors that influence citizen adoption of e-Government initiatives. They pilot-tested their adoption model and administered a survey supplied to 140 undergraduate students who are studying at an accredited research university. The results of the study found that "perceived relative advantage, perceived image, and perceived compatibility are significant elements of e-Government adoption. The study revealed three significant indicators of citizens' intention to use state government services online. State agencies therefore, should promote citizen acceptance and use of e-Government services".

Ebrahim and Irani (2005) aimed at providing "an integrated architecture framework for e-government to embody the alignment of IT infrastructure with business process management in public sector entities and categorise the barriers that might obscure the implementation of the proposed architecture framework". The intention of the study is to "help IT practitioners in the public sector find out how to use and manage information technologies to revitalise business processes, advance decision-making, and achieve a competitive advantage from the adoption of e-government". The projected architecture framework for "e-government adoption will trim down confusion adjacent to e-government

infrastructure in the public sector by understanding the implementation processes, recognising the requirements of information and communications technology tools, highlighting the magnitude of the organisational management resources and the impact of barriers". Prior studies have been critically examined and analysed to form a base for an integrated architecture framework for e-government adoption, which will be capable of addressing and identifying the standards, infrastructure components, applications, and technologies for e-government. They divided the architecture framework into four main layers : access layer, e-government layer, e-business layer, and infrastructure layer; each of which addressed a specific aspect of e-government architecture. The study then laid down a crucial analysis of the barriers practiced in public sector organisations, which hinder the successful adoption of e-government; therefore, barriers were classified and presented. The findings of this study defined organisational and technological requirements that are necessary for public sector organisations' adoption of e-government, by constructing an integrated architecture framework for e-government. The problems and barriers experienced in public sector organisations that are found to complicate the implementation process of e-government have been analysed, identified, and presented. This study gives an architecture framework for e-government adoption intended to help and guide IT managers in recognising the technological and organisational requirements for e-government adoption in public sector organisations. This framework will provide decision makers with the tools needed to set a vision declaration and strategic action plan for future course in the information technology age by identifying key rudiments and stages for action. The study identifies and classifies the barriers that may obscure the implementation process of e-government projects. The awareness of these barriers is vital for any e-government project given that they will alert the e-government project team with any problems or challenges

that may exist throughout the implementation process then they can be ready to overcome them.

Considerable investments have been devoted, to date and only limited progress had been completed in terms of realizing fully functional and integrated e-government services in the Sultanate of Oman. Al-Busaidy and Weerakkody (2009), pointed out to that and stated that their study objective is "to identify the most prominent factors that are currently influencing the development and diffusion of e-government in Oman as perceived by government employees involved in e-government service delivery". The study utilised a quantitative survey-based empirical study in three key public service agencies in Oman. The research study revealed "improved accessibility, efficiency and availability of public services could increase confidence among citizens in relation to e-government adoption in Oman, and found that Omani information technology workforce capability had an indirect impact on citizens' trust and confidence in using e-services". The study focused on "the views of government employees therefore, the results embody only the views of e-government service providers; such views might be influenced by their own experience, background and attitude towards online services. To successfully implement e-government in Oman, ten major factors were recognised in this study that may serve as a starting point for decision makers and implementers". They can gain more insights from best practices in the region and rest of the world in terms of addressing the ten factors addressed in the study. Mainly this study analyses the main factors influencing e-government adoption in Oman from the service providers perspective then compares with previously published literature on e-government adoption which took a citizen centric viewpoint. The strategy of this study offers a new and more balanced perspective of e-government adoption and diffusion in the Sultanate of Oman.

Gilbert et al. (2004) examined the causes that make individuals "choose electronic self-service delivery methods over traditional methods of service delivery for government services". The study inspected the factors associated with decision making when considering and evaluating the usage of an online e-government services delivery mechanism. The approach taken for this study was based on "a combination of attitudinal technology adoption models and the service quality concept", as the data gathered by a questionnaire survey. All adoption barriers of trust, financial security, information quality along with both adoption benefits of time and money were found to predict potential usage. That is the eagerness to use online delivery alternative will be present if organisations can develop trust relationships with individuals, and assure them that their financial particulars are protected, give relevant, accurate, and up-to-date information, and save individuals time and money. The findings are significant to the manager of the public service who shall consider both the barriers and the benefits of adoption if they are willing to develop plans that will boost the take-up of their electronic services.

Lam (2005) stated that "integration is a critical success factor for achieving a mature level of e-government", thus this research study will try to find and identify barriers to e-government integration (EGI). Semi-structured interview surveys were carried out with 14 consultants who have significant experience of e-government projects. The interview transcripts were analysed and barriers in EGI were identified. The study found "a set of 17 barriers organised into one of four categories : strategy, technology, policy, and organisation. Strategy barriers contain common e-government goals and objectives, delivery timeframes, and ownership and governance. Technology barriers consist of architecture interoperability, data standards and legacy systems. Policy barriers comprise citizen privacy, data ownership and policy implications. Organisational barriers contain

pace of government reform, legacy government processes and management and technical skills". A major part of the limitations of this research study is that it involved in-depth interviews with a relatively small number of individuals. More improvements in research procedures, such as using multiple interviewers, will contribute towards increasing the reliability of the research findings. Actually, EGI is not only a technical matter of getting IT systems to talk to each other. However, stakeholders should be engaged in the process of strategic planning and change management. Even though this study has specified a set of barriers in e-government, other barriers, specifically in the area of policy, are particular to e-government projects. A model of EGI, derived from a synthesis of government relationships, is advised.

Pérez et al. (2008) examined the extent of web-disclosing financial information by public administrations to "determine whether this communications policy is influenced by the context in which the public entity operates". Based on prior literature and the three distinguished dimensions – "information content, qualitative characteristics of information, and accessibility – which were converted into a disclosure index that was used to assess government web sites, a multivariable linear regression analysis carried out in search of a relationship between seven external factors and the provision of public financial information online". The empirical research concluded that municipalities sampled were not entirely "aware of the potential importance of the internet in enabling the achievement of e-democracy initiatives as an instrument of new public management. The factors previously found to be important in paper-based reporting seem to have no influence on the public disclosure of financial information on the internet. Only the cost of debt and access to the internet in households appear to be relevant factors in the degree of financial information transparency achieved by the internet". Sound practices by larger online public

financial transparency might improve the image of governments and the confidence of citizens.

Cordella (2007) mentioned that bureaucratic organisations offer the means to coordinate work activities in the public sector and serve to impose the democratic values of equality and integrity. The study explores how modern approaches to e-government ignore that above mentioned dimensions of bureaucracy and presented another approach to e-government. The study laid out the broader new public management reform context to provide some help on explaining the complications the NHS IT Projects are facing by 2007. The e-bureaucratic structure is presented as an e-government solution, considering the merits of the information and communication technology as means of coordination, to put into effect the values of equality and impartiality specified through the actions derived from the bureaucratic structures.

In their study Pina et al. (2010), analysed how comprehensively "European Union local governments are using their websites to distribute financial information to evaluate if electronic-government (e-government) is promoting convergence towards more accountable local governments". They post and test various hypotheses about the influence of internal and contextual factors on Internet financial reporting (IFR) practices. Results show that "the public administration style, the size of the city, and the audit of financial information by private firms are significant explanatory factors of IFR practices". Their findings also proposed that multilateral organisations are exceedingly "optimistic about the possible convergence in transparency and financial accountability through the use of common modes of IFR". That is, the introduction of information and communication

technologies without the corresponding institutional reform is leading to limited success of IFR.

3.8 Chapter Summary

The chapter discussed the philosophical background of accounting in general and in specific governmental accounting. Then, it addressed the theoretical prospective on governmental accounting innovations and change. It reported and presented related prior research studies according to specific classification, but mainly focused on studies related to the adoption and implementation of accounting and financial management reform change including NPM. Then, in full discussion of the concepts of cash basis and accrual basis of accounting and an elaboration on the debate on issues related to both concepts of accounting will be provided. Finally, an overview on E-Government followed by a review of prior studies in the adoption of E-Government will be performed.

The literature on governmental accounting innovation and change expressed by its gurus clearly stated the need for more studies on the characteristics of governmental accounting, more studies not only on contextual but on behavioural and attitudinal related to accounting innovation, the need for studies utilising multiple theories, studies using diffusion of innovations theory, studies that adds information technologies factors, and studies that are not descriptive but towards more complex modeling approaches.

After going through related studies in the literature it is noted that change in accounting policy for the government from cash basis to an accrual basis will have tremendous effect on the whole operation and orientation of the government works. Environmental turmoil,

politics and competitions in the political markets trigger the need to change from the bureaucratic administrative system to a new management system that follow the accounting principles of a business. Prior studies also show the importance of information technology, ICT and E-Government in enhancing successful implementation of new accounting and reporting system.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

The current chapter reviews the research design and methodological approach applied in this research study. A discussion of the research paradigm and theoretical perspectives underline the components of this study will be summed-up. The research methodology includes the research design, which covers sampling techniques, data collection procedures, and a frame of the data analysis selected. Laughlin (1995) pointed out the importance of making deliberate choices of the philosophical issues that explains the path of the research study as a prerequisite condition. After the introduction, section 4.2 provides the research paradigm that underline the study methodology theoretical combination and justification followed by section 4.3 that describes and explains the mixed method approach. After that section 4.4 discusses the theoretical perspectives for this study. Section 4.5 discusses the research framework explaining all constructs. Then section 4.6 explains the hypotheses development, section 4.7 outlines the sampling frame and section 4.8 illustrates the research instruments applied in this study. Section 4.9 discusses the data collection application and strategies followed to reach the targeted volume of data needed to conduct this study. Section 4.10 explains the pilot test results and its' reliability outcomes. Then, section 4.11 delivers the selected data analysis approaches that are applied in this study. Finally, section 4.12 provides the chapter summary.

4.2 Research Paradigm

Accounting is classified, according to Belkaoui (2000), as "multi-paradigm science". It is interwoven with social, cultural, and political processes. In reality, accounting practices are vastly more than accounting blueprints and especially in the public sector as most studies are still concerned with the contextual factors. Substantial differences exist when it comes to classifying paradigms. Landry & Banville (1992) for example, sorted out researchers into three main groups:

- (1) *Mainstream navigators* - those who follow a logical positivism tradition;
- (2) *Unity advocates* - those who support methodological monism; and
- (3) *Knights of change* - those who promote methodological pluralism.

The above classification distinguished those who endorsed one single paradigm (1 and 2) and those who promoted methodological pluralism (3). Landry and Banville's, grouping analogous to the typology of Burrell and Morgan (1979), differentiated functionalists (mainstream navigators and unity advocates) from those non-functionalists (interpretivist, radical humanist and radical structuralist).

Hopper & Powell (1985) relied on the sociological work of Burrell and Morgan (1979), and classified the accounting literature into two main sets of assumptions. The social science assumptions are about the ontology of the social world (realism v. nominalism), epistemology (positivism vs. anti-positivism), human nature (determinism vs. voluntarism), and methodology (nomothetic vs. ideographic). While the assumptions about society characterized it as either orderly or subject to fundamental conflict.

According to Burrell and Morgan (1979) these two sets of assumptions yield four paradigms functionalist, interpretive, radical humanist, and radical structuralist. Then Hopper & Powell (1985) combined the two radical paradigms. These assumptions generate a vigorous debate on how to extend academic and practical knowledge in accounting.

Mainstream accounting research envisions an analogous between physical, social sciences, and accounting in the justification of hypothetico-deductive (positivist) approach of a scientific explanation and the need for confirmation of hypotheses.

Chua (1986) argued that accounting research has been guided by a dominant set of assumptions that has one general scientific world-view and one primary disciplinary matrix. As a community of scientists, accounting researchers have shared and continue to share a constellation of beliefs, values, and techniques. The mainstream world-view generated benefits for the conduct of accounting research with its insistence on public, intersubjective tests and reliable empirical evidence, which limited the type of problems studied, the use of research methods, and the possible research insights that could be obtained. Such limitations clearly appear when exposed to challenges of alternative world-views. These alternative sets of assumptions, illustrated how they can change both problem definition and solution, and offered a new path of research which is substantially different from that currently prevailing. He mentioned that these alternative world-views are different and can potentially enrich and extend our understanding of accounting in practice.

Chua (1986) categorized epistemological studies into three types: positivist, interpretive, and critical, which goes in line with Orlikowski & Baroudi (1991, p. 5) classification of epistemology.

"Positivist studies are premised on the existence of a priori fixed relationships within phenomena which are typically investigated with structured instrumentation.... to test theory, ... to increase predictive understanding of phenomena. **Interpretive studies** assume that people create and associate their own subjective and intersubjective meanings as they interact with the world around them.... researchers thus attempt to understand phenomena through accessing the meanings that participants assign to them.... **Critical studies** aim to critique the status quo..." (Orlikowshi & Baroudi, 1991, p 5).

Orlikowski & Baroudi (1991, p.5) mentioned the criteria they followed in classifying positivist studies and pointed out to that:

"Exceptions to this are "descriptive" studies... it is useful to distinguish within the positivist category those studies where the researchers were working within a theoretical tradition, and those where the researchers' intentions were "descriptive." In "descriptive" work, researchers attempted no theoretical grounding or interpretation of the phenomena; rather, they presented what they believed to be straightforward "objective," "factual," accounts of events to illustrate some issue of interest to the information systems community... criterion for ... "descriptive" ... based on what the researchers ... were up to in their exposition. ... such "objective" or "factual" accounts problematic was ... not apparent to the researchers, or at least not evident in their discussion." (Orlikowshi & Baroudi, 1991, p 5).

According to Chen & Hirschheim (2004) in research there are three major differences between positivism and interpretivism, these are:

Ontologically, positivists believe that "reality exists objectively and independently from human experiences while interpretivists emphasize the subjective meaning of the reality that is constructed and reconstructed through a human and social interaction process" (Burrell & Morgan, 1979).

In line with the above distinction, Guba and Lincoln (1994, p. 110) provided further classification for ontology by epistemology into objectivist (positivism: *naïve realism* and

realism: *critical realism*) and subjectivist (critical theory: *critical realism* and constructivism: *critical relativism*). They pointed out that:

"Critical realism. Reality is assumed to exist but to be only imperfectly apprehendable because of basically flawed human intellectual mechanisms and the fundamentally intractable nature of phenomena."

"Historical realism. A reality is assumed to be apprehendable ... but ... over time, shaped by a congeries of social, political, cultural, economic, ethnic, and gender factors"

Hines (1989, p. 53), in explaining the socio-political (also called "alternative" or 'radical') paradigm in financial accounting research new approach compared with the traditional mainstream taken for granted approach, stated that:

"reality exists concretely and independently of social actors and social practices. This assumption also underlies positive research, which assumes that 'what is' exists independently of theories and knowledge about it, and that theories and knowledge correspond to 'what is' ".

Epistemologically, positivists are concerned with "the hypothetic deductive testability of theories. Scientific knowledge should allow verification or falsification and seek generalization of results. As such, a causal relationship is usually presented and a tight coupling among explanation, prediction and control is expected" (Orlikowski & Baroudi, 1991). While interpretivists, by contrast, believe that "scientific knowledge ought be achieved not by hypothetic-deductive reasoning but by understanding of human and social interaction by which the subjective meaning of the reality is constructed" (Walsham, 1995a).

Methodologically, positivists contend that, to "test hypothetic-deductive theory, research should take a value-free position and employ objective measurement to collect research evidence. A quantitative method such as the survey is a typical positivist instrument.

Interpretivists, on the other hand, argue that to understand the meaning embedded in human and social interaction, researchers need to engage in the social setting investigated and learn how the interaction takes place from the participants' perspective. Field studies that engage researchers in the real social setting would be more appropriate for generating interpretive knowledge" (Orlikowski & Baroudi, 1991).

In other words, the interpretive scientist seeks to make sense of human actions by fitting them into a purposeful set of individual aims and a social structure of meanings. Interpretive science does not seek to control empirical phenomena; it has no technical application. Instead, the aim of the interpretive scientist is to enrich people's understanding of the meanings of their actions, thus increasing the possibility of mutual communication and influence.

Broadbent & Guthrie (2008, p. 146) in their review of public sector twenty year of contextual accounting research found in the classification of research by research methodology that:

" ... analysis demonstrates that there is more fieldwork and case work than theoretically informed work in the area However, a more significant finding is that there is a danger that there may be an over-reliance on normative theorising and theoretical reviews of the existing literature..."

From the total studies of 452 analyzed normative and commentary 170 studies account for 37.61%, case and field studies 164 account for 36.28, survey questionnaire and other empirical studies 27 account for 5.97%, theoretical and literature reviews 36 account for 7.96%, and finally theoretical and empirical studies 55 account for 12.17%. The results show that most of the studies are descriptive (positivistic type) and indicate the lack for

survey empirical scientific studies as it is only counted for 5.97%. Then Broadbent & Guthrie (2008, p. 155) in their conclusion remarks stated that:

" There is a real gap to fill in the consideration of matters of governance. We need more balance between normative and empirical work."

Governmental accounting research studies during the 1980s and the 1990s were of positivistic type approach. However, in the 1990s with advent of CIGAR and Lüder's contingency model most studies were exploratory, descriptive non-quantitative (Chan, 2000 and Lüder, 2001), as most research in governmental accounting was in its infancy level and the theoretical framework had not been developed.

Chan et al. (1996), found that most studies in governmental accounting, were descriptive employed observations and interviews, focused on developed countries such as the United States of America (Chan, 1994), Montesinos and Villa (1995) Spain, Pallot (1997) New Zealand, and Yamamoto (1999) Japan. Other studies on developing countries include Godfrey et al. (1996) on three Eastern African countries, Henry & Attavitkamtorn (1999) on Thailand, and Harun & Robinson (2010) on Indonesia.

To the knowledge of the researcher, there are no studies that applied the contingency model (in full or in part) on governmental accounting in Yemen. This part of the study will be based on the ontological assumption of historical realism as the government accounting and financial management information system is shaped over time by contextual factors such as social, political developments, cultural and organizational structure, economic status, and individual attitudes descriptive approach in its epistemology. As the contingency model of Lüder (1992; 1994; and 2001) has been used by researchers for one country and for more

than one country (comparative) studies as a conceptual framework and has served as a paradigm for governmental accounting research (Chan, et al. 1996).

Therefore, the contingency model is considered appropriate for this study in answering research questions one and two regarding the characteristics of Yemen governmental accounting and reporting system and the environmental conditions that have effect on Yemen governmental accounting and reporting system to change from the cash basis to the accrual basis of accounting. A descriptive approach is adopted in this study, to provide a clear overview of the developments and current situation of Yemen central government AFMIS modernization and reform project, which thereafter provides a factual and real life information extract from the field, which will help in the process of answering the second part of this study.

The second part of this study is concerned with research questions three, four, and five. This part of the study is outlined and presented in the research framework, which contains more than one theory from the accounting discipline and other disciplines. Therefore, this study can be classified as a multi-theory approach research study (for more details see section 4.4).

In order, to achieve the objectives of this part of the study the epistemological positivist hypothetico-deductive approach is used to predict (and to confirm the model on) the adoption and implementation of accrual basis of accounting feasibility in the central government of Yemen.

4.3 Mixed Method Approach

This study uses a mixed method approach, which is defined by Denzin (1978, p.291) as "the combination of methodologies in the study of the same phenomenon." The mixed method metaphor comes from the navigation and military strategy, which use several reference points to locate an object's precise position (Smith, 1975). Organizational researchers can improve the accuracy of their judgments by collecting data from different venues.

Mixed methods research is established as a third methodological movement during the past twenty one years, complementing the existing traditions of quantitative and qualitative movements (Tashakkori & Teddlie, 2003, Teddlie & Tashakkori, 2009). This development came to existence as a result of the search for an appropriate paradigm to provide legitimacy for using the mixed methods in comparison the wide spread use of the of the two dominant paradigms the (positivism) quantitative and the (interpretivism) qualitative. Teddlie & Tashakkori (2009, p.84) define a paradigm as "a worldview, together with the various philosophical assumptions associated with that point of view." Also Creswell & Plano Clark (2007, p.21) demote to a paradigm as a worldview. Similarly Greene (2007) uses the term "mental model" exactly as a worldview. Accordingly, a worldview consists of stances adopted on each of the elements (Creswell & Plano Clark, 2007) or dimensions of contrast (Teddlie & Tashakkori, 2009) including ontology, epistemology, axiology and methodology. Applying these dimensions Creswell & Plano Clark (2007) pointed out to four world views and Teddlie & Tashakkori (2009) recognize five, the only difference being the separation of positivism and postpositivism by Teddlie & Tashakkori but not by Creswell & Plano Clark. There are four commonly agreed worldviews are then postpositivism, constructivism, transformative and pragmatism. Of these only the

transformative and pragmatism worldviews are seen to be compatible with mixed methods research.

'Mixed methods' is applied to refer to the use of two or more methods in a research project yielding both qualitative and quantitative data (e.g. Creswell & Plano Clark, 2007). There are three basic approaches that deal with 'mixed methods' a paradigmatic stance, multiple paradigm approach, and the single paradigm approach. The first of these simply ignores paradigmatic issues altogether; the second asserts that alternative paradigms are not incompatible and can be used in the one research project and the third claims that both quantitative and qualitative research can be accommodated under a single paradigm.

The pragmatic mixed method approach is used partially for research questions one and two of this study, that is by matching and confirming the results from the interview survey with that from the questionnaire survey. Research questions three, four, and five depend on data collected from the questionnaire survey.

4.4 Theoretical Perspectives

Theory is a logical sense of the relationships among several factors - variables - (i.e. ideas, behaviours, observations, attributes and so on) that identifies the important aspects of a research study problem (Sekaran, 2003). It might be a causal relationship, some factors that explains and predicts, or heuristic that helps a researcher think about some phenomena. A research study such as this one, utilizes more than one theory. In real live, all human activities use theories and all intellectual activities have to use theories. Thus researchers use theories to see the reality of the world. They construct and help to formalize the way in which they perceive the world. Theories are used to explain or help to explain why some

governments might choose to adopt and implement accrual basis of accounting while others might not. Theories are abstracts of reality that are not expected to give full explanation of specific behaviours. According to Hair, et al. (2010), a theory might be based on ideas generated from one or more of three main sources:

- (1) - prior empirical research studies,
- (2) - past experiences and observations of actual behavior, attitudes, or other phenomena,
- (3) - other theories that provide a perspective for analysis.

Therefore, it is useful to consider applying theories from other disciplines in order to achieve the objectives of this study.

This section covers the philosophical assumptions that forms the theoretical base (from accounting and other similar disciplines) for the construction of the research framework for this study.

- Philosophical Assumptions

This study utilises the following the Contingency Model, E-Government, Diffusion of Innovations, Diffusion-Contingency, MIS Enterprise-Wide Technologies and Practice, and Organization Change. The contingency model of governmental accounting innovations (Lüder 1989, 1992, 1994, 1996, & 2001) and its developments is a well known theory and considered as a school of thought that has its followers and supporters. Since its official initiation in 1992 by Professor Lüder, many studies applied the contingency model and found it to be robust and valid. The theory was based on a comparative international governmental accounting research study on nine western industrialized countries, United

States of America (State Government), United States of America (Federal Government), Canada, UK, Germany, France, Sweden, Denmark, and the EU. Discussions and criticisms on the model surfaced which led to further modifications of the model, which took place in 1994 (the Contingency Model Modified), and 2001 (Financial Management Reform Process Model).

E-Government, theoretically linked to IT that goes in the direction of NPM, represents dramatic shift from the traditional bureaucratic approach of public administration to the modern approach of public management based on the principles of NPM. Table 4.1 specifies the characteristics of E-Government and compares it with the bureaucratic system. The new E-Government system (based on NPM) let public managers shift from the emphasis on cost-efficiency to user satisfaction and control with more flexibility in delivering government services with network management toward internal and external parties. Also E-Government school of thought emphasizes innovation, organizational learning, and entrepreneurship so that government could reinvent itself continuously as public sector services no longer standardized. In addition, E-Government produces government services, which fits individuals' preferences and needs. The new school of thought transforms government organizational principles from the bureaucratic system to a new system NPM technology oriented system. E-government online One-stop service centre eliminate the interaction of users with government functional departments that produces government services. In E-Government, leadership function is important as it encourages facilitation and coordination among involved parties instead of hierarchical command and control (Ho 2002, p.437).

Table (4.1): Shifting Paradigms in Public Service Delivery

<i>Characteristics</i>	<i>Bureaucratic Paradigm</i>	<i>E-Government Paradigm</i>
Orientation	Production cost-efficiency	User satisfaction and control, flexibility
Process organization	Functional rationality, departmentalization, vertical hierarchy of control	Horizontal hierarchy network organization, information sharing
Management principle	Management by rule and mandate	Flexible management, interdepartmental team work with central coordination
Leadership style	Command and control	Facilitation and coordination, innovative entrepreneurship
Internal communication	Top-down, hierarchal	Multidirectional network with central coordination, direct communication
External communication	Centralized, formal, limited channels	Formal and informal, direct and fast feedback, multiple channels
Mode of service delivery	Documentary mode, and interpersonal interaction	Electronic exchange, non face-to-face interaction (so far)
Principles of service delivery	Standardization, impartiality, equity	User customization, personalization

Source: Ho. (2002, p.437)

Other supporting theories involved are management information systems' theories such as diffusion of innovations theory (DOI); theory of reasoned action (TRA); theory of planned behavior (TPB); and Technology Acceptance Model (TAM), and organization change (OC); organizational support and readiness for organizational change.

- Theoretical Support

According to Lüder (1989, 1992, 1994, 1996, & 2001), the Contingency model (modeling governmental accounting innovations) is a result model "*Black box*". It is fundamentally an economic model. It posits an information market with users and producers of government financial information.

Their respective environments shape users' and producers' of government financial information attitudes and behaviours alike. If the conditions are ripe - as occasioned by some *stimuli* (such as *financial scandals or governmental financial crises*) - the interactions between demand and supply could spark governmental accounting innovations.

The model stressed two main issues. The first one (worked as independent variables) the contextual (structural) environmental conditions, which include stimuli such as the financial and economic crisis and the prevailing high rate of growth of the country population; the societal - academicians from several universities and the accounting profession in Yemen; the political - partisan pluralism democracy (see chapter 2 section 2.2.2) and administrative structure - such as the organizational characteristics of the administration and the division of powers between the government organizational centralized and decentralized units (see chapter 2 section 2.2.3) ; and implementation barriers - such as staff qualification that have a direct effect on the governmental accounting systems' function through users of information. The second issue is linked with the effect of the first issue on the attitudes and behaviours of both users and producers of information (classified as intervening – mediating - variables). The action mentioned in the two issues will result in a more informative governmental accounting system (see chapter 2 section 2.3.2), unless hindered by any of the barriers specified in the model. The behavioral intervening variables (mediating) variables are stressed in the contingency model and users and producers of accounting information attitude that mainly affect the process of getting a more informative governmental accounting system at the first place. Based on the outcomes of the contingency model studies, Attitude toward change - from cash basis to accrual basis of accounting - of the government users and producers of accounting information is considered an important element to get under study. A reform in government

accounting system is subject to the acceptance of those (in Yemen, users and producers of the government accounting and financial management information, such as general managers for financial affairs and their deputies; department heads of accounting and financial management and their deputies; financial managers; accountants; and auditors those in MoF and COCA) who are in charge of the accounting and financial management and auditing of the government and who should carry out the reform process.

4.4.1 Innovations' Definition

According to Chan et al. (1996) innovation in its narrow sense, is anything, which is expected to be new. That would be understood as calling every change a “reform”. However, innovations and reforms express the notion of change for better. Applying this to government accounting refers to a more informative system providing information about the government finances. As the MoF still computerizing its information systems and in the process of linking all ministries to its AFMIS and the intention is to reach fully functional E-Government in line with the country civil service and financial management reforms, mostly the adoption of accrual basis of accounting is considered as a measure of reform or innovation, this is stated in the documentations of Yemen AFMIS reform project in 2005 (see chapter 2 section 2.3.2) and was discussed with the deputy minister of the MoF. Because accrual basis of accounting system approaches necessitate the recognition of nonfinancial, long-term, assets (e.g., fixed assets) and long-term liabilities (e.g., pensions), which represent qualitative change. This information mostly neglected by the government cash basis accounting system whose function is to monitor the execution of the approved

cash budget ceilings. For that, the adoption of accrual basis of accounting system represents a qualitative change (Chan, et al. 1996).

4.4.2 Government Accounting Innovations' Definition

Lüder (1994, p.1) defined governmental accounting innovations as “conceptually not merely procedurally changes of the accounting system to ensure the supply of comprehensive, reliable and meaningful financial information needed for appropriate financial accountability and sound financial management”.

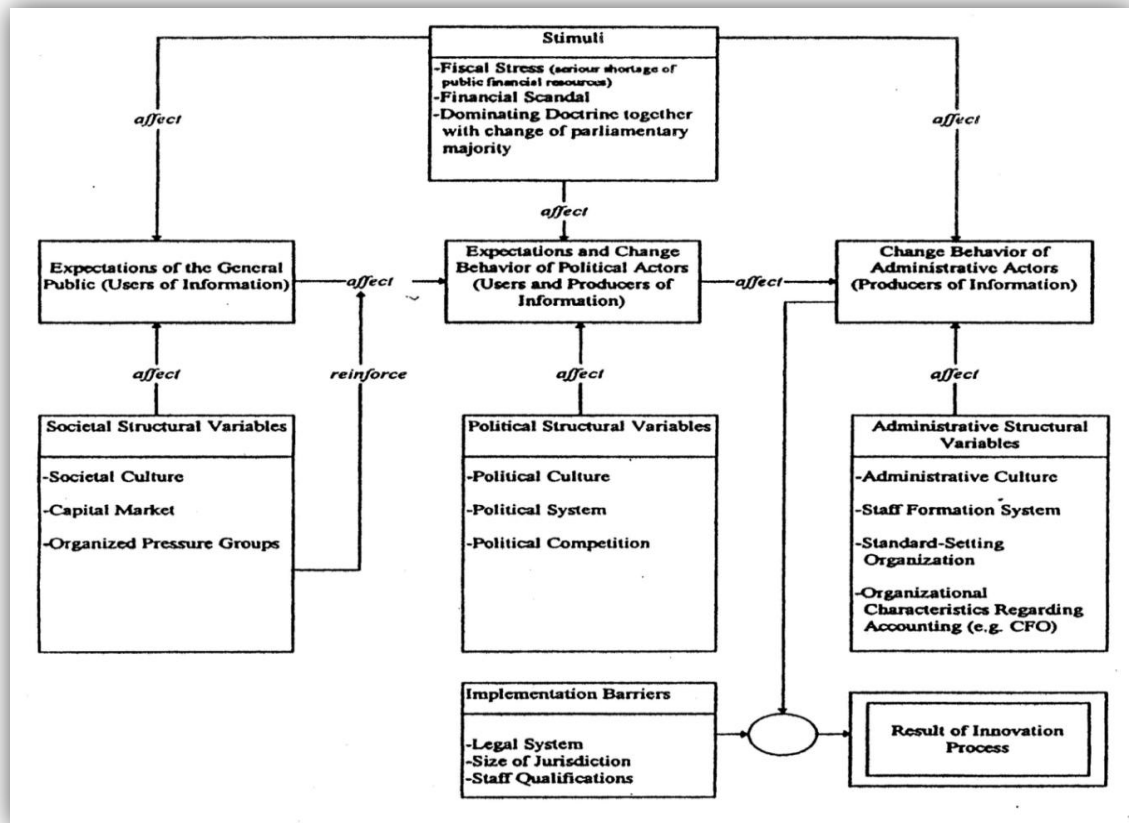
The model identified a set of contextual variables and behavioural variables that were found to be potentially relevant in explaining the outcomes of the governmental accounting innovations process. The contextual variables belong to several categories :-

- (1) Stimuli;
- (2) Social environment of the government;
- (3) Characteristics of the political administrative system; and
- (4) Implementation barriers.

It was hypothesised that the first "three types of contextual variables would positively influence the attitudes and behaviour of users and producers of government financial information. Therefore, a combination of conducive, contextual conditions and favourable attitudes/behaviour would facilitate the innovation process. However, implementation barriers could nevertheless prevent a successful outcome". This is called the first generation of contingency models.

- CIGAR scholars used the contingency model to guide their field observations. The contingency model has shown remarkable robustness and adaptability.
- Not only has it guided CIGAR research, the model itself has been the subject of research.
- The contingency model provided a theoretical frame used by many researchers in guiding their work, identifying and describing the environmental conditions that influence governmental accounting systems to change.

Figure (4.1): Lüder (1994) Contingency Model



The Contingency Model: Governmental Accounting Innovations

Source : Lüder (1994, p. 9)

4.4.3 Contingency Model of Governmental Accounting Innovations

Contingency model of governmental accounting innovations covers the qualitative variables of organisational factors, stimuli, characteristics of the government accounting system and barriers to reform change. This theoretical model is based partially on the contingency theory, which claims that organisations' systems are contentiously subject to (supply and demand) uncertain environment and therefore, its success is contingent to it (Lüder, 1992; 1994; 1996). The contingency model of governmental accounting innovations is a unique paradigm that surfs as a general framework for studying and analysing governmental accounting research and developments and is intended to "explains the transition from traditional government accounting to a more informative system, which performs two main functions : it supplies comprehensive and reliable information on public finance, and it provides a foundation for enhanced financial control of government activities. In this model, the transition assumes a specific starting point and final state for the public sector accounting system". The aim of the model is to explain the innovation process that links these two points. Different from prior studies that singled out individual background conditions, this model give a conceptual overview that would explain the process of innovation (or its absence) as completely as possible. Due to its elevated degree of complexity, the model as specified by professor Lüder above may not be statistically testable as it is now.

The model effortlessly integrated certain "ideas from the literature, along with observations made about the governmental accounting systems in Canada, the United States (the federal government and several states), and several European countries, including Denmark, France, Germany, Sweden, the United Kingdom, and the European Community". Professor

Lüder's research team interviewed knowledgeable persons to ascertain practices as well as innovations being underway. The politico-administrative environment in terms of the variables covered in the model had been documented previously [Lüder, 1989; Lüder, et al., 1989]. After describing the model, the above mentioned countries were compared along the various dimensions of the model based on empirical observations made in the empirical phase of the study.

The structure of the Lüder models looks like models of organisational contingency theory, but extended with some behavioural components. It included both "institutional background conditions and shared behaviour determinants of the innovation process. The contextual variables describing institutional conditions may be classified, according to their functions in the innovation process, into three groups :-

1. **Stimuli** : events which arise at the initial stage of the innovation process and produce a need for enhanced information on the part of the users of accounting information and increase the producers' readiness to supply such information.
2. **Structural Variables** : features of the social and politico-administrative systems which influence the essential attitudes of users and producers of information towards the notion of a more informative form of public sector accounting.
3. **Implementation Barriers** : environmental conditions inhibiting the process of implementation, thus obstructing and preventing the formation of a more desirable informative accounting system". Therefore, it was hypothesised that :-

"Barriers will have a negative effect on attitude toward change to accrual basis accounting"

The institutional section of the model contains "four modules: (1) the stimuli module, (2) the structural variables module of information producers, (3) the structural variables module of users of information, and (4) the implementation barriers module. The relationships indicate the directional hypothetical influence of the situational variables on the attitudes and behaviour of the participants in the process and its outcome. The basic model is based on five assumptions about the process of innovation :-

1. A number of stimuli individually or collectively exist, which reveal the need for improved information.
2. There are two sets of structural variables, describing the basic attitudes of information users and producers, respectively, toward the role of information on government financial management and administrative efficiency.
3. Information users' expectations of reform change are influenced by their basic attitudes and by the stimuli that exist in the starting situation. The information producers' willingness to make changes is similarly affected by these two factors, and the effects of the information users' expectations of change.
4. The setting off of the process of innovation does not necessarily require the existence of a stimulus. Basic attitudes (that have been changed) can also raise the level of willingness to make change in such a way that the decision to do so is taken.
5. The decision to innovate is dependent not only of the information producer's willingness to change, but also the implementation barrier. Two extreme cases are conceivable. In the first case, if all the factors affecting implementation are neutral to the changes, the innovation decision is determined by the degree of willingness to

accept change. In the second case, if all the factors affecting implementation inhibit change, a high degree of willingness to accept is required, or change may not be achievable at all".

In every situation, the complexity of the "relationships between the specific form assumed by public sector accounting and the factors that affect it could not be traced back as a mono-causal chain of effects". Rather one must begin with the assumption that a specific constellation of background conditions collectively influences the public sector accounting system (multi-causal relationship).

As stated before, the requirement of the basic model portrayed on the results of a number of empirical studies, mainly on Comparative Study. However, the model has some tentative features, too, as the empirical relevance of the environmental conditions and their relationships with the accounting system are not definitely solved. Moreover, the model might not enclose all conceivable and relevant independent variables. The contingency model rather should be understood and interpreted as an attempt to explain a complex innovation process by a set of hypotheses (Lüder, 1992). Other developments and amendments to the model have been made see (Lüder, 1994; 1996; 2001) one of which is the Diffusion-Contingency model for government accounting developed by Godfrey, et al. (2001).

4.4.4 Diffusion-Contingency Model of Governmental Accounting Innovations

The diffusion-innovation model is a combination of two models Rogers' (1995) diffusion of innovations process model and Lüder's (1992) contingency model of governmental

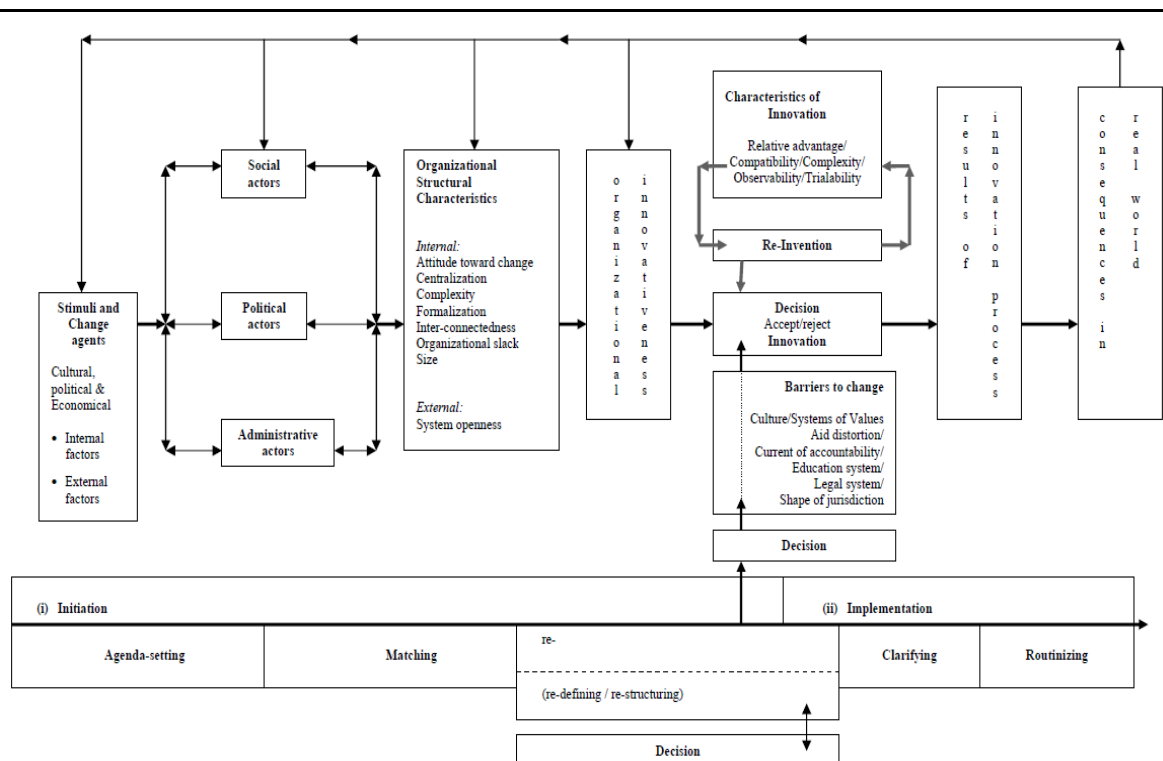
accounting innovations. The model consists of two major phases, the initiation phase (which include the agenda-setting and matching stages) and the implementation phase (which include the decision stage, the clarifying stage, and the routinizing stage) these processing phases and stages are presented in detail in figure (4.2) below.

The model claims that stimuli and change agents have direct impact on social, political, and administrative actors' attitude toward change to a more informative accounting system that is deemed desirable by the change agency such as the WB and the IMF in developing countries (Godfrey, et al. 2001). Therefore, one can conclude the following hypotheses :-

"Stimuli has a direct impact on attitude toward change to accrual basis of accounting"

"Change Agent has a direct impact on attitude toward change to accrual basis of accounting"

Figure (4.2): Diffusion-Contingency Model of Governmental Accounting Innovations

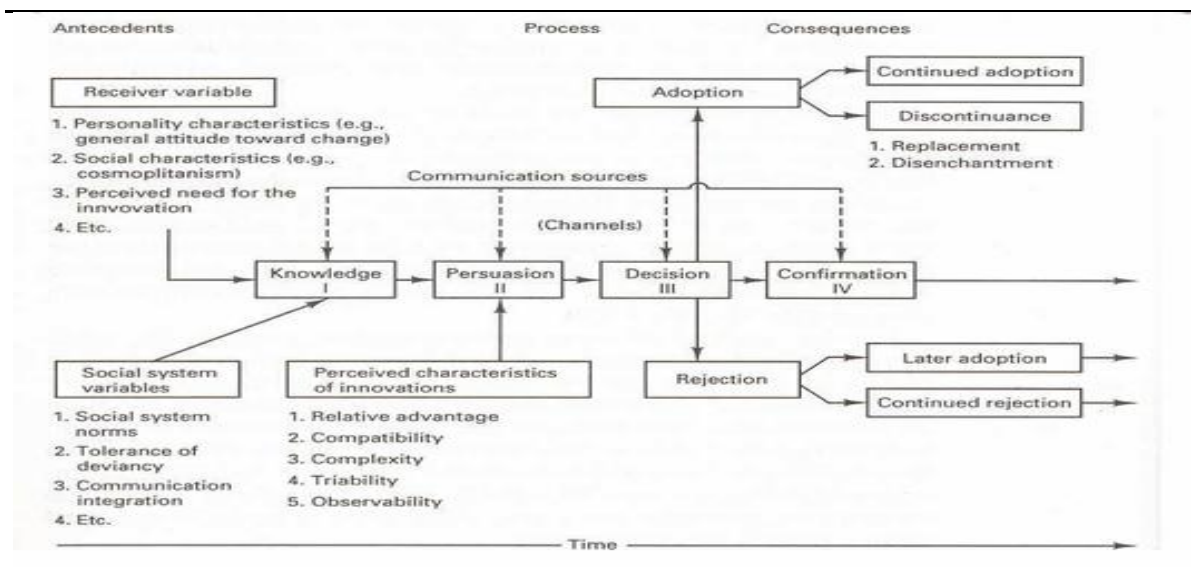


Source: (Godfrey *et al.*, 2001, p.282)

4.4.5 Diffusion of Innovation Theory (DOI)

Rogers (1995) defines innovation as "an idea, practice, or object that is perceived as new by individual or other unit of adoption" and diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system". Overall the diffusion of innovation is defined as "the process by which an innovation is communicated through certain channels over time among members of the social system" (Rogers.1995, p.5).

Figure (4.3): Diffusion of Innovation Model



Source: Rogers (1995, p. 163)

Rogers (2003) specified five attributes of innovations that are perceived by the members of the social system to highly determine its rate of adoption, and defined the relationship between these attributes to rate of adoption as follows :-

1. **Relative advantage:** is the degree to which "the proposed innovation is perceived to work better than the one in practice. It is not so important if the innovation has an objective advantage, but rather if individuals perceive the innovation as advantageous. Advantages can be measured in economic terms; however social stature, convenience, and satisfaction may play a significant role".

Rogers concluded with a generalisation (hypothesis) of the construct to the rate of adoption as follows :-

"The relative advantage of an innovation, as perceived by members of a social system, is positively related to its rate of adoption".

2. **Compatibility:** is the degree to which an innovation is perceived to be consistent with the existing values, past experiences, and needs of potential adopters. An innovation that is consistent with the existing values will diffuse more quickly than the one that is incompatible with the norms and values of the social system.

Rogers conclude with a generalisation (hypothesis) of the construct to the rate of adoption as follows :-

"The compatibility of an innovation as perceived by members of a social system is positively related to its rate of adoption".

3. **Complexity:** is the degree to which an innovation is perceived as difficult to understand and use. Innovations that are easier to understand and therefore to use

will be adopted more quickly than those who require adopters to develop new skills and understandings.

Rogers conclude with a generalisation (hypothesis) of the construct to the rate of adoption as follows :-

"The complexity of an innovation as perceived by members of a social system is negatively related to its rate of adoption".

If the members of the social system see that the innovation as uncomplex (ease of use), as this is also defined by Davis (1989) in his Technology Acceptance Model (TAM), then the above hypothesis can be restated to be come as follows to reflect positivity rather than negativity :-

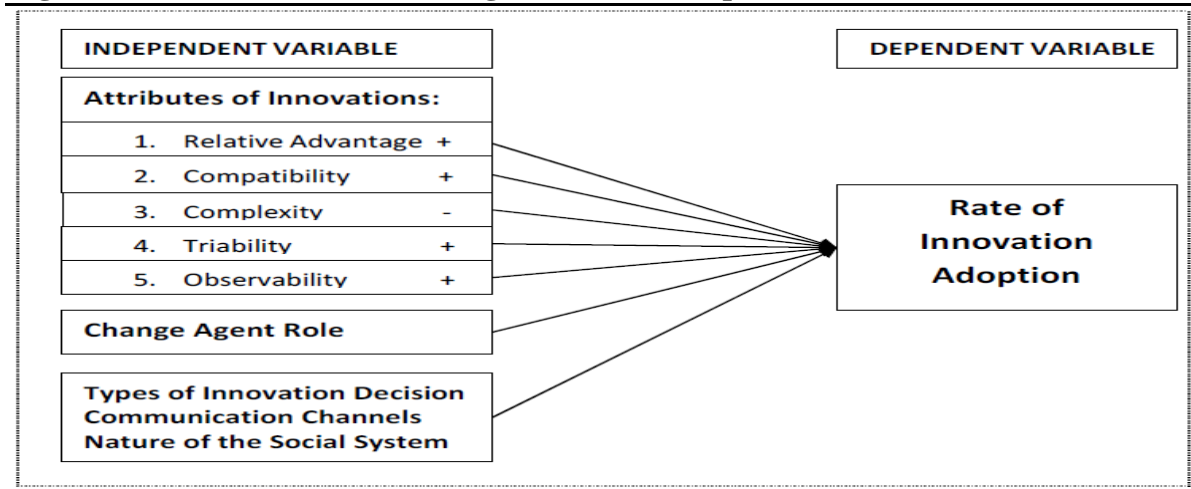
"The uncomplex (ease of use) of an innovation as perceived by members of a social system, is positively related to its rate of adoption".

4. **Triability:** is the degree to which "an innovation may be experimented with on a limited basis. New ideas that can be tried before the potential adopter has to make a significant investment into the innovation are adopted more quickly".
5. **Observability:** is the degree to which "the results of an innovation are visible to others. The easier it is for individual to observe the results of an innovation, the more likely they are to adopt" (Rogers 2003).

Change Agent, according to Rogers (2003), is "an individual who influences clients' innovation-decision in a direction deemed desirable by a change agency". In most of the times, a change agent tries hard to secure the adoption of new innovations. A change agent long term objective is to create proper conditions for clients to work out the innovation process. One of the core objectives or roles of a change agent is to facilitate the flow of innovations from a change agency to the client audience. For effective linkage between a change agent and the client audience innovations have to be selected to match the client's needs. Change agent is a very qualified person who has a high degree of expertise regarding the innovations process and implementations and must maintain sound relationships with all involved parties in the client organisation. A change agent must have the needed capability to deal with the problems of information overload and must understand exactly the clients' needs and supply them with the relevant information needed on time. The degree of success of change agent is normally measured in terms of the rate of adoption of innovation by the staff of the client system. A change agent is usually expected to involve in certain behaviours and expected by the client to carry out different actions. A change agent role success in securing the adoption of innovation is related to client orientation (Rogers.1995, p.340&354).

Therefore, a change agent role will have a significant effect on the rate of adoption of innovations. Also based on the above a change agent role will have a significant effect on (leaders and accounting staff) attitude toward change to the innovation.

Figure (4.4): Variables Determining the Rate of Adoption

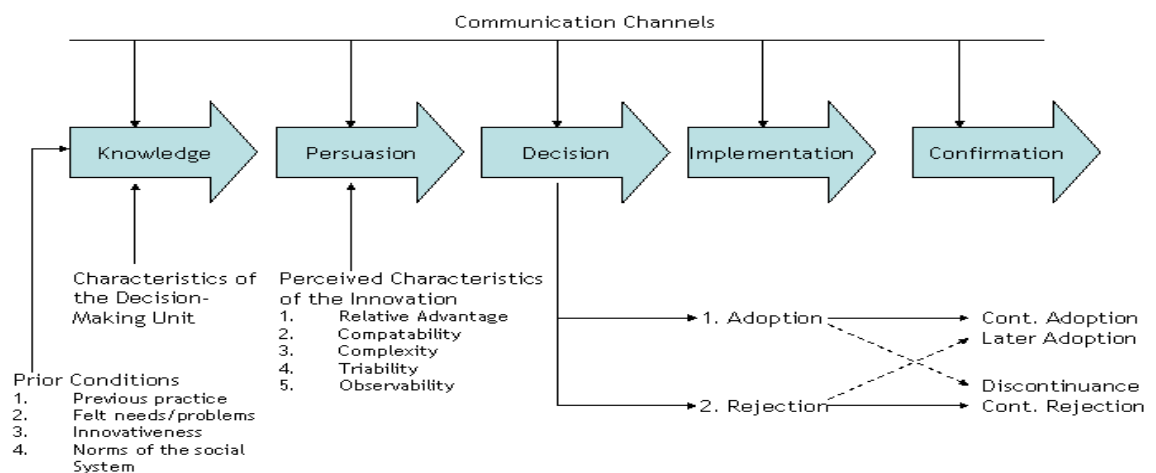


Source: Rogers (1995, p. 207)

The innovation-decision process

“The innovation-decision process is the process through which an individual passes from gaining initial knowledge of an innovation, to forming an attitude toward the innovation, to making a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision.” (Roger, 2003) see figure 4.5

Figure (4.5): Diffusion of innovation process model



Source: Rogers (2003, p. 170)

The model above of the innovation-decision process is demonstrated here under. According to Rogers (2003), this process model consists of five major stages, which are detailed by the following :-

1. **Knowledge** : Happens when "a potential adopter is exposed to the existence of an innovation and achieves an understanding of its functionality. In this stage, mass communication channels play a larger role than in later stages of the innovation-decision process".
2. **Persuasion** : Is the stage in which "an individual forms a favourable or unfavourable **attitude towards the innovation**. In this stage the attributes, as alleged by the individual, play a major role. Also, interpersonal channels are relatively more important at this stage than mass media channels".

As specified in the model above (see figure 4.4 above) the perceived characteristics (attributes) of innovation are antecedents to the persuasion stage which is the stage of forming an attitude toward the innovation. Therefore, it can be concluded that :-

- 1- *"The relative advantage of an innovation as perceived by members of a social system will have positive effect on their attitude toward change".*
2. *"The compatibility of an innovation as perceived by members of a social system will have positive effect on their attitude toward change".*

3. *"The complexity (ease of use) of an innovation as perceived by members of a social system will have negative (positive) effect on their attitude toward change".*

On line with the above hypotheses, Hussein (1981) in formation of attitudes stated that as a search for an innovation takes place and some motivation to consider the change exists, the attitudes of the members of a social system toward the innovation are important. The perceived characteristics of the innovation influence the attitudes formed about the innovation see figure 3.2.

Taylor and Todd (1995b) pointed out that the first three main constructs, relative advantage, compatibility, and complexity or (ease of use) of the characteristics of innovation in the Meta analysis presented by Tronatzky and Klein (1982) exhibits that the three constructs are consistently related to the adoption decisions because they have a stronger influence on attitude formation during the persuasion stage of the adoption decision process mentioned above.

In understanding attitudes and predicting social behaviour, Ajazen and Fishbein (1980) in their theory of Reasoned Action stated that a person's behaviour is determined by their behavioural intentions. A person's behavioural intentions are a function of two different factors. The first factor is Attitude toward the behaviour, which Chang defined as the "product of one's salient belief (B) that performing the behaviour will lead to certain outcomes and an evaluation of the outcomes (E), i.e. rating of the desirability of the outcome" (Chang, 1998).

Attitude toward change is a behavioural construct representing a central importance for this research study model. It has been used and tested as a mediating variable in previous studies (Ginzberg, 1981; Igbaria, 1990; and Elias, 2009). The construct is assigned to work as a mediating construct in this study. The notion is that such reform will not be carried out without these people in charge understanding and cooperation as those people are responsible for carrying out the accounting system needed reform. It has to be carried out by them. In the literature, researchers stressed the need for studies that addresses behavioural sides. In this study, line managers attitudes in the country understudy are so vital for the success of the adoption and implementation of accrual basis of accounting reform change.

Based on the finding from the literature review, many empirical studies in information systems such as Technology Acceptance Model (TAM) and its latest developments shows a direct and positive relationship between compatibility, organisational support, and change agent role and a negative direct relationship for complexity with attitude toward change, which is used in this study as a mediating construct. If the analysis for complexity shows positive then this indicates in-complexity (or easy to use).

3. **Decision :** Is the stage in which "an individual takes steps to make a choice to either adopt or reject the innovation". It happens when decision makers engage in the activities that lead the choice to choose or reject the innovation. This theory of diffusion of innovation and other models such as TAM and theory of reasoned actions confirm a positive relationship between attitude toward change and innovation adoption construct.

Attitude in many studies has a direct relationship with adoption. In this study it has a direct positive relationship with the dependent construct feasibility of adoption and implementation of accrual basis of accounting.

4. **Implementation** : It is "one thing for an individual to decide to adopt an innovation; however this takes place when an individual puts an innovation into use. In the implementation stage, when the innovation is put to use, problems might occur on exactly how to use the innovation".
5. **Confirmation** : Occurs when "an individual seeks reinforcement of an innovation-decision. It is possible that the individual changes the decision if confronted with conflicting messages about the innovation".

Kamal (2006) presented a summary of eleven models of diffusion of innovation processing, which can be seen in figure (4.6) below. At start comes the Lwins model of Organisation change established in 1952 defined the change process into three phases the unfreezing phase, the change phase, and the refreezing phase this model also emphasised the role of change agent. While Becker and Whisler model 1967 defined the process and started with stimulus stage, conception stage, which lead to proposal of innovation solution and finally the adoption decision stage. But Zaltman et al 1973 defined the innovation process adoption into two stages the primary adoption stage, which define the firm decision level of technology acceptance, and the secondary adoption stage, which involve the actual innovation implementation and include individual users adoption. Pierce and Delbecq revealed their organisational innovation model in 1977, which identified three stages for innovation adoption process the initiation stage, the adoption stage and finally the

implementation stage. The Technology Acceptance Model TAM by Davis in 1989 followed this model claim that external variables directly affect the innovation perceived usefulness and perceived ease of use, which affect the adopters' attitude towards technology change.

Figure (4.6): A Summary of IT Innovation Adoption Models and Processes

DIVERSE INFORMATION TECHNOLOGY ADOPTION MODELS					
References	Stages/Phases				
Change Model (Lewin, 1952)	Unfreezing	Change (or Moving)		Refreezing	
Organisational Innovation Model (Pierce and Delbecq, 1977)	Initiation	Adoption		Implementation	
Four Phase Innovation Adoption Process (Darmawan, 2001)	Initiation	Adoption	Implementation	Evaluation	
Stages of Innovation Adoption (Becker and Whisler, 1967)	Stimulus	Conception	Proposal	Adoption Decision	
The Research Model (Agarwal and Prasad, 1998)	Awareness		Perception		Adoption Decision
	Channel Type		Personal Innovativeness		
Organisation Innovation Adoption (Frambach and Schillewaert, 2002)	Awareness	Consideration	Intention	Adoption Decision	Continuous Use → User Acceptance
Innovation Adoption and Implementation (Gallivan, 2001)	Primary Authority Adoption Decision		Secondary Adoption and Organisational Assimilation		Organisational Acceptance And Consequences
Innovation Adoption (Rogers, 1995)	Knowledge of Innovation	Attitude towards Innovation	Adoption Decision	Implementing Innovation Idea	Confirmation of Decision
IT Adoption Model (Dixon, 1999)	Analysing Requirements & Assessing Capabilities	Analysing Fit of Technology	Adoption Decision		Accept for Utilisation or Upgrade Capabilities
					Rejection
Technology Acceptance Model (Davis, 1989)	Investigating the External Variables	Perceived Usefulness Perceived Ease of Use	Attitude Towards Technology	Behavioural Intention for Technology Acceptance	Actual System Accepted and in Use
Two Stage Innovation Adoption Model (Zaltman et al. 1973)	Primary Adoption		Secondary Adoption		
	A Firm Level Decision for Technology Acceptance		Actual Innovation Implementation and including Individual Adoption by Users		

Source: (Kamal, 2006)

The formation of attitude will direct the behavioural intention of accepting the technology and the actual use of it. Then, comes Rogers' (1995 and 2003) diffusion of innovations processing model, which was already covered in detail above. In 1998 Agrawal and Prasad presented the Reason Action research Model, which divide the process into two main phases the Channel Type and the Personal Innovativeness that contain three stages the awareness, the perception, and the adoption decision. Dixon in 1999 revealed his IT Adoption Model, which covers three stages and an outcome analysing requirements and assessing capabilities, analysing the fit of the technology that is necessary for forming, the adoption decision that will lead to the acceptance for upgrading the existing ones or for the utilisation of new ones or the rejection of innovation. While Darmawan in 2001 presented his four phase innovation process model that includes the initiation phase, the adoption phase, the implementation phase, and the evaluation phase. Finally, Frambach and Schillewaert submitted their organisation innovation adoption processing model in 2002, which addressed six stages the awareness stage; the consideration stage; the intention stage; the adoption decision stage; the continuous use stage; and finally the user acceptance stage.

These models of IT adoption laid out several approaches in the adoption of any innovation in technology including E-Government benefits construct and IT infrastructure as a target construct or as a predictor construct as than can be seen clearly in Rogers' diffusion of innovations theoretical (paradigm) processing and models.

4.4.6 MIS – Enterprise-wide Technologies and Practices

- Information Technology Infrastructure (ITI)

Haag et al. (2005) stated that IT infrastructure is a concept which means different things to different organisations at different levels and different times. Organisations can select from a massive number of parts or components to build its IT infrastructure covering many individual software all the way to strategic functions. IT infrastructure in fact consists of hardware, software, and telecommunications equipment, which when combined, will present the underlying foundation to support organisations' objectives.

While Laudon & Laudon (2010: p. 191) pointed out that IT infrastructure consists of a set of physical devices & software applications that are required to operate in the entire enterprise. However, IT infrastructure as well is a set of organisation-wide services budgeted by management, encompassing both human and technical capabilities.

Organisations' IT infrastructure mainly integrates technology components to support its operation and business needs. According to prior studies, IT infrastructure definition encompasses a variety of components, for example Byrd & Turner (2000: p. 172) presented a comprehensive definition of IT infrastructure as follows :-

"The shared IT resources consisting of a technical physical base of hardware, software, communications technologies, data, & core applications & a human component of skills, expertise, competencies, commitments, values, norms, & knowledge that combine to create IT services that are typically unique to an organisation. These IT services provide a foundation for communications interchange across the entire organisation & for the development & implementation of present & future business applications".

Kumer (2004) defined IT infrastructure as "a collection of technologies, people, and processes that facilitates large-scale connectivity and effective interoperability of an

organisation's IT applications. The technology component of an effective IT infrastructure includes technologies for effective data storage and retrieval (e.g., Storage area networks), system integration (e.g., middleware), connectivity (e.g., networking components), and security technologies (e.g. firewalls). The people component includes infrastructure architects and other employees charged with infrastructure design and support. The process component includes processes for architecture standardisation and infrastructure change reviews". Developing and operating a flexible IT infrastructure has been identified as a major managerial concern. The effectiveness of an IT infrastructure can be evaluated using criteria such as reliability, the ability to operate with low downtime flexibility. the ability to quickly and economically adapt to changing business requirements; and upgradability, the ability to quickly and economically adapt to or deploy multiple, complex technologies as required. Based on the theory of financial asset valuation, one should recognise that the value of an IT infrastructure is dynamic, and in some respects similar to the value of financial assets.

Baraldi & Nadin (2006) mentioned that IT infrastructures can automate inter-organisational processes and codify part of the knowledge on which they rely. It could enable the flow of information related to new redesigned processes. IT Infrastructure digitalises "business relationships that are expected to support inter-firm coordination at the network level. It is the choice of specific IT solutions, including an IT architecture and software applications. Before introducing network-level IT infrastructures, much of the inter-organisational informal communication and tacit knowledge needs to be translated into rigid scripts, data matrices, procedures and models. IT infrastructure can then be extended to other firms and serve the whole network". IT infrastructure is the key to the development time, the cost - essentially the feasibility - of implementing an innovative system.

ITI is a comprehensive measure used to evaluate networks, databases, practices, and applications – soft programs that are used in the government, financial and non-financial – and the level of management, maintenance, and development. This construct, used in this study, is developed based on a number of MIS theories by Lewis & Byrd (2003) who developed a valid and reliable measure for ITI construct.

IT Infrastructure is found by many researchers to have a direct relationship with the adoption of an innovation, as Aldhmour & Eleyan (2012), found that IT infrastructure has a positive role in the successful adoption of Decision Support Systems in Jordan. Also Huang & Lai (2012) found that IT infrastructure significantly affect knowledge management adoption and implementation. Therefore, Duncan (1995) found that IT infrastructure is the key to the feasibility of implementing an innovative information system.

Based on the findings from literature review this construct is relevant to this study. Thus ITI is a construct that is needed for building IT capabilities needed for the success of the reform change. To facilitate the reform, line managers' knowledge and understanding of IT and of their organisation needs of suitable ITI is positively related to their attitude toward change. However if there is insufficient level of ITI in the organisation the effect will be negatively oriented.

4.4.7 Organisation Change Theories

Van de Ven & Poole (1995) synthesises "change theories across several disciplines that provide a theoretical means to understand the phenomena. Organisational leaders often introduce purposeful, system wide changes in an effort to realise specific goals –

teleological change – but as those changes introduced, differences and conflicts between the leaders and their staff maybe confronted". For a change to happen in the right direction that leadership desire, conflicts must be resolved so that staff beliefs and cognitions align with those of the leaders – *dialectical change* – therefore, a state of readiness must be created. Holt et al. (2007) developed a valid and reliable instrument to measure readiness for organisational change.

4.4.7.1 Readiness for Organisational Change

Readiness is arguably "one of the most important factors involved in employees' primary support for change initiatives" (Armenakis, et al. 1993). The foundation for readiness as a distinctive construct has been embedded within numerous theoretical models of the process through which change opens up. Van de Ven and Poole (1995) synthesised "change theories across several disciplines, giving researchers, managers, and organisational development professionals a theoretical means to better understand the phenomenon. Organisational leaders often introduce purposeful, system wide changes in an effort to realise specified goals. However, as these purposeful changes are introduced, differences and conflicts between the organisational leaders and members may be confronted. For change to occur in the direction that leadership desires, conflicts must be resolved such that organisational members' beliefs and cognitions align with those of the leaders". In essence, a state of readiness must be created (Van de Ven and Poole, 1995). Therefore, it is not surprising that the assessment of readiness prior to the introduction of change has been encouraged and several instruments have been developed to fulfil that purpose.

The change process "refers to the steps followed during the stage of implementation. One dimension of change process would be the extent to which employee participation is allowed". A second dimension is "the organisational change content, which refers to the exacting initiative that is being introduced (and its characteristics)". Content typically is put forward toward administrative, procedural, technological, or structural characteristics of the organisation. The third perspective is the organisational context, which "consists of the conditions and environment within which employees function. For instance, a learning organisation is one in which employees are expected to hold close continuous change". The fourth and final perspective is "the individual attributes of employees". Because of the differences between individuals, some of which are more inclined to favour organisational changes than the others.

Readiness for organisational change is defined as "a comprehensive attitude that is influenced simultaneously by the content, the process, the context, and the individuals. Readiness collectively reflects the extent to which an individual or individuals cognitively and emotionally inclined to accept, embrace, and adopt a particular plan to purposely alter the status quo" (Holt, et al. 2007). The adoption and diffusion of innovations by organisations is a discipline existing for a long time. Innovation adoption research covers the generation, development, and implementation of new ideas or behaviours and is based on the principle that it is a decision to be made for full utilisation of an innovation as the best course of action available. Although it is an organisational phenomenon, many researchers model adoption as an individual decision process at the end to be made or to be rejected.

Chong et al. (2009) found a positive and significant relationship between organisation readiness and the adoption of E-commerce. An organisation employee readiness for change reflects positive attitudes and beliefs about the need for organisational change and a clear intention to support the change process, and that the projected transitions can be successfully accomplished by the organisation and will lead to benefits for all parties involved. Change might be seen as positive and necessary to the organisation, and could be endorsed by the political leadership and top administrative official in governments, but these positive attitudes might not extend to the individuals or managers in the executive branch sense of ability to functionally cope with upcoming change reforms or even reflect positive individual-level valence such as toward reform change (Kuntz and Gomes, 2012).

Tsai et al. (2010) in their study determinants of RFID adoption intention : evidence from Taiwanese retail chains, found that Organisational readiness for change has a positive effect on the adoption intention.

In this study, readiness for organisational change construct measures the readiness of the government line managers towards the change reform. It is proposed logically, based on the theoretical findings and relationships found above, to have a positive effect on the mediating constructive attitude toward change and on the dependent construct the adoption of accrual basis of accounting as well.

4.4.7.2 Organisational Support

In relation to organisational support theory, the development of perceived organisational support is encouraged by employees' tendency to assign the organisation humanlike

characteristics (Eisenberger, et al. 1986). The personification of the organisation, suggested Levinson (1965), is backed up by the organisation's legal, moral, and financial responsibility for the actions of its agents; by organisational policies, norms, and culture that provide continuity and prescribe role behaviours; and by the power the organisation's agents exert over individual employees. On the basis of the organisation's personification, employees view their favourable or unfavourable treatment by their organisation as a signal that the organisation favours or disfavors them.

Organisational support theory addresses the psychological processes underlying consequences of perceived organisational support. On the basis of reciprocity norm, perceived organisational support should generate a felt obligation to care about the organisation's welfare and to help the organisation reach its objectives. The caring, approval, and respect implied by perceived organisational support should fulfil the socio-emotional needs, leading workers to integrate organisational membership and role status into their social identity. Perceived organisational support supposed to strengthen employees' beliefs that the organisation recognises and rewards increased their performance. These processes should provide positive outcomes for the employees and the organisation. A major feature of organisational support theory is that it provides clear, readily testable predictions regarding antecedents and outcomes of perceived organisational support in conjunction with specificity of assumed processes and ease of testing these processes empirically.

Perceived organisational support hypothesised its antecedents and consequences as elaborated in many studies of the mechanisms that are supposed to underlie these relationships. Based on organisational support theory (Eisenberger, et al. 1986), identified three general forms of favourable treatment received from the organisation fairness,

supervisor support, and organisational rewards and job conditions that should increase perceived organisational support. Many studies assessed the relationship of the employees' perceptions of favourable treatment and felt organisational support, but few studies have examined the relationship between personality and perceived organisational support.

In the case of a reform change adoption taken by the organisation employees' role in the process of the adoption and implementation of such innovation is at utmost importance, because they are part of the organisation and function with it. Organisational support materially reflected on the organisation employee will contribute positively to their attitude toward change and to the adoption and implementation of the innovation.

Ginzberg (1981) found that organisational support for the selected project was significantly related to the individual's attitude toward change. In other words, the perceived organisational support of creativity positively influences the IS manager's attitude toward reform change.

Igbaria (1990) reported the results of his field study on investigating the determinants of the end-user (among 187) computing effectiveness based on the developed conceptual structural model that was tested by PLS. One of the results that was tested, he found in confirming hypothesis (2g) that organisational support would be positively related to attitudes toward end-user computing.

Igbaria and Parasuraman (1991) examined MBA students who had full-time managerial positions in the Eastern United States. Their research results showed that perceived

organisational support is positively related to an individual's attitude toward the adoption and use of microcomputers.

4.4.8 E-Government

Web-based technologies' adoption to deliver government services is becoming a global trend in public administration. E-government inherits the administrative reform policies motivated by New Public Management (NPM) reforms. E-Government objectives go beyond NPM reforms, as its main goal is to transform the relationships between the public sector and society and to explore new channels of service delivery. E-Government is defined by EU as *“the use of Information and Communication Technologies (ICTs) in public administrations combined with organisational change and new skills in order to improve public services and democratic processes and strengthen support to public policies”* (Torres, et al. 2005, p.532).

E-government has been viewed in a variety of ways. One way to examine E-Government is to recognise that e-government is more than just a change in communication patterns or mediums. At least potentially, it engages in transforming the organisational culture of the government. Some researchers argue that citizens and businesses' demands mandate governments to operate within new structures and parameters supported by information technology (Osborne & Gaebler, 1992). Currently, societies' demands ask for crosscutting services that require governments to improve its communication and interaction across conventional bureaucratic lines (Alexander & Grubbs, 1998). These new requirements fundamentally change the nature and work type of government, are made possible through the strategic use of information technology.

Garson (1999) in his study divided E-Government theoretical frameworks into four major areas : (1) - decentralisation/democratisation, (2) - normative/dystopian, (3) - sociotechnical systems, and (4) - global integration theories. The first two areas are enough to explain central variations in e-government theory. The decentralisation/democratisation theory of e-government focuses on the progressive prospective of technology and centres on the positive governmental developments associated with e-government. Normative/dystopian theory emphasises is on conflict and failure associated with information technology applications and counters the positivist progressivism of decentralisation/democratisation theory with a realist view of inherent technological limits and contradictions. Each school of thought has its supporters and its critics. But neither one of them can be considered fully descriptive, taken them collectively will provide a useful delineation of the theoretical literature on E-Government.

(1) - Decentralisation/democratisation theory is the most commonly associated with e-government direction. In fact, some articles referred to the transformational, progressive nature of technology adoption in the government sector. Others concluded that E-Government and related information technology adoption lead to changing paradigms, extending beyond the concept of easy progress (Reschenthaler & Thompson, 1996; Ho, 2002). Reschenthaler and Thompson (1996) along with theorists noticed the revolutionary potential of information technology in government. They asserted that the power of E-Government technology lies in its capability to balance the ground field for all sizes and types of governments. In addition, they see in e-government the basis for reengineering the business of government, refocusing its work on the needs of the citizens, and turning back government to its core functions (Reschenthaler & Thompson, 1996). Other authors used the decentralisation theory to emphasise the transformational mechanisms of information

technology and E-Government. While there are authors inspect the traditional bureaucratic model of public service delivery (known as the Weberian model), which is centered on specialisation, departmentalisation, and standardisation (Ho, 2002). This conventional model created the “stovepipes” connected with government, those departmental silos that resist functioning across agency boundaries. The main goal of the Weberian model is to ensure that all citizens are treated justifiably with the greatest efficiency. However, in the 1990s, the reinventing government movement sought to alter the central function of government, by moving from departmentalisation and centralisation to citizen-centric decentralisation (Osborne & Gaebler, 1992), in opposite direction of the Weberian model.

In addition, Ho (2002) saw E-Government paradigm, which emphasises coordinated network building, external collaboration, and customer services, is gradually replacing the traditional bureaucratic paradigm and its focus on standardisation, hierarchy, departmentalisation, and operational cost-efficiency. The new paradigm reflects many of the doctrines of reinventing government movement, including user control and customisation, flexibility in service delivery, in both horizontal and vertical integration ending in “one-stop” shopping, and innovative leadership set attention on the end user (Osborne & Gaebler, 1992; Ho, 2002). This paradigm shift is impulsive by the advent of the Internet, which supplies government with the ability to use technology effectively and impact customers directly, and not only to reengineer the internal processes (Scavo & Shi, 1999). A central concept of E-Government, which comes under the decentralisation orientation, is the notion of using technology as a link between citizens and government. According to Milward and Snyder (1996), governmental use of information technologies to take part and interact with the public to enhance the value of technology adoption, which will eventually lead to greater E-Government diffusion. IT technology can be replaced for

other governmental institutions to link citizens to government services. This linkage causes both the citizens and governments to become dependent on IT functions, increasing the diffusion and adoption rates of E-Government. As governments federal, state, and local become more drawn in information technology and add recognition for its E-Government efforts, other authorities not currently enrolled in E-Government will gradually become more interested in and skilful at this form of information technology practice (Norris, 1999). That is leading to the decentralisation theory which predicts that e-government's diffusion will increase as its benefits to citizens and to the agencies themselves are clearly demonstrated.

Information Technology and E-Government adoption rates are majored of interest to the decentralisation proponents. In fact, the argument is virtually tautological - to describe the factors that increase E-Government diffusion and adoption, one have to believe in the positive potential of the notion. In accordance with information technology adoption and implementation, the greater the number of governments planning for and utilising information technologies and E-Government approaches, the more legitimacy the technology gains (Fletcher, 1999). It is obvious from the propagation of e-government activities at the federal and state levels that the extensive benefits of using information technology to provide more timely, seamless government services is legitimate, even preferred, method of action. Citizen and business demands for e-government applications have widened to include local government level; and as more local governments start using E-Technologies, the legitimacy of the applications will further increases (Norris, Fletcher, & Holden, 2001).

Governments, by adopting new technologies, will be able to respond to the changing environment by delivering improved services, increase efficiency, and dramatically reduce costs (West, 2000). E-Government applications use allows governments to be ready to engage citizens and businesses in a virtual world that is thought to be more responsive and accountable to the needs of the customer and for the public in general. But, a marked lag exists in government adoption of new technologies and methodologies compared to that in the private sector.

Governments' structural afflicted inertia and risk aversion means that governments are slow to adopt and implement new technologies. The lag associated with governmental adoption of new technologies continues until today. In fact, performed research that goes decades back indicated that local government, in general, has had a time gap between the introduction of new technology and its adoption and use in localities. Besides, smaller local governments have a lag adoption time that exceeds the others. For government information technology adoption and implementation, the inertia that exists within public sector organisations means that they are often less willing and able to engage new technologies (Bretschneider, 1990). The inherent worry between the need for reliability and accountability contrasted with reliance on maintaining organisational rank leads to the increased adoption lag time in governmental organisations.

E-Government support is associated with the decentralisation theory, which offers optimistic prospects for the future of virtual governance. But, the bleak reality of public technology and E-Government disappointments has been repeatedly noted across media. The concerns associated with privacy, security, and the digital divide is all common threads under normative/dystopian theory, which offers a critical approach to evaluating E-

Government. Supporters of this view of E-Government are conventionally concerned with the dehumanisation and isolation aspects of information technology. Recent concerns about the “digital divide,” is the technology gap that exists between certain sub-populations in the US, emphasise the problems of fairly implementing technology as a mode of communication and service delivery. Fisher (1998) noticed the difference in power and access to technology that occurs in distinct sub-populations when analysing grassroots social movements. He found that racial, regional, educational, gender, and age differences among Internet users and technology owners are totally supported by other studies (Novotny, 1998; Norris, 2001).

E-Government, is defined as an information system aided at handling all of public administration processes utilising information and communications technology (Rötter, 2003). E-Government involves both processes within the public administration as well as the settlement of transactions between citizens and the state, the state and the economy as well as the cooperation of the government with non-governmental organisations. It is believed to lead to better delivery of government services, improved interaction with business and industry, citizen empowerment through access to information, or more efficient government management.

Tung & Tieck (2005) in their study of a theoretical background, draw from a study by Chwelos et al. (2001) on the adoption of EDI, that e-Government adoption influence has three perspectives: the technological, organisational, and inter-organisational perspective. The technological part deals with the characteristics of a particular technology; the organisational perspective focuses on organisational characteristics, whereas the inter-organisational perspective includes factors relating to the actions of other organisations

(Chwelos, et al. 2001). These three angels are believed to encompass the determinants of the adoption in the context of other emerging forms of inter-organisational systems (IOS). The introduction of e-Government services embodies such a new form of IOS and the three perspectives mentioned above could therefore be viewed as capturing the important determinants of an organisation's adoption decision.

The benefits of E-Government services can serve as one of the main explanatory factors for the adoption. Accessibility of E-Government services happens when the new system is perceived as more beneficial than the paper-based system it supersedes, hence offering relative advantage to the agents of the organisation. One of the major purposes that derived the introduction of E-Government services is to assist organisations to increase their Information Technology (IT) sophistication level and to provide them with a higher level of convenience in their interaction with government (Chwelos, et al. 2001).

Tung & Tieck (2005) stated that, like other EC technologies, e-Government services allow for faster transmission of data and greater data accuracy, resulting in improved clerical efficiency and managerial decision-making (Premkumar and Ramamurthy, 1995). Then they hypothesised that :-

"The greater the perceived benefits for an organisation, the more likely the organisation will adopt e-Government services"

E-Government benefits are classified in line with Information Technology and Information Systems. Therefore, its predictive value is assumed based on the theoretical explanation mentioned above. Thus its hypothesized that E-Government benefits will have a positive

significant effect on attitude toward change and it will also have a positive direct relationship with the adoption and implementation of accrual basis of accounting.

4.5 Research Framework

The research conceptual framework is developed based on the remarks and recommendations - from the literature – that are mainly provided by Prof. Hepworth (2002, 2003), the contingency model and its developments by Prof. Lüder (1989, 1992, 1994, 1996, & 2001), the diffusion of innovations by Prof. Rogers (1995), and related organisational change and management information systems models. In addition to the benefits of E-Government services (Kraemer & King, 2006; Tung & Rieck, 2005). Figures (4.1a) and (4.1b) explain the research framework in-group and in details. The model in its simplest format consists of three groups of independent variables :-

4.5.1 Innovation Factors

Innovation factors' are extracted from DOI theory (Rogers, 1995) variables extracted that explains the new system characteristics' are relative advantage, compatibility, complexity (simplicity – or ease of use), and the role of change agents' in the reform process. These variables explain more than 50% - 70% of the innovation attributes, which are considered more than enough.

4.5.2 Organisational Factors

Include organisational support, IT Infrastructure, and readiness for organisational change. For an accrual basis of accounting system change an IT Infrastructure

capacity must exist and that also will facilitate the link to E-Government. Readiness for change has to pre-exist for successful adoption and implementation (Igbaria 1990, Lewis & Byrd 2003, Holt et al. 2007).

4.5.3 Barriers to Change

Barriers to change have to be confronted or avoided by identifying and limiting the number of barriers, which then will help in easing the process of change (Lüder 1992, 1994, 1996, Ebrahim & Irani 2005).

4.5.4 Attitude Toward Change

Dunham et al. (1989), developed this construct and mentioned that the construct is central for reform change. The introduction of such new accounting system and IT systems has been accepted and has to go through those people in charge such as government financial officers.

4.5.5 E-Government Benefits

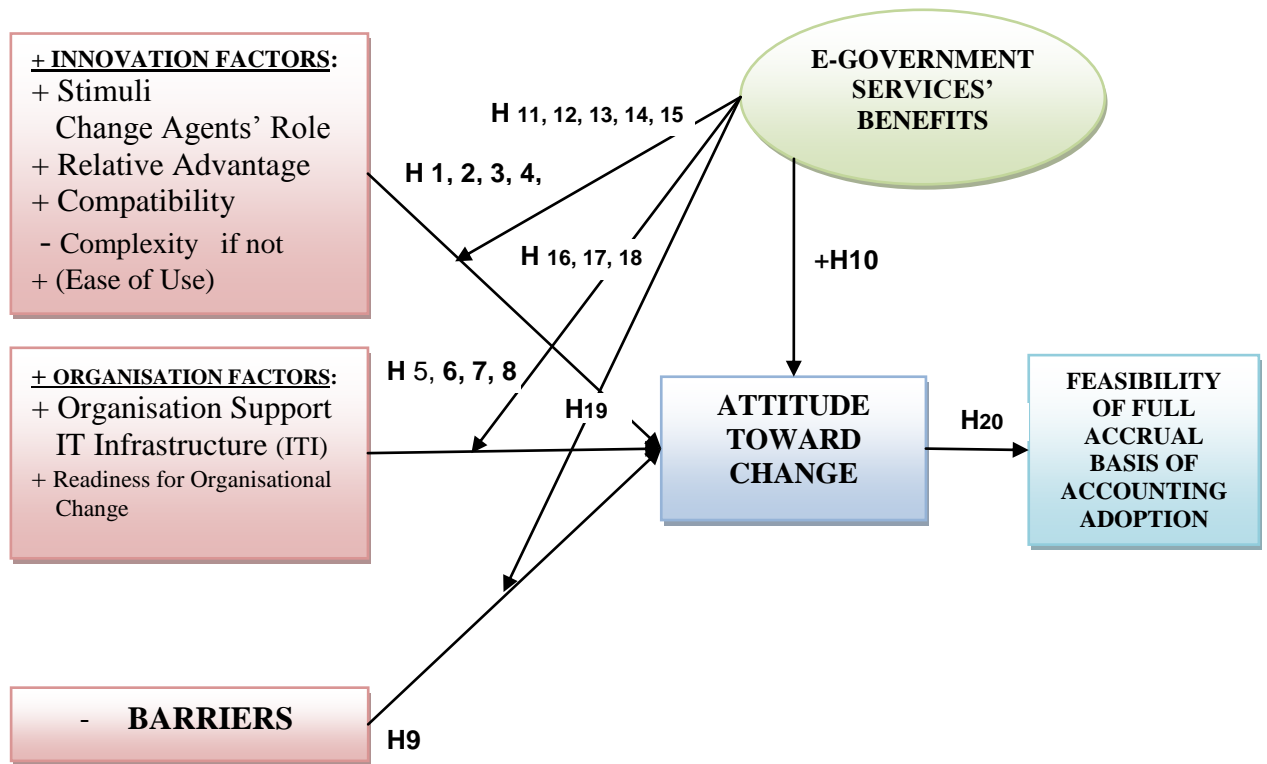
E-Government benefits are extracted from the literature findings, which stressed the enabling role that E-Government is capable of. E-Government is about government reform. Thus, it provides a moderating effect that promotes and facilitates the process of the adoption and implementation of accrual basis of accounting system (Kraemer & King 2006, Tung & Rieck 2005). Therefore, in testing the moderating effect of E-Government benefits, at first it has to be tested as an independent variable. E-Government benefits as a construct is expected to have a positive

relationship with attitude toward change. As a moderator construct E-Government is also expected to have a positive effect of the relationship between attitude toward change and innovation factors, organisational factors, and barriers.

4.5.6 Feasibility of Accrual Basis of Accounting Adoption and Implementation

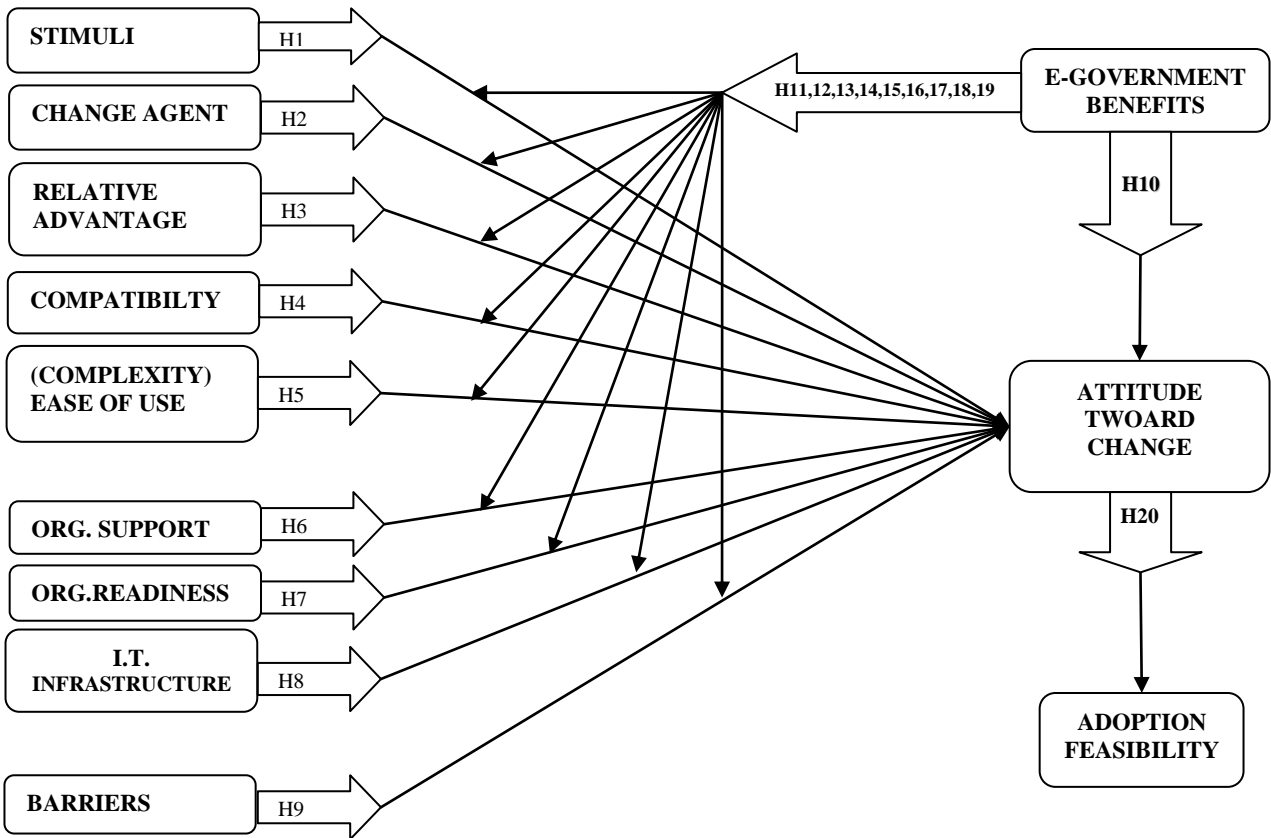
Feasibility of the adoption and implementation of accrual basis of accounting is the dependent variable in this research study. The research seeks the knowledge and opinions of Yemen central government general financial managers and their deputies, accounting and auditing department heads on the technical possibility and applicability to adopt and implement accrual basis of accounting instead of the cash basis and to have such new system put in place (Lapsley 1986, Kluvers 1999).

Figure (4.7a): Research Framework – Grouped Model



Theoretical Framework of the Feasibility of Full Accrual basis of accounting Adoption & Implementation in the Republic of Yemen Central Government

Figure (4.7b): Research Framework – Detailed Model



Theoretical Framework on the Feasibility of the Adoption and Implementation of Accrual basis of accounting in the Republic of Yemen Central Government

4.6 Hypotheses Development

Babbie (2004, p.G5) defined a hypothesis as "a specific testable expectation about empirical reality that follows from a more general proposition; more generic, an expectation about the nature of things derived from a theory. It is a statement of something that ought to be observed in the real world if the theory is correct". The main goal of developing study hypotheses is to assist the researcher in describing the nature and direction of the relationships among the research projected variables or constructs that are presented in the theoretical framework (Sekaran 2003, p.97). It worth mentioning that Ontological reasoning is applied to reflect the reality of the world, confirming a positive epistemology approach. Therefore, based on literature review and the theories (outlined in section 4.4) the following hypotheses are developed to cover all constructs presented in the study theoretical framework :-

4.6.1 Innovation Factors

This group of variables (constructs) circle around the innovation initiation. All represent the motives that led to foresee the need for reform change presented by stimuli which mainly came from Lüder contingency theoretical model, and then the characteristics of innovation and the role of change agent came from Rogers's diffusion of innovations' theory :-

Hypothesis 1

Lüder contingency model (1992), as part of the contextual categorisation stated that stimuli construct has a positive effect on users and producers' attitudes and behaviours (see section

4.4 and section 4.4.2). Also Godfrey, et al. (2001), mentioned the same but along with change agent(s) from the IMF and WB and their Yemeni counterpart(s) from the MoF (see section 4.4.4). Therefore, the first hypothesis in this study will be as follows :-

"Stimuli is positively related to Attitude Toward Change"

Hypotheses 2 to 5

Hypothesis 2:

Rogers (1995 & 2003), in his diffusion of innovations process model clearly defined and specified the role of change agent in the process of innovation diffusion. He concluded that change agent role success in securing the adoption of innovation is related to clients' orientation (Rogers.1995, p.340&354) (see section 4.4.5). Also Godfrey, et al. (2001), mentioned that change agent (as well as stimuli) has a positive relationship with attitude toward change, see section 4.4.4.

Therefore, the fifth hypothesis in this study will be stated - without mentioning it is positive or negatively related. However, in the case of Yemen it was not clear then whether the change agent is external coming from world agencies or internal from the government. As the researcher found from observations collected from the officials and their staff that will make difference, because they prefer the change agent to be one of them - as follows:

"The Role of Change Agents is related to Attitude Toward Change"

Hypothesis 3 - 5

Rogers (1995 & 2003), in his diffusion of innovations process model specified the stages for innovation process and defined five characteristics of an innovation that are antecedents for (persuasion) attitude toward change of which are relative advantage, compatibility, and complexity or ease of use (see section 4.4.5) and hypothesized that relative advantage and compatibility have a positive relationship with the rate of adoption and with (persuasion) attitude toward change in the process model while complexity (ease of use) will have a negative relationship. This claim is supported by Davis (1989) and Hussein (1981). Therefore, for this study the following three hypotheses are extracted:

Hypothesis 3:

"Relative Advantage is positively related to Attitude Toward Change"

Hypothesis 4:

"Compatibility is positively related to Attitude Toward Change"

Hypothesis 5:

"Complexity (ease of use) is negatively (positively) related to Attitude Toward Change"

4.6.2 Organisational Factors

These groups of variables (constructs) are classified as more related to the organisation as they exist and function fully inside structure of the government unit, but have influence on the human resources operating in such firms. Organisation support refer to organisation leadership efforts and extent to pay attention to their employee generally and more specially in the case of the adoption of innovations, which need positive attitudes from those employee in line operations as their attitude do matter for the success or failure of the innovation adoption. Readiness for organisational change is an attitudinal and behavioural term measure level of readiness for both leadership and staff in the process of innovation adoption. The third and final construct in this group is Information Technology Infrastructure ITI, which measures both human and resources capabilities that should be available and ready so that an innovation adoption or reform change could be carried on and take place. The theoretical foundation for these three constructs are found in organisational change and MIS – Enterprise-wide technologies and practices.

Hypothesis 6

Ginzberg (1981) found that organisational support for the selected project was significantly related to the individual's attitude toward change. While Igbaria (1990) reported the results and one of the results found to be confirming hypothesis (2g), that is organisational support is positively related to attitudes toward end-user computing. Also Igbaria and Parasuraman (1991) found that perceived organisational support is positively related to an individual's attitude toward the adoption and use of microcomputers (see section 4.4.7.2).

Therefore, for this study the following hypothesis is extracted :-

"Organisational Support is positively related to Attitude Toward Change"

Hypothesis 7

Tsai et al. (2010) in their study, explored determinants of RFID adoption's intention. Evidence from Taiwanese retail chains, found that Organisational readiness for change has a positive effect on the adoption intention. While Chong et al (2009) found a positive and significant relationship between organisation readiness and the adoption of E-commerce. An organisation employee readiness for change reflects positive attitudes and beliefs about the need for organisational change and a clear intention to support the change process see section 4.4.7.1.

Therefore, for this study the following hypothesis may be proposed :-

"Readiness for Organisational Change is positively related to Attitude Toward Change"

Hypothesis 8

IT Infrastructure is found by many researchers to have a direct relationship with the adoption of an innovation, as Aldhmour & Eleyan (2012) found that IT infrastructure has a positive role in the successful adoption of Decision Support Systems in Jordan. Also Huang & Lai (2012) found that IT infrastructure significantly affected knowledge management

adoption and implementation. Duncan (1995) found that IT infrastructure was the key to the feasibility of implementing an innovative information system (see section 4.4.6).

Therefore, for this study the following hypothesis is proposed :-

"Information Technology Infrastructure (ITI) is related to Attitude Toward Change"

4.6.3 Barriers to Change and E-Government

The last variable (construct) in this study theoretical framework to be hypothesised are barriers that might confront the change process and adoption. Many adoption research studies considered this variable and tested it in their models and found it to be negatively related to the adoption of an innovation. In this section, E-Government will be tested as an independent variable to meet the conditions needed to start performing the moderating tests required on the hypotheses that will be developed next. If E-Government proves to improve the main model significance and will change the significance of other insignificant independent variables to significant then E-Government shall be considered and added the main model as an (predictor) independent valuable variable.

Hypothesis 9

Lüder contingency model (1992), as part of the contextual categorisation stated that barriers have a negative effect on users and producers' attitudes and behaviours (see section 4.4.2). Further, Godfrey, et al. (2001), mentioned the same in Diffusion-Contingency Model (see section 4.4.4). Therefore, for this study the following hypothesis may be stated as :-

"Barriers are negatively related to Attitude Toward Change"

Hypothesis 10

Governments, by adopting new technologies, will be able to respond to the changing environment by delivering improved services, increase efficiency, and dramatically reduce costs (West, 2000). E-Government applications use allows governments to be ready to engage citizens and businesses in a virtual world that is thought to be more responsive and accountable to the needs of the customer and for the public in general.

Information Technology and E-Government adoption rates are majored of interest to the decentralisation of proponents. In fact, the argument is virtually tautological - to describe the factors that increase E-Government diffusion and adoption, one has to believe in the positive potential of the notion. In accordance with information technology adoption and implementation, the greater the number of governments planning for and utilising information technologies and E-Government approaches, the more legitimacy the technology gains (Fletcher 1999).

Governments, by adopting new technologies, will be able to respond to the changing environment by delivering improved services, increase efficiency, and dramatically reduce costs (West, 2000). E-Government applications use allows governments to be ready to engage citizens and businesses in a virtual world that is thought to be more responsive and accountable to the needs of the customer and for the public in general.

E-government has been viewed in a variety of ways. One way to examine E-Government is to recognise that e-government is more than just a change in communication patterns or mediums. At least potentially, it engages in transforming the organisational culture of the government. E-Government support is associated with the decentralisation theory, which offers optimistic prospects for the future of virtual governance. E-Government benefits construct is classified in line with Information Technology and Information Systems. Therefore, its predictive value is assumed based on the theoretical explanation mentioned above.

Tung & Tieck (2005) stated that, like other EC technologies, e-Government services allow for faster transmission of data and greater data accuracy, resulting in improved clerical efficiency and managerial decision-making (Premkumar and Ramamurthy, 1995). Then they hypothesised that :-

"The greater the perceived benefits for an organisation, the more likely the organisation will adopt e-Government services" (see section 4.4.8).

Therefore, the adoption of E-Government services will depend on the its benefits, so government financial managers, accountants, and internal auditors evaluation of such benefits do matter and will affect their attitude toward change from cash basis accounting to accrual basis of accounting. Thus the following hypothesis is proposed and may be stated as follows :-

"E-Government Benefits are positively related to Attitude Toward Change"

4.6.4 E-Government Moderating Interaction Effects

E-Government for its numerous capabilities as reform enablers will be tested in this study for its moderating effects on every relationship between each independent variable and the mediating variable attitude toward change. E-Government based on the collective and extensive study of literature and based on numerous studies of the value added that it has on the public administration. Therefore, E-Government is expected as a moderating variable will improve every relationship of this study theoretical model. Therefore, the following

Hypothesis 11

Basically, moderator variables are of two types; one type influences the classic validation model by affecting the strength of the relationship and the second modifies the form of the classic validation model. Moderator variables can be well thought-out as a subset of a class of variables termed, in the social sciences, "test" or specification variables. A specification variable is one which specifies the form and/or magnitude of the relationship between a predictor and a criterion variable (Lazarsfeld 1955; Rosenberg 1968).

The moderating effect of E-Government on the relationships between stimuli and attitude toward change is expected to increase the strength and direction of the relationship between the two variables. Therefore, the following hypotheses is proposed and may be stated as :-

"E-Government Benefits has a moderating effect on the relationship between Stimuli and Attitude Toward Change"

Hypothesis 12

The moderating effect of E-Government on the relationship between change agent and attitude toward change is expected to increase the strength and direction of the relationship between the two variables. Therefore, the following hypotheses is proposed and may be stated as :-

"E-Government Benefits has a moderating effect on the relationship between Change Agent and Attitude Toward Change"

Hypothesis 13

The moderating effect of E-Government on the relationship between relative advantage and attitude toward change is expected to increase the strength and direction of the relationship between the two variables. Therefore, the following hypotheses is proposed and may be stated as :-

"E-Government Benefits has a moderating effect on the relationship between Relative Advantage and Attitude Toward Change"

Hypothesis 14

The moderating effect of E-Government on the relationship between compatibility and attitude toward change is expected to increase the strength and direction of the relationship

between the two variables. Therefore, the following hypotheses is proposed and may be stated as :-

"E-Government Benefits has a moderating effect on the relationship between Compatibility and Attitude Toward Change"

Hypothesis 15

The moderating effect of E-Government on the relationship between complexity (ease of use) and attitude toward change is expected to increase the strength and direction of the relationship between the two variables by decreasing the negative effects of complexity or increase the positive effects of (ease of use). Therefore, the following hypotheses is proposed and may be stated as :-

"E-Government Benefits has a moderating effect on the relationship between Complexity (ease of use) and Attitude Toward Change"

Hypothesis 16

The moderating effect of E-Government on the relationship between organisational support and attitude toward change is expected to increase the strength and direction of the relationship between the two variables. Therefore, the following hypotheses is proposed and may be stated as:-

"E-Government Benefits has a moderating effect on the relationship between Organisational Support and Attitude Toward Change"

Hypothesis 17

The moderating effect of E-Government on the relationship between readiness for organisational change and attitude toward change is expected to increase the strength and direction of the relationship between the two variables. Therefore, the following hypotheses is proposed and may be stated as :-

"E-Government Benefits has a moderating effect on the relationship between Readiness for Organisational Change and Attitude Toward Change"

Hypothesis 18

The moderating effect of E-Government on the relationship between IT Infrastructure (ITI) and attitude toward change is expected to increase the strength and direction of the relationship between the two variables. Therefore, the following hypotheses is proposed and may be stated as :-

"E-Government Benefits has a moderating effect on the relationship between IT Infrastructure (ITI) and Attitude Toward Change"

Hypothesis 19

The moderating effect of E-Government on the relationship between barriers and attitude toward change is expected to increase the strength and direction of the relationship between the two variables by decreasing the negative effects of barriers. Therefore, the following hypotheses is proposed and may be stated as :-

"E-Government Benefits has a moderating effect on the relationship between Barriers and Attitude Toward Change"

Hypothesis 20

Lüder contingency model (1992) see section 4.4.2, Godfrey, et al. (2001), mentioned the same in Diffusion-Contingency Model (see section 4.4.4; Hussein (1981) and Rogers' (1995; 2003) diffusion of innovations process model; section 4.4.5 confirms that attitude toward change has a direct positive relationship with the adoption decision of an innovation). The mediating effect of attitude toward change has been found in Ginzberg (1981), Igbaria (1990), and Igbaria (1991). Therefore, for this study the following hypothesis is stated as :-

"Attitude Toward Change will have a positive impact on the feasibility of Full Accrual Basis Adoption and Implementation"

4.7 Sampling Frame

According to Sekaran (2003, p. 266) sampling is defined as " the process of selecting a sufficient number of elements from the population, so that a study of the sample and an understanding of its properties or characteristics would make it possible for us to generalize such properties or characteristics to the population elements." Therefore, the sampling frame for a study in actual practice, as stated by Zikmund (2003) is the list of elements from which the sample could be drawn. The sample frame might be a list of all the members of a specific or professional society or community, staff of the faculty, government administrators, or government accountants.

4.7.1 Questionnaire Survey Sampling Frame

The sample frame for the questionnaire survey was officially requested from the MoF and COCA for all general managers for financial affairs and their deputies; department heads of accounting and financial management and their deputies; financial managers; accountants; and auditors working at the central government of Yemen. Because the function of accounting and financial management and auditing in all government agencies by law belongs to the MoF and COCA. Therefore, all in charged (in the central government and all its agencies) specified above have to be under the supervision of the MoF and COCA. The researcher received officially the lists containing the names targeted above and accordingly calculated the minimum and maximum level of the study population then calculate the sample size.

4.7.2 Interview Survey Sampling (Frame) Design

The sample frame for the interview survey is targeted to the reform champions in the MoF and COCA. They are the leaders in both government institutions, holding positions of former ministers, vice ministers, deputy ministers and their assistants, politicians, accounting professional society, audit institutions and consulting firms, and academics . The targeted people are assumed to provide sound representation for conducting the qualitative part in this study, even though it is not important in qualitative research as it is in quantitative research as the aim is to obtain in-depth analysis and results (Bryman and Bell, 2007). The population number is estimated and minimum and maximum range specified within that range the sample size will obtained. As such sizes in interviews' designs are mostly subject to the researcher judgment. Each one (of the respondents) of the population sample will be interviewed independently at the place and time that will be agreed upon it. The time period to collect such data have to be within the time frame of collecting the data by the questionnaire survey (in the second half of 2009)for the purpose of reducing the cost.

The sampling technique that is going to be used here is non-probability purposive method. It has a discrete advantage of rapidly accessing targeted participants who are most likely willing to give rich information which will of great value to this study.

The sample size based on the researcher judgment according to Cavana et al. (2008) is estimated at its minimum level to not be less than eight interviews and the maximum to be over fifty two interviews. The actual number to be collected have to be within this range. The semi-structured interview is well established and deeply rooted. Therefore, it is expected to take a lot of effort and time to get to such objective and collect the needed data.

4.8 Research Instruments

The study utilised will extract data from the archival research. Then it will use a questionnaire survey, and an interview survey to collect the needed data. These two instruments are formulated and directed based on the unit of analysis. **The unit of analysis** is (individual) persons. This study attempts to get opinions of Yemen's Ministry of Finance (who are spread all over the central government offices) and central organisation for accountability and audit (COCA), on the feasibility of the adoption and implementation of accrual basis of accounting to replace cash basis accounting.

4.8.1 Questionnaire Survey

To answers research question 3, 4, and 5, the questionnaire survey is constructed based on prior research studies, which maintained reliability, validity, and tested over past times. The selected items rephrased to fit the context of this research study. Some items are selected from a reliable source in the literature that is dichotomous (yes or no) content, which then converted into 5 items Likert scale. Other items in the questionnaire especially in the demographic part are self developed based on the researcher experience.

The questionnaire is intended to be given to central government officials such as general managers for financial affairs, their deputies, financial managers, controllers, department heads, and audit departments' heads. Those selected officials are expected to have an acceptable level of knowledge, experience, and understanding of the value and content of the adoption and implementation of accrual basis of accounting by Yemen central government. A copy of the questionnaire survey is attached (see APPENDIX - B.1).

The questionnaire at start opens with a general statement briefly addressing the objective of the study under research, who should answer the survey, and an outline of the main parts of the questionnaire. Then an open letter from the researcher, detailing the core of the study its importance and the value of the respondent and the data that he will deliver - the research name, address and phones and emails are attached, directed to the respondent accompanied by a copy of the supervisor letter of support. Followed by an introduction of the main concepts of the study, respondents as specialist would understand, and detailed instructions on how to read and be able to answer the questionnaire. To this point the introductory informative part is accomplished. The remaining content of the questionnaire consists of four parts, part one addresses the demographic variables, part two deals with the characteristics of Yemen government accounting, part three sums up the innovation characteristics (variables), and finally part four details the innovation and information technologies. These four main parts are explained in more details as follows :-

Part One: Demographics

The main purpose of this part is to gather as much data as possible on the responded personal and professional live to evaluate the characteristics with required ones needed to perform major reform change in the central government of Yemen. This part contains twenty two questions and an open space (other information) for the respondent to express his or her own opinions on the matter under investigation.

Questions one and two ask about the respondent's gender and age, while question three asks for his or her marital status. Questions four asks the respondent to specify his or her

level of education, which starts from primary education and goes further in level to doctorate level and/or other unspecified levels. Question five asks the respondent on the number of years he or she has been working in the organisation. Question six asks the respondent's on where he or she is working to specify the government entity he or she belongs to, that include high level branch, ministry, authority, academic institution, financial institution, and other to be specified by respondent. Question seven corresponds to the respondent's specialisation or background such as accounting, management and finance, law and political science, business administration, and others to be specified by respondent. Question number eight asks for the respondent's job title (position) that includes general manager, deputy general manager, department head, accounting officer, internal auditor, and others to be specified by respondent. Question nine asks for the respondent's organisational size and listed six range categories starting from under one hundred employees to over five hundred employees. Question number ten asks about the respondent's level of knowledge on English language, general computer software, specific computer software in accounting and budgeting, and using the world wide web and emailing to answer each on respondent has to choose one of four choices none, entry, good, advanced. This question is self developed intended to evaluate respondents' knowledge level on language and one computing and digital communicating. Questions eleven to nineteen are dichotomous to answer with yes or no and in it involves asking respondents on whether or not they own personal computer, have email address, email address at work, can access internet at work, have personal computer at work, have internet access at work, their organisation have active website and it integrates with online with government organisations, and if they have any work experience in the private sector that applies accrual basis of accounting.

Question twenty (self developed) asks respondents on the total income they get from their work and listed incentives that might be related to the works related to the reform change such as training and education.

Question number twenty one asks respondents to provide data on training (construct). This construct, adopted from (Igbaria, 1990) and adjusted to suit the language and context of this study, consists of four questions on training respondent has to answer one of the five choices provided in front of each question from none to intensive (for more details see Appendix B.1).

Finally, question number twenty two related to the variable (construct) stimuli respondents have to answer one or more of the twelve statements provided as question items and to choose one of the five choices of no influence to high influence. Stimuli are statements that might ignite the reform change process and to choose the accrual basis of accounting instead of the prevailing cash basis accounting, see table (4.3).

Table (4.2): Question Items of Stimuli

Question Items	Source
1. Political competition.	Lüder (1994)
2. Political majority support.	Lüder (1994)
3. Financial crisis.	Lüder (1994)
4. Technology and modernisation.	Self developed
5. Technical and professional needs.	Self developed
6. International donor and creditor agencies.	Self developed
7. Pressures from the general public.	Self developed
8. Pressures related to other reforms.	Lüder (1994)
9. Forces of globalization.	Self developed
10. Population size.	Self developed
11. Diversification of government resources.	Kudo (2008)
12. To curb corruption.	Kudo (2008)

Part Two: Characteristics of Government Accounting

Mainly this part of the questionnaire survey intended to capture the current status of the Central government of Yemen governmental accounting and reporting and has there been and reform reflected into the system. This part covers two main sections the institutional framework followed by the accounting and financial reporting of the government and the third section open-ended given to respondents to express their opinions on the accounting and financial management reform which is taken place currently in the government. All items in these two sections adopted from Chan et al. (1996) (for more details see Appendix B.1), which will be explained in details in the following sentences :-

1. Institutional Framework

Covers four main areas of concern that is the role of the profession and the level of independence, the influence of the private sector, the level of functional integration, and finally the level of centralisation. Sixteen questions were presented to respondents to answer to collect data enough to explain the institutional framework of the government, of which only twelve questions adopted from Chan et al. (1996) and four questions (10,11,12, and 13) are self developed by the researcher added in order to gain some information on E-Government linkage and web site engagement used internally and externally. Respondents were asked to provide their opinion on the extent they do agree or disagree with each of the statements spread on a Likert scale from 1 strongly disagree to 5 strongly agree.

For more details see (Appendix B.1).

2. Accounting and Financial Reporting Policies

Covers five main areas of concern on the objectives, the accounting recognition and measurement, the financial reporting, the financial reporting contents, and financial information dissemination to be answered by respondents. This section contains thirty four questions, to be answered by respondents and gain the necessary data that will cover the five main areas of concern mentioned, of which only thirty questions adopted from (Chan 1996)) and four questions (31, 32, 33, and 34) are self-developed by the researcher added in order to gain data on electronic dissemination of information to beneficiaries through the government web site and via SMS (please refer to Appendix B.1 for more details).

Part Three: Innovation Characteristics

This part consist of three sections the attributes of accrual basis of accounting system to be adopted, then the attributes of attitudes support and readiness for organisational change that will facilitate the reform change from cash basis accounting to accrual basis of accounting, and finally the role of the change agent in the reform process and the possible obstacles that might be encountered or which hindered the adoption and implementation of accrual basis of accounting. These three sections may be addressed in detail as follows :-

Section (A) : This section covers three variables adopted from Rogers (1995, 2003) diffusion of innovations theory, that ascertain the degree of capturing the major characteristics of accrual basis of accounting system intended to be adopted in the central government. The new system is relative advantageous over the cash basis accounting system or the modified cash basis accounting system in use, the compatibility of new

system with the existing values, past experiences, and the potential needs of the government and its leadership, and finally the new system level of complexity or (ease of use) seen by those who are in charge and are expected to progress along with the reform process stages.

1. Relative Advantage

Operationally this is defined as "the degree to which an innovation is perceived as being better than the idea it supersedes" (Rogers, 1995, 2003). It details the merits of the new system over the old one and its relevance and importance to the government in improving its accounting and financial operation and in deriving an informative financial management information needed for decision makers to enable them perform more appropriate decision on time with quality and at lower cost. Relative advantage construct consists of twelve questions to be answered by respondents by selection on answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies (Rogers 1995, 2003; Moore & Benbasat 1991; Wynne 2004; NSW, Public Accounts Committee 1996, P.30). Please refer to Appendix B.1 for more details.

2. Compatibility

Operationally, this is defined as "the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of the potential adopters" (Rogers 1995, 2003). It details the extent of the new system to fit into the system social structure and the individual in the organisation adopting the new system. The system

should have low level of risk and uncertainty to the potential adopters. The new system helps the organisation members and gives meaning to the new accrual basis of accounting system so that they gain more familiarity. This construct contains four questions, which are rephrased to fit the context of this study, to be answered by respondents by selection on answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies (Rogers 1995, 2003; Moore & Benbasat 1991). Please refer to Appendix B.1 for more details.

3. Complexity (Ease of Use)

Operationally, this is defined as "the degree to which an innovation is perceived as being relatively difficult (or easy) to understand and use" (Rogers, 1995, 2003). It details the level or extent from being easy to being difficult to the potential users. This construct contains six questions, which are rephrased to fit the context of this study, to be answered by respondents by selected on answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies; Davis (1989) and Moore & Benbasat (1991). Please refer to Appendix B.1 for more details.

Section (B) : This consists of three major constructs used in this study that would address the attributes of organisational support, attitude toward change to the new innovation the adoption of accrual basis of accounting, and the level of readiness for organisational change that will facilitate the adoption and implementation of accrual basis of accounting by

central government of Yemen. These three constructs are expressed in term of its measurement in more details as follows :-

1. Organisational Support

Operationally, this is defined as the degree of organisational encouragement and resource capability that facilitate the adoption and implementation of accrual basis of accounting system by the central government of Yemen. This construct contains eight questions, which are rephrased to fit the context of this study, to be answered by respondents by selected on answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies; Igbaria 1990. Please refer to Appendix B.1 for more details.

2. Attitude Toward Change

Operationally, this is defined as the degree that an individual will have if positive or negative feelings - evaluative effect - about performing the target behaviour. This construct is very important and related to the process of adoption and implementation. Members of the social system in the organisation feelings and positions do matter negative attitude will hinder the whole project of innovation adoption. Therefore, it is essential to have related members in the organisation in charge get involved in the reform process and all the way have positive attitude the change for the cash basis to the accrual basis of accounting. This construct contains twenty four questions, which are rephrased to fit the context of this study, to be answered by respondents by selected on answer from five choices for each

question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies; Dunham et al. 1989. Please refer to Appendix B.1 for more details.

3. Readiness for Organisational Change

Operationally, this is defined as a comprehensive attitude that is influenced simultaneously by the content, the process, the context, and the individuals involved. Readiness collectively reflects the extent to which an individual or individuals are cognitively and emotionally inclined to accept, embrace, and adopt a particular plan to purposely alter the status quo. This construct contains twenty five questions, which are rephrased to fit the context of this study, to be answered by respondents by selected an answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies; Holt et al. 2007. Question number 26 is given as an open-ended question to respondents to freely express their opinions on items that they might find not address in the content of this scale. Please refer to Appendix B.1 for more details.

Section (C) : This section covers the role of the change agent in the reform process, the possible obstacles or barriers the reform might face or hinder the adoption and implementation of accrual basis of accounting system change, and feasibility of such accounting change to happen. Three constructs will be addressed in details in this section; the role of the change agent in the adoption and diffusion of the innovation, the barriers that might block or hinder the adoption of the innovation, and the feasibility of adopting and

implementing accrual basis of accounting in central government of Yemen. The following sentences will address in detail every one of the three constructs :-

1. The Role of Change Agent (s)

Operationally, this is defined as the professionals in specific fields of knowledge who influence clients' innovation-decision in a direction deemed desirable by the change agency (Rogers 1995, 2003). This construct contains six questions, which are rephrased to fit the context of this study, to be answered by respondents by selecting an answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies (Rogers 1995, 2003). Please refer to Appendix B.1 for more details.

2. Barriers to Organisational Change

Operationally, this is defined as elements of human, technology, knowledge, resources, organisational etc. that block or hinder the intended reform change processes' progress. This construct contains twelve questions, which are rephrased to fit the context of this study, to be answered by respondents by selecting an answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies Lüder 1992, 1994, & 1996; Ebrahim & Irani (2005). Please refer to Appendix B.1 for more details.

3. The Feasibility of Accrual Basis of Accounting Adoption and Implementation

Operationally, this is defined as the intention to measure the ground reasons that are behind the new system preference and the strong possibility or likely – suitability or capability-applicability for such system to be carried out or dealt with successfully. This construct contains fourteen questions, which are rephrased to fit the context of this study, to be answered by respondents by selecting one answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies; Lapsley (1986) & Kluvers (1999). Please refer to Appendix B.1 for more details.

Part Four: Innovation and Information Technologies

This part covers the technological attributes of governmental infrastructure for Information Technology (ITI) and for E-Government as an enabler, that facilitates the adoption and implementation of accrual basis of accounting system to change to prevailing system and be ready at the information age. It is essential for Yemen central government to have an adequate and capable information technology infrastructure which will support the technical needs for the reform change and facilitate the needs to rise up to the information age and get online E-Government. These two constructs will be addressed in more details as follows :-

1. IT Infrastructure

Operationally, this is defined as a comprehensive measure used to evaluate networks, data bases, practices, and applications – soft programmes that are used in the government, financial and non-financial – and the level of management, maintenance, and development.

This construct contains forty three questions, which are rephrased to fit the context of this study, to be answered by respondents by selecting one answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies; Lewis & Byrd (2003). Please refer to Appendix B.1 for more details.

2. The Benefits of E-Government Services

Operationally, this is defined as a measure that summarises the perceived expected benefits that will be gained as a result of adopting E-government by a government unit or agency. This construct contains twenty-seven questions, which are rephrased to fit the context of this study, to be answered by respondents by selecting one answer from five choices for each question using a Likert scale; 1 strongly disagree to 5 strongly agree. The items for this scale are adopted from previous studies, of which eleven questions adopted from Tung & Rieck (2005). The remaining sixteen questions are self-developed by the research to cover the needs for this study that are related to accounting. Please refer Appendix B.1 for more details.

4.8.2 Interview Survey

This interview survey is intended to complement the questionnaire survey and to get in-depth information, from those (champions) who are or were involved in the formalisation and approval of the reform policy and change. The interview developed to get cross-sectional as much information as possible from top executives' policy makers, ministers and their deputies, profession bodies in Yemen, and head of technical departments. Personal

approach and contact exercised across many administration and political channel to get these interviews accomplished. An official letter from Sana'a University signed by the vice Chairman of the University was issued and delivered in person to each interviewee.

The interview protocol developed for this study is constructed carefully to reflect the reality in the ground or in the field of research based on data collected from archival research and from the intensive literature review in addition to the comments and observations gathered from persons in charge at the ministry of finance in Yemen and at COCA. Each interviewee based on their request was given (in advance) a copy of the interview protocol. The interview opens with a general statement briefly addressing the objective of the study under research, and an outline of the main parts of the interview. Then an open letter from the researcher, detailing the core of the study its importance and the value of the data that he will provide - the research name, address and phones and emails are attached - directed to the interviewee accompanied by a copy of the supervisor's letter of support. Then an introduction of the main concepts of the study briefly stated followed by an interview schedule containing the date, the time, and place of conducting the interview. To this point the introductory informative part is accomplished. The remaining content of interview protocol consist of three axes; the first axis deals with background information on the interviewee, while the second axis deals with characteristics of Yemen governmental accounting and information systems – currently in place, and finally the third axis deals with perceptions and opinions on governmental accounting innovations and developments.

The three axes will be explained briefly as follows :-

The First Axis: Background Information

In this axis the interviewees are asked questions on information related to their place of work, position, length of period of service, academic qualification, profession affiliation and the number and type of publications he or she has made locally or internationally and if that involved some studies on the reform or and change of the government accounting and budgeting systems, and other activities he or she was engaged in. The intention was to give each interviewee the space and time to freely express himself or herself on matters related to the subject of this research's study or to other matters that are linked directly or indirectly to the subject, the sort of information that give richness to the data used in this study. For more details see Appendix C.2.

The Second Axis: Characteristics of Yemen Governmental Accounting and Information Systems – currently in place

In this axis interviewees are asked questions based on their opinion on the prevailing characteristics of the central government accounting and information system and on the decisions taken by the Yemen Cabinet of the change from the cash basis of accounting to the accrual basis of accounting now and why now. To accomplish this axis, eighteen questions were presented to the interviewee to answer. Issues on the cash basis accounting and the driving forces for change are asked and the role of him or her in formulating the reform change ideas from start to the level of decision. Other questions relate to the role of Ministry of Finance, COCA, and political parties involved in the process to reach a consensus on what to do and how to deal with such reform change matter at all levels in government. Other questions asked on the government institutional framework and on the

government accounting and reporting policies. Other questions asked on the involvement of information technologies, the internet, and E-Government and effect in the reform and change process and the levels they reached. The levels of intergovernmental web-linking and operations across the units of central government are to be linked through special system of the government. Other questions asked on the level of commitment of the political and administrative leadership to the reform and change policies. Also questions asked on the need for legal amendments, for institutional training and qualification organisations, and for financial and political support. All questions are opened and asked for more and additional information. The interview might see the researcher not including his questioning of more detailed or general issues. For more details see Appendix C.2.

The Third Axis: Perceptions and Opinions on Governmental Accounting Innovations and Developments

It was under Public Sector Financial Management and the modernisation of the government financial and accounting information system, the Ministry of Finance initially adopted the International Monetary Fund (IMF) 2001 Government Finance Statistics (GFS) – which is an accrual-based system - under the budget and accounting reform and the time was set to present the budget under the new system starting from the fiscal year 2007. Then the Minister of Finance issued a decree on the adoption of the International Public Sector Accounting Standards (IPSAS) issued by the International Federation of Accountants (IFAC) Public Sector Committee. The interviewee was asked to provide his or her opinions on questions of the factors that led the government to reform and change its accounting and budgeting system, the influences, and the barriers that hinder the Yemen central government to adopt and implement accrual basis of accounting as part of the reform

project portfolio. How the transition in his or her opinion will proceed and the time span needed to accomplish the whole package of reform. How he or she evaluated the new system of accrual basis of accounting in comparison of the existing modified cash basis accounting system. Interviewees were then asked questions on the advantages the government will get from the adoption of accrual basis of accounting and reporting system and on the compatibility and level of complexity of the new system. Other questions were asked on the level of support and readiness for such huge event and the reactions and attitudes across the government units in charge regarding the matter. Other questions regarding the change agent, the information technology infrastructure level the government have to support such change and the foreseeable effect that government units will get as a result of the benefits expected from the adoption of E-Government services. A copy of the full interview survey protocol is attached. Please refer to Appendix C.2 for more details.

4.9 Data Collection

The data collected through the questionnaire survey was taken through two waves; the first wave collected for pilot testing from thirty (30) respondents, of who are eight respondents PhD colloquies majoring in accounting and finance at the University of Malaya collected on mid May 2009. Then twenty (20) questionnaires were collected at the last week of June 2009 from respondents at Sana'a University and other organisation in the field in Sana'a the capital of the Republic of Yemen. After conducting the pilot test and getting the acceptable level of the measurement reliability, the researcher adjusted the questionnaire survey and conducted the second wave of collecting the data from the designated respondents. The distribution of the sample questionnaire to respondents took place from mid-July 2009 until mid-August 2009 and the collection of the respondents' responses took

longer time than was planned due to occurring of two official vacations “Eidulfitri & Eiduladha”.

4.9.1 Questionnaire Delivery to Respondents

The data from the questionnaire survey sent to respondents by special mail delivery carried by the government ministry/ authority, e-mail, or personally delivered to respondents.

4.9.2 Personal Supervision

Personal supervision was exercised on respondents at the site and an IT specialist had been hired to help in explaining the technical paraphrases in the questionnaire. It was planned to get at least 10 responses a day with the help of the government officials. However, in reality this was very difficult. It was estimated to collect the whole data within a time frame of two months, but the actual time took five months because the time of collecting the was before Eidulfitri and Eiduladha. These are two major Muslim occasions.

4.9.3 Population of the Study

The population of this study is estimated based on data gathered from the central government ministries, agencies and authorities, general financial managers and their deputies, government financial officers, chief accountants and auditors, accounting and auditing department heads. From the MoF and COCA a list of all government accountants and auditors have been obtained.

The total number estimated should not be less than (1000) one thousand. The targeted questionnaires to be collected should not be less than (200) two hundred so that the analysis will provide sound results.

4.9.4 Unit of Analysis

The unit of analysis is individual. This study attempts to get Yemen's Ministry of Finance (MOF) and central organisation for accountability and audit (COCA) opinions on the feasibility of the adoption and implementation of accrual basis of accounting to replace cash basis accounting.

4.9.5 Sampling Techniques

Judgmental (or purposive) sampling technique is used in this study. It is a non-probability technique in which experienced individual (the researcher) selects the sample based on his judgment about some appropriate characteristics required for the sample members. That is to serve specific purpose (Zikmund, 2003, p. 382) stated that :-

"Judgment or purposive sampling is a non-probability sampling technique in which an experienced individual selects the sample based on his or her judgment about some appropriate characteristic required of the sample members."

The questionnaire delivered assumed to get at least 25% of the Questionnaires responses, which is considered to be sufficient to perform sophisticated and complex data analysis.

4.9.6 Sampling Size

The sample size is estimated based on the data obtained from the ministry of finance government accounts sector listing all existing staff that is in the position of head department, controllers, financial managers, general managers for financial affairs and their deputies and the same from the Central Organization for Control and Auditing (COCA) Yemen. The total population is estimated to be within the range (5,000 to 13,000). The number of 5,000 represent more than the number provided from both the ministry of finance and COCA considered as the lower level of the range, while 1,3000 is considered the top maximum number of estimate from the central government administrative population working at the specified positions.

Therefore, the sample size is calculated based on judgmental sampling approach of the researcher experience of 5% of the high level of the population range (13,000X5%) to be six hundred fifty.

According to Tabachnick and Fidell (2007, p. 123) in multiple regression from a practical view in addition to theoretical considerations, as a rule of thumb the sample size mathematically calculated as fifty plus the eight times the number of predictors, independent variables (IVs), therefore the sample size for this study is calculate as at least:

$$\begin{array}{llll} \textit{The lower calculated sample size} & \geq & 50 + (08) \times (\text{IVs}) & \\ \text{“} & . & \text{“} & \geq 50 + (08) \times (10) \\ \text{“} & . & \text{“} & \geq 50 + (80) \\ \text{“} & . & \text{“} & \geq \mathbf{130} \end{array}$$

Therefore, initial sample size of questionnaires distributed to respondents was six hundred fifty (650) and the expected number to be collected to be not less than (200), which is greater than the calculate number of (130) above.

4.9.7 Measurement Issues

Most of the variables and constructs have valid and reliable measures from previous research the selected ones will be tailored to fit the intended objectives and requirements of this study. Factor analysis will be performed to assure the validity and reliability of each construct measurement.

4.10 Pilot Test and Reliability Test

According to Malhotra (2004, p.301) a questionnaire testing on a small size sample is used for the improvement of the questionnaire by identifying any potential problems then eliminate them. Zikmund (2003, p.64) on the other hand, pointed out that pretesting is “the administration of a questionnaire to a small group of respondents in order to detect ambiguity or bias in the questions”. A pilot test was used to detect the possible weaknesses that might found in design and instrumentation and to supply proxy data for the choice of a probability sample, drawn from the targeted population (Cooper & Schindler, 2003). Moreover, pilot testing of survey instrument was necessary to determine its capability of generating the required responses from the target population (Malcolm, 2003). This study used a pilot test to determine the clarity, appropriateness, and suitability of all stated statements and questions by selected respondents. The outcomes of this test then reflected

by refining and adjusting some of the questionnaire survey statements phrases and order prior to distributing the sample volume to designated respondents.

The collected responses for the pilot test keyed-in to an SPSS data file and the proper procedures were taken to insure data consistency and accuracy. Items related to every construct have been initiated by using the transformation procedures. Then a reliability test was conducted. Table (4.1) demonstrates the reliability test-results.

Table (4.3): Pilot Test Reliability Results Summary

Construct/Variable Name	No. of Items	Chronbach's Alpha
Training	4	.836
Stimuli for Change	12	.858
Government Accounting Organisation Framework	16	.773
Government Accounting & Financial Reporting Policies	34	.894
Accrual basis of accounting Relative Advantage	12	.933
Accrual basis of accounting Compatibility	4	.895
Accrual basis of accounting Complexity (Ease of Use)	6	.843
Organisation Support	8	.893
Attitude Toward Change	24	.760
Readiness for Organisational Change	25	.635*
The Role of Change Agent	7	.909
Change Barriers	12	.816
Accrual basis of accounting Adoption & Implementation Feasibility	14	.940
Information Technology Infrastructure level	43	.983
E-Government Benefits	27	.966
Total Number of Items	248	
Total Reliability Averaged-Index		.862

**The lowest reliability reading*

According to Malhotra (2004), the lowest reliability level that can be accepted has to equal 60% and above for testing instrument survey. As can be seen in table 4.1 above that constructs' reliability test readings lay within the range (0.635 ~ 0.983). These results pointed out to an acceptable level of reliability thereafter, distributing and collecting the remaining questionnaires from respondents can be initiated.

4.11 Data Analysis Approaches

The data gathered for this study from two main primary sources the questionnaire survey and the interview survey and from one secondary source of data archival data in the form of government official documents that includes the country institution, laws, bylaws, regulations, decrees, and some specialised and research studies. This section highlights the appropriate approaches that are going to be used in conducting data analysis for each type of the data collected in this research study. The following subsections detail these approaches :-

4.11.1 Questionnaire Survey Data

The data gathered by the questionnaire survey keyed in to the selected SPSS 18 for windows and the appropriate statistical techniques used. Since almost all data collected were based on Likert five points scale. Metric techniques were used. Closed ended questions were coded for all collected cases (responses). Whole data reliability test had to be done, after cleaning the data and checking for missing data. After maintaining an acceptable level of reliability, descriptive statistics had to be

generated to detect the characteristics of the respondents and the study constructs. Open ended questions separated and categorized for further analysis and for insight and deep explanation to verify the results.

The data were checked for normality and for tested against the preconditions needed for conducting EFA and multiple regression analysis. Then factor analysis had to be done in order to get the appropriate number of factors or constructs after eliminating crossover loading items. That would facilitate the road to conducting regression and multiple regression analysis for exploratory multi variates analysis.

The results from this stage will be carried over to structure equation modeling (SEM) in order to get the path and confirmatory analysis. Partial least squares (PLS) techniques are used. Smart PLS 2.0 – M3 a second-generation software application will be used in this research study. Chapter five provides in-depth data analysis that will cover all the approaches specified in this chapter.

4.11.2 Interview Survey Data

The data collected from the interview survey from eleven interviewers were categorised and code themes were generated. The analysis conducted manually because the small numbers of the interviews collected. The aim of the qualitative data is to get more in-depth data and to support the questionnaire survey results. Moreover, one of the main issues that can be obtain from this data concerns research question number two, which asks for the environmental conditions surrounded the reform change. There are many software programs that can be used to analyse qualitative data such as NUD*IST, NVIVO, and others. However,

because the number of the interviews collected in this study is considered small, the researcher coded and retrieved the results manually. This part of the data analysis will be explored in more details later on in chapter five.

4.12 Chapter Summary

This chapter highlighted the paradigmatic and theoretical approaches, used in this study and explains the research methods. The chapter started with an introduction followed by the philosophical and theoretical assumptions directing the study and the concept of mixed method. Then the detailed the approaches for the questionnaire and interview surveys to be used for gathering the data and for data analysis.

CHAPTER FIVE

ANALYSIS AND FINDINGS

5.1 Introduction

This chapter explains the process of analysing the data to get into the results by utilising Exploratory Analysis (FA) techniques through the software application called Statistical Package for Social Science (SPSS) release no.18 and (SmartPLS. 2.00 – M3) for Structural Equation Modelling (SEM). This chapter consists of two main parts; the first part addresses the analysis and results of the data quantitative data collected by the questionnaire survey; the second part addresses the qualitative analysis and results of the data collected by the interview survey. This section (5.1) provides the introduction. Next section (5.2) presents the analysis and the results from the questionnaire survey s follows. Sub section 5.2.1 provides a discussion on the preliminary analysis of the data. This is followed by 5.2.2 delivers the correlation analysis and results. Section 5.2.3 addresses exploratory factor analysis and results. Section 5.2.4 analyses and discusses the results of the research study constructs' measurement validity, section 5.2.5 addresses hypotheses testing and results and finally section 5.2.6 provides a thorough analysis and discussions of the structural equation modelling (SEM) by PLS path modelling. Section 5.3 discusses the findings from the interview survey while section 5.4 provides a discussion of the all findings in this chapter and finally section 5.5 concludes this chapter with a brief summary of the events covered in this chapter.

5.2 Questionnaire Survey Results

The aim of the questionnaire survey designed for this study was to gather as much information as possible about the phenomena of this research study to examine the relationships of the independent constructs on the dependent construct, the feasibility of adopting and implementing accrual basis of accounting, through the mediating construct attitude toward change and the role of moderation construct E-Government.

5.2.1 Preliminary Data Examination

Data collected from the questionnaire survey have to be prepared before proceeding into data analysis. The data edited, screened, checked for inconsistencies and for missing of values, and treated for outliers and extreme values to achieve normality. Furthermore, data distribution was examined to meet the main conditions, normality, linearity, Multicollinearity, and homoscedasticity, for performing multivariate data analysis (Ha,ir et al. 2006; p.79).

5.2.1.1 Data Preparation

This part of the study utilises the Statistical Package for Social Science (SPSS) release 18, for windows, to analyse the data. Malhotra (2004, p. 402) listed several steps to prepare the data for analysis based on preliminary plan of data analysis. These steps are data checking, editing, coding, transcribing, cleaning, and adjusting. Data transcribing is not relevant to this study. However, all other steps are used in this study.

5.2.1.1.1 *Questionnaire Checking*

The questionnaires returned back from respondents checked for completeness and quality conditions during the fieldwork of collecting the data. Six points checked, incomplete ones removed, only respondents who read and understand the instructions and the follow of questions responses are kept, no incomplete response accepted, and only 203 responses of qualified respondents accepted (see table 5.8).

5.2.1.1.2 *Editing Respondents' Responses*

Editing is intended to increase the accuracy and precision of the questionnaires returned. The researcher in some cases returned to respondents who are very qualified for clarification, missing answers, and ambiguous response. While some of the unsatisfactory responses reviewed removed and put aside. Only complete and satisfactory responses accepted and keyed in for data analysis. No missing values found among the total net respondents' responses gathered for data analysis two hundred and three (203). Details on missing and out of range values presented in details in (5.2.4.1) next.

5.2.1.1.3 *Coding Collected Data for Analysis*

Coding means assigning numerical figure for a possible response of a question presented in the questionnaire survey. That is to quantify such responses to be subject for statistical data analysis. Normally the output result of coding is called the codebook. All questionnaire items including the demographics, dependent, independent, mediating, and moderating variables coded numerically to serve as a codebook for statistical analysis.

Table (5.1): Coding Collected Data from Questionnaire Survey

Construct Name	Code	Question Number	Response Format	Negative Worded Items Reversed
<u>Demographic Variables</u> All variables listed were coded (variables) names abbreviated. (see demographic profiles)	Varies	Multiple	Scale Type Multiple	Non
<u>Framework Constructs</u> Stimuli Change Agent Relative Advantage Compatibility Complexity or (Ease Of Use) Organisation Support Organisation Readiness for Change Barriers to Change IT Infrastructure E-Government Benefits Attitude Toward Change AdoptionFeasibility	T.STIM C.AGNT R.ADV COMPT COMPLX ORG.S T.RDNS BARRIs T.IT.Infra E.GOVt T.ATTIT ADPTN.F.	1-12 1-07 1-12 1-04 1-06 1-08 1-25 1-12 1-34 1-27 1-24 1-14	Continuous 1 to 5 1 to 5 1 to 5 1 to 5 1 to 5 1 to 5 1 to 5 1 to 5 1 to 5 1 to 5 1 to 5	
<u>Government Accounting</u> Institutional Framework Accounting & Financial Reporting Policies	. GAIFW GAFRP	1-16 1-34	Continuous 1 to 5 1 to 5	

5.2.1.1.4 *Data Cleaning (Screening)*

Data cleaning is a thorough and extensive check for consistency and treatment of missing values. Extensive checks for consistency, specifies data that are out of range, logically inconsistent, or contains extreme values. Data that have values out of the coding schemes are unacceptable and have to be corrected, Malhotra (2004, p409-10).

5.2.1.1.5 *Consistency Checks*

Consistency checks' procedures are used to identify the data out of range, logically inconsistent, or extreme values that must be corrected (Malhotra ,2004). Collected data from the field are checked manually for consistency and for missing values prior to entering the data into the computer program SPSS for data analysis. Some respondents were contacted for minor missing values and inconsistent answers and thereafter corrected, while for others, those who had missing values and inconsistent answers were monitored on spot (based on some discussions of interest on part of his or her answers) at the time of receiving the answered questionnaire and corrected at once by respondent. On the other hand, other respondents who submitted their answers containing material missing values and inconsistent answers excluded from the data for analysis. The above procedures followed at the field meant to minimise errors as much as possible. Therefore, after the whole data had entered into the computer one had to run a frequency distribution check to identify out of range and missing values (see table 5.2).

5.2.1.1.6 *Treatment of Missing Values and Out of Range Values*

Missing data is a common problem in data analysis (Tabachnick & Fidell 2007). It is information that is not available for a case or for subject about whom other information is available. This often occurs when a respondent or some of them fail to answer one or more questions in a survey questionnaire (Hair, et al. 2006; p. 40). Missing values are answers to variable (s) (not completed by respondents), that are unknown and out of range values are incorrect data entry, which results in answer gaps or out of range readings. To check for missing values, a frequency distribution run was performed for the whole data collected (203 cases) and it was found that there were no missing values but some out of range

values, which were keyed in inaccurately. The following table lists those out of range values (by case) that have mistakenly entered and defines the corresponding correct values by going back to the complete collected (from respondents) answered questionnaires :-

Table (5.2): Treatment of missing values and out of range values.

Case No.	Variable Name	Missing Values	Out of Range Values	Placing Correct Values
Part 1: 150	<u>Demographics</u> Marital status	0	4	2
23	Work experience	0	8	7
52	Computer usage	0	5	3
51	Internet usage	0	5	3
201		0	5	3
77	Do you have e-mail at work?	0	3	1
136	Do you have internet access at work?	0	4	2
	Do you have personal computer at work?	0	4	2
	Do you have internet connection at work?	0	4	2
	Does your org. have active website?	0	4	2
	Does your org. integrate online with other orgs.?	0	4	2
121	Do you have internet connection at work?	0	22	2
Part 2: 65	<u>Accounting & Fin. Rept. Policies</u> The accounting system based on individual funds	0	6	5
133	Gov. orgs follow commercial accounting principles	0	11	1
100	The books closed promptly after fiscal year end	0	54	4
Part 3-B: 159	<u>Attitude Toward Change</u> Most of my co-workers benefit from such reform change	0	41	4
Part 3-C: 142	<u>ABA Adoption Feasibility</u> ABA system provide better control over inputs & outputs	0	7	4
Part 4: 46	<u>IT-Infrastructure</u> Formal methodology for system development	0	11	1
178	<u>E-Government</u> Paper reduction	0	6	5

A second run of descriptive analysis frequencies, after entering the correct answers, was conducted to check again for any other missing values, the results show no missing values. All 203 cases present no out of range missing values found.

5.2.1.2 Treatment of Outliers and Extreme Values

Outliers are observed data that have a unique combination of identifiable characteristics which vary distinctly from other observations. Usually those values are either too high or too low compared with the other values of the observed data. Outliers might have material impact on the results of the analysis as it shifts the actual mean up or down resulting in an unusual shape of the data (skewness or kurtosis). Based on many authors' recommendations including (Hair, et al. 2006; p. 73&79) outliers in this study are kept and only extreme values and outliers close to extreme values were treated by taking its value to the median value to achieve normality. In this study outliers and extreme values, identified from the residuals of the regression analysis, were found to have effect on the outcomes of both the univariate and multivariate analysis, therefore it was subject to treatment and specified on table 5.3 hereunder.

Reported cases with extreme values and outliers have been modified to achieve normality. Those cases and outliers were traced back to its roots (items or indicators). From all constructs, normalised were only five constructs were subject to treatment, which represent only 1.03% of all data of the study, which is under the acceptable range of 5%. Table (5.3); below document the cases that were under treatment for outliers and extreme values.

Table (5.3): Treatment of Outliers and Extreme Values to Achieve Normality*

Case No.	R.ADV From -To	T.RDNS From -To	T.IT.INFRA From - To	E.GOV From - To	T.ATTIT From - To
26	2.182 - 4.091				
28	2.182 - 4.091				
187		1.620 - 2.231			
30, 32, 40				1.750, 1.833, 1.500-4.083	
13, 21, 22, 30, 40, 46, 75, 159, 163, 193 & 50, 53			1.065, 1.516, 1.742, 1.290, 1.258, 1.194, 1.387, 1.387, 1.290, 1.452 - 3.129 & 4.871, 4.935 - 5		
21					4.238-3.231
26					2.571-3.603
38					3.619-4.497
40					2.238-2.550
62					2.524-3.526
180					5.000-4.950
189					3.333-4.599

*Based on an examination of the regression residuals.

5.2.1.3 Test of Normality

Normality refers to the distributed data shape of a metric variable and its correspondence to the normal distribution. It is one of the most important essential assumptions used in using parametric tests in multivariate analysis. Normality is regarded as the benchmark for statistical methods; results from statistical tests that have large variation from the normal distribution are considered invalid (Hair, et al. 2006; p.79). If the statistical test of normality assumption violated, then all tests of applied using F and t statistics are considered invalid. In normal distribution, 68% of the values lie between ± 1 standard deviation of the mean, 95.5% of the values lie between ± 2 standard deviation of the mean, and 99.7% of the values lie between ± 3 standard deviation of the mean (Darren & Mallery, 2003). Normality in multivariate analysis means that variables are multivariate normal. A

multivariate normal distribution assumption assumes that two variables joint effect is normally distributed. As a rule of thumb, normality is hard to assess, as there is no direct test available to do that (Hair, et al. 2006; p.410-411). This study randomly gathered data sample of 203 of government in charge financial, accountant, and auditor managers in the central government of Yemen, is more than 100 to assume reasonable scale normality (Hair, et al, 2006). The statistical (Z) value for skewness and kurtosis should not surpass the critical value of 0.05 and .001. Data with skewness and kurtosis' values below ± 1.96 ($p < .05$) and ± 2.54 ($p < .01$) close to zero is considered normally distributed. Therefore, multivariate normality is assumed and will reflect no effect on the results of this study. Table (5.4) show that all constructs skewness and kurtosis lay in below the range above that is recommended for normality.

Table (5.4): Normality Test for Main Constructs

CONSTRUCT		NORMALITY TEST	
Name	Type	Skewness	Kurtosis
T.ATTIT	MEV	- 0.708	1.790
STIM.C.AGNT	IV	- 0.336	0.377
R.ADV	IV	- 0.570	0.563
COMPT.COMPLX	IV	- 0.985	1.105
ORG.S	IV	- 0.762	0.647
T.RDNS	IV	- 0.112	- 0.399
BARRIs	IV	- 0.158	0.317
T.IT.INFRA	IV	0.190	0.136
E.GOVt	MOV	- 0.181	- 0.222

5.2.1.4 Examination of Residuals

According to Tabachnick and Fidell (2007), residuals are the values of the difference between the observed values and the predicted values by the regression equation. Malhotra (2004, p. 517) stated that the research can examine the assumption of normally distributed

error term by constructing a histogram of the residuals, which will give a visual look of the distribution whether normal or not. In addition, normality can be obtained by determining the percentage of the residuals that fall within $\pm 1 SE$ or $\pm 2 SE$ and be compared with the expected under normal distribution of 68% and 95% respectively, which have been obtained.

Further, the results of plotting the residuals distribution found to be normally distributed. As Durbin Watson test results lay between 1.5 to 2.5 which was preformed for each independent variable and for all variable found to be within the readings range of low (1.790) and high (1.849). The results of this test confirm the assumption of independancy of errors, indicating that the residuals' values are independent. Table 5.5 below provide the results of multiple regression analysis, which provides readings on the predictive values of R , R^2 , and $R^2 \Delta$ followed by the F value which show significance level of results and Durbin Watson test reading results, which also provide additional support for normality.

Normality therefore, achieved through the examination of residuals scattered diagram for each independent variable and the skewness and kurtosis readings.

Table (5.5): Examination of the Residuals (Summary of Regression Analysis Results)

DV	IV Predictors	R	R²	ΔR^2	F Value	P	Durbin Watson
T.ATTIT	STM.C.AGNT	0.338	0.114	0.110	25.985	0.000	1.892
	R.ADV	0.611	0.373	0.370	119.456	0.000	1.754
	ORG.S	0.548	0.300	0.297	86.196	0.000	1.953
	T.RDNS	0.607	0.368	0.365	116.969	0.000	1.935
	BARRIs	0.225	0.051	0.046	10.734	0.001	1.945
	T.IT.INFRA	0.161	0.026	0.021	5.330	0.022	1.991
	E.GOVt	0.523	0.274	0.270	75.709	0.000	2.011

5.2.1.5 Multicollinearity Identification

Hair et al. (2006) mentioned that Multicollinearity refers to the correlation between two or more independent variables. It happens when any single independent variable correlates highly with a set of other independent variables. He pointed out to two most common and direct measures that are used to assess Multicollinearity. These are tolerance and variance of inflation factor (VIF). The common cut-off threshold of a tolerance value is (0.10), which corresponds to a VIF value of (10). Therefore, as long as the values of VIF is less than (10) then Multicollinearity not of concern (Burns & Bush, 2000). To deal with Multicollinearity, Malhotra (2004) suggested utilising factor analysis techniques so that the independent variables set of the study can be transform into a new set of predictors that are mutually independent. Also Zikmund (2003, p.588) mentioned that the application of factor analysis may reduce the problem of Multicollinearity in multiple regression analysis, thus factor analysis approach meet the assumptions of many research models. Therefore, factor analysis is used in this study for data reduction and specifications as multiple paradigm and multiple theory applications have been used in this study. Table (5.6) points out to the test results of Tolerance and VIF of the predictors that are used in conducting this study. The table shows that all Tolerance and VIF results fall within the acceptable range of larger than (0.10) for Tolerance and lower than (10) for VIF indices stated by Hair et al. (1998). Thus, Multicollinearity has no effect on the predictive ability of the regression models, as there is no Multicollinearity.

Table (5.6): Results of Multicollinearity Test ^a

Model Constructs	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
STIM.C.AGENT	.844	1.185
R.ADV	.737	1.356
COMPT.COMPLX	.725	1.380
ORG.S	.544	1.837
T.RDNS	.530	1.885
BARRIs	.920	1.087
T.IT.INFRA	.825	1.213
E.GOVt	.722	1.385

a. Dependent Variable: T.ATTIT

5.2.1.6 Linearity Assumption

Linearity is a term used to express the concept that the model possesses the properties of additivity and homogeneity. “The linearity of the relationship between the dependent and independent variables represent the degree to which the change in the dependent variable is associated with independent variable” (Hair, et al. 2006; p. 172 & 205). In this study linearity is assumed to be not violated as the study constructs were subject to factor analysis and the results of the scattered diagrams extracted from the multiple regression analysis (see APPENDIX - A) confirms that.

5.2.1.7 Homoscedasticity Assumption Test

According to Hair et al. (2006), homoscedasticity is sought-after as it refers to the assumption that the dependent variables exhibit equal levels of variance across the range of predicting variables. As Tabachnick & Fidell (2007) stated this assumption is related to the assumption of normality and when the multivariate normality met, the relationships

between variables are homoscedastic. This is known as the homogeneity of variance. On the other hand, heteroscedasticity, the presence of unequal variances between the variables as the opposite of homogeneity is does not exist in this study. Therefore, homogeneity in the independent variables exists in this study.

Hair et al. (2006, p. 207) adds to that by mentioning that SPSS provide the Levene test for homogeneity of variance which its use is recommended because it less effected by the departure from normality. The result of this test reveals the homogeneity of variance, which indicates to the existence of equal levels of variance between the variables. *

(see APPENDIX 1 & 2 ... run homogeneity test from the regression' and run Levene test*)

5.2.1.8 Constructs' Measurement Instrument Reliability

Zikmund (2003, p. 300) defined reliability as “the degree to which measures are free from error and therefore yield consistent results”. Moreover, Hair et al. (2006, p.710) pointed out to reliability as a “measure of the degree to which a set of *indicators* of a *latent construct* is internally consistent in their measurements”. Constructs' indicators that have high reliability are highly interrelated demonstrating that all of them are likely to measure the same thing. Constructs measurement reliability have to be tested, prior to moving into the assessment of validity, to ensure its appropriateness.

This research study uses the internal consistency reliability approach to assess the homogeneity of a set of items when several items are summated to form a total score. To achieve that two techniques of internal reliability test are used. The first technique is the **Item-to-total correlation** according to which scale items could be deleted if it record less

than 0.25 (Nunnally, 1978). The second technique is a common approach used mostly by all researchers that is the **Chronbach's coefficient alpha**, which is used in this study to gauge constructs' internal consistence. According to Malhotra (2004, p.268) the coefficient alpha or alpha Chronbach's "is the average of all possible split-half coefficients resulting from different ways of splitting the scale items". The mentioned coefficient lay between the values of (0 to 1). Values of 0.60 and above is considered satisfactory for testing constructs internal consistency reliability. Table (5.7) summarises the results of constructs' internal consistency reliability tests, which exceed the alpha Chronbach's recommended level mentioned above. As can be seen, in the table the lowest internal consistency reliability value found to be (0.635) for attitude toward change, followed by (0.703) for compatibility and (0.733) for readiness for organisational change. The remaining constructs internal consistency reliability values exceed (0.800). Based on the results of all constructs utilised in this study internal consistency reliability maintained, for more details on indicators and constructs' reliability, turn to (APENNDIX - A)

Table (5.7): Reliability Test for Research Main Constructs

CONSTRUCT NAME	CODE	Alpha Chronbach's*
1. Reform Stimuli	STIM	0.811
2. Change Agent Role	C.AGNT	0.873
3. Relative Advantage	R.ADV	0.880
4. Compatibility	COMPT	0.703
5. Complexity	COMPLX	0.832
6. Organisation Support	ORG.S	0.844
7. Attitude Toward Change	T.ATTIT	0.635
8. Readiness for Organisation Change	RDNS	0.733
9. Organisation Change Barriers	BARRIs	0.845
10. I.T. Infrastructure	T.IT.INFRA	0.978
11. E-Government	E.GOVt	0.965
12. Adoption Feasibility	ADPTN.F	0.911

**The values readings for all constructs prior to conducting factor analysis and the treatment of extreme values and outlier*

5.2.1.9 Response Rate and Non-Response Bias

The sample size estimated based on the data obtained from the Ministry of Finance government accounts sector listing all existing staff that is in the position of head department, controllers, financial managers, general managers for financial affairs and their deputies and the same from the Central Organisation for Control and Auditing (COCA) Yemen. The total population is estimated to be within the range (5000 to 13000). The 5000 represent more than the number provided from both the ministry of finance and COCA considered as the lower level of the range, while 13000 considered the top maximum number of estimate from the central government administrative population working at the specified positions. Therefore, the sample size is calculated based on judgmental sampling approach of the researcher experience of 5% of the high level of the population range (13,000X5%) to be six hundred fifty. According to Tabachnick and Fidell (2007, p.123) in multiple regression from a practical view in addition to theoretical considerations, as a rule of thumb the sample size was mathematically calculated as fifty plus the eight times the number of predictors, independent variables (IVs), therefore the sample size for this study is calculate as at least :-

$$\begin{array}{llll} \textit{The lower calculated sample size} & \geq & 50 + (08) \times (\text{IVs}) & \\ \text{“} & . & \text{“} & \geq 50 + (08) \times (10) \\ \text{“} & . & \text{“} & \geq 50 + (80) \\ \text{“} & . & \text{“} & \geq \mathbf{130} \end{array}$$

The initial sample size of questionnaires distributed to respondents was six hundred fifty (650). Questionnaires were distributed to designated respondents, senior level financial and audit managers, accounting and auditing department heads, financial managers, general managers for financial affairs, and their deputies, based on direct instructions from the Minister of Finance and the Chairman of COCA on late July and Early August 2009.

Personal presence and monitoring by the researcher and follow up by deputies in both government institutions resulted in collecting back three hundred sixty seven (367) questionnaires, representing a gross response rate of 56%. Follow up continues for the remaining not received questionnaires of two hundred fifty four (254), however none of them returned. One hundred sixty four (164) questionnaires checked and found to be incomplete, therefore eliminated. Finally, the net responses used in this study were two hundred and three (203), representing a net response rate of 55% of the gross responses.

Actually, the net sample size responses collected in this study, based on random distribution, reached 203 cases considered enough to run structure equation modeling analysis. Table (5.8) demonstrates the analysis results of respondents' response rate, non-response rate (of 44%), and net responses after deducting the incomplete responses.

To minimise the non-response rate a continuous follow up was took place by the researcher and the deputy ministers in charge. This is done through telephone calls, official written requests, colleagues' follow up, or a messenger from the institution office. These procedures in fact results in improving the response rate as much as possible. All respondents address was known by the government institutions officials, who stood by and supported the collection of this study data. At the end gathering 56% responses of the total questionnaires from government agencies is considered more than good.

The questionnaire in fact is designated to address those respondents that have the knowledge and experience in government accounting systems work and that meet a certain level of education and training. In a country like Yemen there are still (at government work) many officials that have limited education. Those people in fact know the daily work procedures and anything asking them for something else will not be welcomed at all.

Because the distribution of the questionnaire was random, those were included. This was supported by the results extracted from the demographic analysis, which show only (5%) oh high school degree and below responded to the questionnaire survey. On the other hand, geographic allocation of respondents was not an issue in this study.

Zikmund (2003, p.178) mentioned that a response bias happens when respondents inclined to answer in a misrepresentation direction, weather intentionally or unintentionally, of the truth. Such behaviour will result in the distortion of measurement that results in sample bias and therefore in a response bias. To estimate the true results, corrective measures should be taken be the researcher. The corrective measures were taken as point out above, besides the net responses' required to conduct the data analysis reached the satisfactory level needed.

Table (5.8): Analysis of Respondents Response Rate

Based on Judgmental Sampling Method	Responses
- Initial Sample Size	650
- No Response (not returned)	- 254
= Total number of received responses	367
- Gross Response Rate	56%
- Less: Incomplete & inconsistent Cases	- 164
= Net Valued Responses Used	203
= Net Response Rate	55%

5.2.1.10 Respondents' Profile

Respondents' profile characteristics received more attention in previous research to describe their qualities that are in most cases important to the path of the study. The studied respondents were professional and hold mostly long-term experience in the field of accounting auditing, information systems and technology, and management. Tables (5.9a) and (5.9b) present the outputs of frequencies of the seventeen variables to explain respondents' profiles. This study composed of net 203 government financial managers and auditors respondents representing two main blocks of the Yemen government the Ministry of Finance (MOF) and the central organisation for accountability and audit (COCA). All financial managers working in all remaining ministries and government agencies are from the ministry of finance and MOF is fully responsible on their work conditions and performance. The statistical results indicate that 85.7% of the total numbers of respondents were men while only 14.3% were women.

1. Gender

Gender consists of 85.7% males while only 14.3% females, due to male domination, see table (5.9a)

2. Age of Respondents

Age of respondents were grouped into four different categories. The group aged 31-40 years was found to be the largest group representing 44.8% of the total sample population followed by age category (41-50 years) representing 30.5%. These two category groups cover 75.3% of the sample total population.

Table (5.9a): Respondents' (Demographic) Profile

Variable Number, Name and Specifics		Frequency	Percent
1 Gender	Male	174	85.7
	Female	29	14.3
	<i>Total</i>	<i>203</i>	<i>100</i>
2 Age	20 - 30 years	31	15.3
	31 - 40 years	91	44.8
	41 - 50 years	62	30.5
	51 years & above	19	9.4
	<i>Total</i>	<i>203</i>	<i>100</i>
3 Work Experience	Under 5 years	16	7.9
	06 - 10 years	48	23.6
	11 - 15 years	36	17.7
	16 - 20 years	40	19.7
	21 - 25 years	36	17.7
	26 - 30 years	16	7.9
	31 - Above	11	5.4
	<i>Total</i>	<i>203</i>	<i>100</i>
4 Education Level	Primary school	1	0.5
	High school	6	3
	2 years diploma	6	3
	Bachelor degree	163	80.3
	Master degree	18	8.9
	Doctorate	6	3
	Others	3	1.5
	<i>Total</i>	<i>203</i>	<i>100</i>
5 Work Location	Higher level branch	50	24.6
	Ministry	107	52.7
	Authority	18	8.9
	Academic institution	16	7.9
	Financial institution	5	2.5
	Others	7	3.4
	<i>Total</i>	<i>203</i>	<i>100</i>
6 Organisation Size	Under 100	18	8.9
	101 - 200	14	6.9
	201 - 300	8	3.9
	301 - 400	4	2
	401 - 500	7	3.4
	501 - Above	152	74.9
	<i>Total</i>	<i>203</i>	<i>100</i>
7 Job Position	General manager	44	21.7
	Deputy GM	24	11.8
	Department head	84	41.4
	Accountant officer	28	13.8
	Internal Auditor	16	7.9
	Others	7	3.4
	<i>Total</i>	<i>203</i>	<i>100</i>
8 English Language Proficiency	Non	9	4.4
	Entry	86	42.4
	Good	92	45.3
	Advance	16	7.9
	<i>Total</i>	<i>203</i>	<i>100</i>

3. Work Experience

This variable was grouped into seven categories to get more specifications on the individual classified under these categories. Category group number two (6-10 Years) of experience comes first with 23.6% followed by category group (16-20 Years) of experience with 19.7% then comes categories three and fourth holding the same percentage (11-15 Years) and (21-25 Years) of experience with 17.7%. These four categories total 78.7%.

4. Level of Education

This variable also grouped into seven categories to get more specifications on the individual classified under these categories. The category with bachelor degrees – university graduates – comes on the top with 80.3% followed by category of those who hold a master degree at 8.9%. These two categories totalling 89.3% represents the majority of the population. This categorisation indicates a high level of education level and professionalism.

5. Work Location

This variable has six categories of the work locations ranked by the authority levels. 50.7% of the total study sample population work at the central government ministries and 24.6 work at the higher branch of the government ranking. These two categories in total represent 77.3%.

6. Organisation Size

The variable is grouped into six level layers each of which holds a number of one hundred (100 employees). Layer 6 represents government organisations, which have

more than 500 employees, got the highest rate of 74.9%, followed by layer one (under 100 employees) of 8.9%, and layer two (of 200 employees) of 6.9%. These three layers rate 50% of the six layers but contain 90.7% of the selected population. Finally, this indicates that the majority of respondents are from big government organisations.

7. Job Position

Respondents of this research study were classified into six groups of government specialised in accounting, finance, information systems, and auditing. Department heads got the highest rate of 41.4%, then general managers with 21.7%, followed by accounting officers with 13.8% and deputy general manager of 11.8% while internal auditors got 7.9% and finally the others came up with 3.4%. The first three positions represented 50% of the grouping which consists of 76.9%.

8. English Language Proficiency

Respondents in this research study were asked in their level of knowledge on English language. Four levels ranked them. Entry level 42.4%, good level 45.3%, and advance level 7.9% while no knowledge level 4.4%. The results show that the majority of 87.7% know little to moderate level (entry level and good level), while those who know much (advanced level) hold only 7.9%. Good and advanced level rated 53.2% of the whole sample of the population indicating a moderate level of English proficiency.

9. Computer usage

Respondents in this research study were asked in their level of knowledge on computer usage. Four levels ranked them; entry level 24.1%, good level 62.6%, and

advance level 9.4% while no knowledge level 3.9%. The results show that the majority of 86.7% had little to moderate level (entry level and good level), while those who know much (advanced level) hold only 9.4%. Good and advanced level rated 72% of the whole sample of the population indicating a good plus level of computer usage, see table (5.9b).

10. General Application Software

Respondents in this research study were asked in their level of knowledge on general application software. Four levels ranked them; entry level 26.1%, good level 49.8%, and advance level 12.8% while no knowledge level 11.3%. The results show that the majority of 75.9% had little to moderate level (entry level and good level), while those who know much (advanced level) hold only 12.8%. Good and advanced level rated 62.6% of the whole sample of the population indicating a good level of general application software.

11. Accounting and Budgeting Software

Respondents in this research study were asked in their level of knowledge on accounting and budgeting software. Four levels ranked them; entry level 34.5%, good level 39.9%, and advance level 5.9% while no knowledge level 19.7%. The results show that the majority of 74.4% had little to moderate level (entry level and good level), while those who know much (advanced) hold only 5.9%. Good and advanced level rated 45.8% of the whole sample of the population indicating a moderate level of accounting and budgeting software.

Table (5.9b): Respondents' Use of Computer and Training

Variable Number, Name and Specifics			Frequency	Percent
9	Computer Usage	Non	8	3.9
		Entry	49	24.1
		Good	127	62.6
		Advance	19	9.4
10	General Application Software	Non	23	11.3
		Entry	53	26.1
		Good	101	49.8
		Advance	26	12.8
12	Accounting & Budgeting Software	Non	40	19.7
		Entry	70	34.5
		Good	81	39.9
		Advance	12	5.9
13	Internet Usage	Non	56	27.6
		Entry	70	34.5
		Good	61	30.0
		Advance	16	7.9
14	Capacity and Availability			
Q. 11:	Do you have (own) a personal computer?	Yes - No	150 - 53	73.9 - 26.1
Q. 12:	Do you have personal e-mail address?	Yes - No	91 - 112	44.8 - 55.2
Q. 13:	Do you have an e-mail address at your work?	Yes - No	56 - 147	27.6 - 72.4
Q. 14:	Do you have access to the internet at your work?	Yes - No	128 - 75	63.1 - 36.9
Q. 15:	Do you have personal computer at your work?	Yes - No	107 - 96	52.7 - 47.3
Q. 16:	Do you have an intranet connection at your work?	Yes - No	148 - 55	72.9 - 27.1
Q. 17:	Does your org. have an active website?	Yes - No	177 - 26	87.2 - 12.8
Q. 18:	Does your org. integrate online with others on the government?	Yes - No	46 - 57	22.7 - 77.3
Q. 19:	Do you have a working experience in the private sector?	Yes - No	61 - 145	30.0 - 70.0
16	Expected Incentives			
	1. Training and Knowledge	Yes - No	170 - 33	83.7 - 16.3
	2. Financial Return	Yes - No	121 - 82	59.6 - 40.4
	3. Higher Social Status	Yes - No	64 - 139	31.5 - 68.5
	4. Better Chance to Get Promoted.	Yes - No	96 - 107	47.3 - 52.7
	5. Support of my superiors	Yes - No	37 - 166	18.2 - 81.8
	6. Higher Chance to Get Better job	Yes - No	92 - 111	45.3 - 54.7
	7. Higher Chance for Higher Education	Yes - No	60 - 143	29.6 - 70.4
	8. Others	Yes - No	12 - 191	5.9 - 94.1
17	Training			
1.	General courses in accounting and budgeting at a specialised institution, collage, or university.	None	12	5.9
		slight	5	2.5
		Moderate	49	24.1
		Good	65	32
2.	Provided by the vendors or external Consultants.	None	43	21.2
		slight	20	9.9
		Moderate	23	11.3
		Good	75	36.9
		Extensive	42	20.7
3.	Provided by the government financial institute or by the gov't National Institute of Administrative Science (NIAS), or by others.	None	12	5.9
		slight	15	7.4
		Moderate	25	12.3
		Good	47	23.2
		Extensive	104	51.2
4.	Through self study - through (specialised friend, online resources, books and other material).	None	13	6.4
		slight	18	8.9
		Moderate	66	32.5
		Good	62	30.5
		Extensive	44	21.7
Total			203	100

12. Internet Usage

Respondents in this research study were asked to report their level of knowledge on internet usage. Four levels ranked them; entry level 34.5%, good level 30.0%, and advance level 7.9% while no knowledge level 27.6%. The results show that the majority of 64.5% had little to moderate level (entry level and good level), while those who know much (advanced level) hold only 7.9%. Good and advanced level rated 37.9% of the whole sample of the population indicating a low level of internet usage.

13. Capacity and Availability

In this section of respondents were asked several question intended to present the actual level of capacity they currently have on hand. They were asked the questions to be answered with either yes or no on :-

- <i>owning a personal computer</i>	<i>yes</i>	73.9%
- <i>having a personal email address</i>	<i>yes</i>	44.8%
- <i>having an email address at work</i>	<i>yes</i>	27.6%
- <i>having access to internet at work</i>	<i>yes</i>	63.1%
- <i>having personal computer at work</i>	<i>yes</i>	52.7%
- <i>having internet connection at work</i>	<i>yes</i>	72.9%
- <i>government have an active website</i>	<i>yes</i>	87.2%
- <i>government online integration</i>	<i>yes</i>	22.7%
- <i>have work experience with private sector accruals accounting</i>	<i>yes</i>	30.0%

The results in general show that respondents have capacity at work and in person that is used in personal works and office work, but in communicating and transferring data and information online the results were very low. Respondents' experience on private sector accruals accounting is low 30%, indicating almost no exposure to private sector accounting.

14. Expected Incentives

Respondents were asked to express their opinion (yes or no) on eight groups of incentives they might gain because of the adoption implementation of accrual basis of accounting. They were asked to answer each one of the statements listed below.

The reported answers with yes on the expected incentive of :-

- <i>Training and knowledge</i>	83.7%
- <i>Financial return</i>	59.6%
- <i>High social status</i>	31.5%
- <i>Better chance to get promoted</i>	47.3%
- <i>Support of superiors</i>	18.2%
- <i>Higher chance to get better job</i>	45.3%
- <i>Higher chance for higher education</i>	29.6%
- <i>Others</i>	5.9%

The results reflect respondents' interest to get training and knowledge and to get better income is the most important incentive of all, which reflects the results found above in (15) of low gross income.

15. Training

The purpose of getting information on training is to evaluate the level of training that should have been carried over to designated staff in order to carry out the reform change works. Respondents were asked on five main issues on the training matter. Their answers should be declared on the scale extent from non-to-extensive training. The four issues regarding training identified are :-

- General courses in accounting and budgeting at a specialised institution, college, or university, were given to respondents and classified as good and extensive (67.5%). Moderate training level reported (24.1%). No training and slight training reported at (8.4%).

- Training provided by vendors or by external consultants respondents' think good and extensive (57.6%). Moderate training level provided to them by vendors or consultants reported at (11.3%), while no training and slight training reported at (31.1%).
- Training provided by government financial institutions or by the government national institute of administrative science (NIAS) or by other government institutions reported at good and extensive level of (74.4%). Moderate level of training reported at (12.3%), while no to slight training levels reported (13.3%).
- Finally, self-developed training through specialised friends, online resources, books and other materials reported at good and extensive levels of (52.2%). Moderate level of training reported (32.5%), while none to slight training levels reported at (15.3%).

The results indicate an acceptable level of training had been given to government-designated staff. However, more and contentious training programs are need because the adoption and implementation of accrual basis of accounting is a long process project that may take years to accomplish.

5.2.1.11 Descriptive Statistics

Comprehensive and descriptive statistics are used to cover the issues provided as a result of data collected from the field in parts two and three of the questionnaire survey. The first part of the study will provide a statistical descriptive analysis for part two of the questionnaire survey, which was mainly intended to identify the characteristics (attributes) of government accounting system of the central government of Yemen. It covers two main

broad issues of the system. Government accounting institutional framework (construct one) and government accounting financial reporting policies (construct two).

The ‘institutional framework’ inquiries relate to professionalism and independence, the private sector influence, the system functional integration, and the level of centralisation. While the ‘policy’ inquiries, ask about the objectives of the system, the criteria and measurement rules of accounting recognition, financial reporting practices, contents, and the dissemination of financial information (Chan, et al. 1996, p.13).

Table (5.10a) presents the results of one-sample *t*-test for comparing two means, the test value selected is number three (3) which represents the neutral value of the metric-interval Likert (five-point) scale with the actual mean of data collected answers from respondents. The *T*-test is a statistical technique used to test the hypothesis that the mean scores of some interval or rating scaled variables will be significantly different from the sample. When testing for differences in means, the assumption is that the sample is drawn from normal distribution and the populations’ variances are equal.

Respondents’ responses on government accounting institutional framework result in general a slight level of agreement in total as can be seen in the mean value of 3.262 with a *t*-value of 9.274, which is very significant. By looking at the results in details, respondents’ responses indicate that the professionalism and independence slightly existing as confirmed by the mean value of 3.35 which *t*-value of 8.961, which is significant. This points out in average, that the accounting system is highly controlled by the administration, the chief finance officer is not officially required to be a public finance professional, and highly confirm the independence of the government auditors. Private-sector influence on

government accounting system result indicates a slight agreement of their influence with mean of 3.32 and t -values of 6.157 which are significant. All respondents agree that accounting and reporting standards are based on legal requirements with mean 4.26 and a t -value of 21.05, and respondents with mean 2.38 and a t -value of -7.65 indicate no participation of the private sector in setting governmental accounting policy. Regarding the functional integration of the system, the results in general indicate a shortage in functional integration. A close look at the items clarifies this matter as all items' results were found to be significant with t -values over 2.5. Items *a*, *b*, *c*, *d* & *i* were delivered with positive results exceeding the benchmark mean (test – value), but items (*e*, *f*, *g*, & *h*) indicate no functional integration with mean results below three. Finally, respondents' responses on the level of centralisation of the government accounting system results show high level of centralisation with mean of 4.42 with t -value of 32.228.

Centralisation is expressed with two item-statements. Respondents' with mean value of 4.48 with t -value 28.71 responses result pointed out that central government dictates the accounting practices of governorates, local authorities, and other governmental units and the accounting function performed by operating agencies within the government subject only to the coordination of a central office with a mean of 4.36 with t -value of 26.96.

Table (5.10a): Descriptive Statistics

CONSTRUCT (to what extent)	Mean	S.D	Median	One-Sample T-Test*		Range	
<i>Government Accounting</i>							
<u>Institutional Framework:</u>				<i>T**</i>	<i>Sig.</i>	<i>Min</i>	<i>Max</i>
<i>1. Professionalism & Independence</i>	3.35	0.564	3.33	8.96	0.00	1	5
<i>2. Private-sector Influence</i>	3.32	0.747	3.50	6.16	0.00	1	5
<i>3. Functional Integration</i>	2.96	0.558	3.00	-1.03	0.30	1	5
<i>4. Centralisation</i>	4.42	0.628	4.50	32.23	0.00	1	5
<i>Total**</i>	3.26	0.40	3.31	9.27	0.00	2.06	4.5
* Test Value (the neutral value) = 3, with <i>df</i> (202) ** $t \geq 1.96$ ($p \leq 0.05$) (Sig. at .05). (2-tailed)							
** Skewness -.046 & Kurtosis .773 indicating construct normal distribution							
<u>Financial Reporting Policy:</u>				<i>T**</i>	<i>Sig.</i>	<i>Min</i>	<i>Max</i>
<i>1. Objectives</i>	3.23	6.11	3.25	5.29	0.00	2	5
<i>2. Accounting Recognition & Measurement</i>	2.58	0.49	2.55	-12.0	0.00	1	4
<i>3. Financial Reporting</i>	3.52	0.68	3.67	10.87	0.30	1	5
<i>4. Content of Financial Reports</i>	3.20	0.57	3.33	4.93	0.00	1	5
<i>5. Information Dissemination</i>	2.76	0.57	2.78	-6.04	0.00	1	5
<i>Total**</i>	2.19	0.40	2.91	-3.08	0.00	1.85	4.1
* Test Value (the neutral value) = 3, with <i>df</i> (202) ** $t \geq 1.96$ ($p \leq 0.05$) (Sig. at .05). (2-tailed)							
** Skewness .424 & Kurtosis .941 indicating construct normal distribution							

For more details see appendix (A-1).

On the other hand, responses on government accounting and financial reporting policy in general reported slightly low level of financial reporting policy with a mean of 2.913 and a *t*-value of -3.077 indicating a significant level of the results of less than 5%. To get a clearer picture one has to look at the five dimensions' results of the main construct.

The first dimension is the objectives of governmental accounting reporting. Responses revealed a slight agreement on the objectives with a mean of 3.23 and a *t*-value of 24.75 presenting a significant level of less than 5%.

The second dimension accounting recognition and measurement reported lower level with mean of 2.58 and *t*-value of -12.04 indicating a significant level of the results of less than 5%. This dimension items analysis indicate that the accounting recognition and

measurement used are still tending toward cash basis accounting more than to accrual basis of accounting.

The third dimension financial reporting responses slightly agreed on closing the books at the end of the fiscal year, periodic reports produced for the managers, and for the general public with mean of 3.52 and a t -value of 10.87 at the significance level of the results of less than 5%. The fourth dimension on contents of the financial reports also agreed slightly on average with a mean of 3.52 and a t -value of 4.93 at the significance level of the results of less than 5%. Finally, the fifth dimension on information dissemination reported a low level with a mean of 2.76 and a t -value of 4.93 at the significance level of the results of less than 5%. This points out to the insufficient level of information dissemination whether it is hard or soft. The results above provide the answer to question number one in this study; “what are the characteristics of Yemen governmental accounting system?”

The second part of the study provide a statistical descriptive analysis of the main constructs of the research framework (model), presented in part three of the questionnaire survey. This part of the questionnaire survey intended to cover governmental accounting innovation characteristics. Table (5.10b) summarises the descriptive statistics results of the independent variables, mediating variable, moderating variable, and the dependent variable. The table detailed out the descriptive statistics of minimum, maximum, mean, standard deviation, and the actual and theoretical ranges of all constructs. The actual range confirms (1, 2, or 3 to 5) matched the theoretical range (1 to 5) for all variables. The results pointed out to five readings of mean values greater than (4.00) for (ADPTN.F, T.ATTIT, R.ADV, COMPT.COMPLX, and E-GOVT) constructs, while the remaining constructs have a mean value higher than (3.00), indicating a central tendency of the observed data.

Table (5.10b): Descriptive Statistics

CONSTRUCT	Mean	S.D	Actual Range		Theoretical Range	
			Minimum	Maximum	Minimum	Maximum
ADPTN.F	4.19	.492	2	5	1	5
T.ATTIT	4.04	.438	2	5	1	5
STIM.C.AGNT	3.37	.568	2	5	1	5
R.ADV	4.19	.487	3	5	1	5
COMPT.COMPLX	4.04	.621	2	5	1	5
ORG.S	3.85	.681	2	5	1	5
T.RDNS	3.81	.423	3	5	1	5
BARRIs	3.18	.772	1	5	1	5
T.IT.INFRA	3.22	.647	2	5	1	5
E.GOVt	4.17	.497	3	5	1	5

5.2.2 Correlation Analysis

Correlation coefficient (r) or simple correlation is a statistical technique summarising the strength of association between two or more metric variables. Normally the predicted results lay in the range of (-1~ +1) where a value of (-1) indicates a perfect negative correlation, while a value of (+1) indicates a perfect positive correlation (Zikmund, 2003, p. 551). Table (5.11) contains a correlation matrix of all variables of the study framework including Alpha Cronbach's Reliability test and Descriptive Statistics (Mean and Standard Deviation). The results point out to no colinearity. In addition, a positive and negative correlation among the variables exists.

Table (5.11): Pearson's Correlations' Matrix with Alpha Reliability, Mean, and Standard Deviation

V. No	Construct Type & Name		Mean	S.D	1	2	3	4	5	6	7	8	9	10
1	DV	ADPTN.F	4.19	.492	(91)									
2	MED	T.ATTIT	4.04	.438	.563**	(87)								
3	IV	STIM.C.AGNT	3.37	.568	.334**	.338**	(81)							
4	IV	R.ADV	4.19	.487	.451**	.611**	.274**	(87)						
5	IV	COMPT.COMPLX	4.04	.621	.309**	.463**	.132	.303**	(83)					
6	IV	ORG.S	3.85	.681	.363**	.548**	.256**	.356**	.482**	(84)				
7	IV	T.RDNS	3.81	.423	.588**	.607**	.215**	.394**	.424**	.594**	(74)			
8	IV	BARRIs	3.18	.772	.008	-.225**	-.008	-.136	-.135**	-.244**	-.164**	(83)		
9	IV	T.IT.INFRA	3.22	.647	.194**	.161*	.246**	.084	.146**	.251**	.336**	-.125**	(96)	
10	MOD	E.GOVt	4.17	.497	.519**	.523**	.261**	.365**	.274**	.351**	.444**	-.034	.263**	(96)

(XX) Alpha Reliability, the values are the ones, which resulted after conducting factor analysis and the treatment of extreme values and outliers

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

N. of Cases = 203

5.2.3 Exploratory Factor Analysis

According to Hair et al. (2006) exploratory factor analysis (EFA) navigates to provide information about how many factors are needed to best represent the data. All measured variables are related to each factor through factor loading estimate. A selection of the acceptable factor loading range from 0.10 and above, the preferred level is above 0.40 for exploratory analysis but values above 0.50 are preferred. Higher values of factor loading (e.g. 0.60 or 0.70) might be used also in studies that aim at confirming theoretical application. Since this study is exploratory and aims at predicting the research model framework, which cannot be generalised because each country has different characteristics and different environmental conditions. However, the model can be used in countries with similar conditions.

EFA have a distinctive feature that is the derived factors from the statistical analysis results, not from theory, and can be named based on the results of factor analysis. The aim of conducting factor analysis is to analyse constructs' indicators in order to verify its discriminant validity, which refers to the ability of the measurement items to differentiate between the objects being measured. In addition, factor analysis is used to reduce the data to lower volume that is meaning full and manageable to be use in further analysis. Factor analysis might be performed to provide a base that is needed by other models statistical assumptions. Prior to the engagement in multiple regression analysis, factor analysis is conducted for this study.

Principle Component Analysis (PCA) is the selected technique used to conduct factor analysis. Stimuli factor analysed alone then all independent constructs, the mediating, and the moderating constructs and finally the dependent construct alone.

5.2.3.1 Stimuli

Stimuli construct consists of twelve indicators placed to PCA to determine the numbers of factors that will represent the items, which will converge. Table (5.12) illustrates the item loading in every factor, which exceeded 0.582 for all the readings in all three factors estimated. Table (5.12) illustrates the item loading in every factor, which exceeded 0.582 for all the readings in all three factors estimated.

Table (5.12): Rotated Component Matrix & Factor Loading for Stimuli

Construct	Item Code	Component			Total Stimuli T.STIM
		1	2	3	
Stimuli	Stm.1	.794			.794
	Stm.2	.671			.671
	Stm.10	.664			.664
	Stm.7	.662			.662
	Stm.12		.763		.763
	Stm.5		.754		.754
	Stm.4		.727		.727
	Stm.11		.583		.583
	Stm.3			.663	.663
	Stm.9			.646	.646
	Stm.8			.639	.639
	Stim.6			.611	.611
<i>Eigen values</i>					6.745
<i>Variance Explained</i>					56.212
<i>KMO</i>					0.764
<i>Chronbach's Alpha</i>					0.811

The results of factor analysis revealed the following :-

1. The presence of three components that are selected with the sum of Eigen values 6.745 that exceed the recommended value of one.
2. Factor analysis provided a solution that accommodates all indicators in three factors those then totalled to explain 56.212% of the variance.
3. Kaiser-Meyer-Olkin assessment value provided is 0.764, which shows that the sampling adequacy for the factors which were appropriate and the Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix.

Some of the items included in this scale were taken from previous studies (Lüder 1992, 1994, &1996) but were not tested by factor analysis; the other items were added and tested by the researcher.

5.2.3.2 Attitude Towards Change

Attitude towards change was factor analysed independently as the construct resembles the mediating construct. The construct consist of twenty-four indicators, placed to PCA to determine the numbers of factors that will represent the items, which will converge. Table 5.13 illustrates the item loading in every factor, which exceeded 0.533 for all the readings in all three factors estimated. The remaining items after conducting factor analysis nineteen five items deleted (Attit.7, 8, 11, 17, & 18).

Table (5.13): Rotated Component Matrix & Factor Loading for Attitude Toward Change

Construct	Item Code	Component			Total Attitude T.ATTIT.
		1	2	3	
Attitude Toward Change	Attit.1	.661			.661
	Attit.3	.596			.596
	Attit.4	.771			.771
	Attit.5	.742			.742
	Attit.6	.638			.638
	Attit.9	.644			.644
	Attit.12	.669			.669
	Attit.13	.681			.681
	Attit.16	.608			.608
	Attit.19		.600		.600
	Attit.20		.744		.744
	Attit.21		.809		.809
	Attit.22		.766		.766
	Attit.24		.534		.534
	Attit.2			.593	.593
	Attit.7			.617	.617
	Attit.8			.640	.640
	Attit.10			.691	.691
	Attit.14			.539	.539
<i>Eigen values</i>					10.527
<i>Variance Explained</i>					50.131
<i>KMO</i>					0.868
<i>Chronbach's Alpha</i>					0.87

The results of factor analysis revealed the following :-

1. The presence of three components that are selected with the sum of Eigen values 10.527 that exceed the recommended value of one.
2. Factor analysis provided a solution that accommodates all indicators in three factors those then totalled to explain 50.131% of the variance extracted.
3. Kaiser-Meyer-Olkin assessment value provided is 0.868, which shows that the sampling adequacy for the factors was appropriate and the Bartlett's Test of Sphericity reached statistical significance supporting the factorability of the correlation matrix.

The items included in this scale were taken from previous study (Dunham 1989). The results confirm the results of previous studies.

5.2.3.3 Adoption Feasibility of ABA

Adoption feasibility was factor-analysed independently as the construct resembles the dependent construct. The construct consist of fourteen indicators, placed to PCA to determine the numbers of factors that will represent the items, which will converge. The remaining indicators after the factor analysis are eleven indicators (Attit.10, 11, and 12 deleted). (Table (5.14) illustrates the items loading into one factor, which exceeded 0.620 for all the readings loaded in the one factor estimated.

Table (5.14): Rotated Component Matrix & Factor Loading Adoption Feasibility

Construct	Item Code	Component	ADPT.F.
		1	
Adoption Feasibility	Fsibltly.1	.783	.783
	Fsibltly.2	.701	.701
	Fsibltly.3	.813	.813
	Fsibltly.4	.751	.751
	Fsibltly.5	.656	.656
	Fsibltly.6	.791	.791
	Fsibltly.7	.738	.738
	Fsibltly.8	.798	.798
	Fsibltly.9	.803	.803
	Fsibltly.13	.620	.620
	Fsibltly.14	.637	.637
<i>Eigen values</i>			<i>6.003</i>
<i>Variance Explained</i>			<i>54.57</i>
<i>KMO</i>			<i>0.920</i>
<i>Chronbach's Alpha</i>			<i>0.91</i>

The results of factor analysis revealed the following :-

1. The presence of one component that is selected based on revolt Eigen value reads 6.003, which exceeds the recommended value of one.
2. Factor analysis provided a solution that accommodates all indicators in one factor, which explains 54.57% of the variance extracted.
3. Kaiser-Meyer-Olkin assessment value provided is 0.920, which shows that the sampling adequacy for the factor was appropriate and the Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix.

The factor analysis above support previous studies by Lapsley (1986) and Kluvers (1999) selected indicators.

5.2.3.4 All Independent Constructs and the Moderator

All independent constructs and the moderating construct chosen to be tested by factor analysis as they considered in a time during the study to be all predictors (see APPENDIX-A).

Table (5.15): Rotated Component Matrix & Factor Loading Range for All Independent Constructs and the Moderator

Independent Constructs Name	Deleted Items	Item Loading Range	Remaining Items		Chronbach's Alpha	Number of Factors
		Low ~ High	Code	= No.		
1. C.AGNT	1	.662 - .788	C.Agnt	6	0.81	1
2. R.ADV	0	.575 - .690	R.Adv	12	0.87	1
3. COMPT.COMPLX*	2	.580 - .777	Compt.Complx	8	0.83	1
4. ORG.S	1	.530 - .665	Org.S	7	0.84	1
5. RDNS	12	.570 - .799	Rdns	13	0.74	4
6. BARRIs	3	.539 - .676	Barri	9	0.83	1
7. IT.INFRA	3	.515 - .855	ITI	31	0.96	2
8. E.GOVt	3	.551 - .828	E.Gov	24	0.96	1
<i>Eigen values</i>					72.901	
<i>Variance Explained</i>					0.669	
<i>KMO</i>					0.834	
<i>Chronbach's Alpha (Average)</i>					0.855	

*The items of the two constructs loaded into one factor.

Table (5.15) provides detailed information about the eight factored constructs. Twenty-five total indicators were deleted, all independent constructs were placed to PCA to determine the numbers of factors that will represent the items, which will converge. The remaining indicators after the factor analysis were eleven indicators in total one hundred ten items. Compatibly and complexity constructs' items loaded into one factor. On the other hand, IT Infrastructure items loaded into two constructs, which thereafter totalled into one factor named (T.IT.INFRA), the other constructs each of which loaded in one factor. The item loading for each construct factor provided the table above indicate the low level and the higher level of loading, which explains the level of variance that comes within the

acceptable range. For all constructs, the lowest level of loading is 0.515 while the highest loading level is 0.855 indicating that all constructs loading is acceptable to conduct the research study. As indicated by Hair, et al. (2006) the acceptable loading level of at least 0.50 and preferred if more than 0.70.

The results of factor analysis revealed the following :-

1. The presence of one component that for every construct except two (RDNS) of four factors and (IT INFRA) which were loaded in two factors. All come with Eigen values totalling 27.901, which exceeds the recommended value of one for every construct and for all constructs.
2. Factor analysis provided a total solution that accommodates all indicators in all twelve factors, which explain 66.89% of the variance extracted.
3. Kaiser-Meyer-Olkin assessment value provided for all independent constructs (in total) 0.834, which shows that the sampling adequacy for all factor were appropriate and that the Bartlett's Test of Sphericity reached the statistical significance needed to support the factorability of the correlation matrix.

Factor analysis results above support the factor analysis of previous studies. Therefore, the data after conducting factor analysis for all variables are ready for multiple regression analysis and for structural equation modelling.

The two constructs of 'Change Agent Role' and 'Stimuli' can be combined into one construct as proposed by Godfrey, et al. (2001) in "a diffusion-Contingency Model for Government Accounting Innovation' as the role of change agent becomes valuable and important as the stimuli for reform change become evident.

5.2.4 Constructs' Measurement Instrument Validity

Malhotra (2004, p.269) defined construct scale validity as “the extent to which differences in observed scale scores reflect true differences among objectives on the characteristic being measured, rather than systematic or random error.” A perfect validity assumes the existence of no measurement error. This research study constructs examined for validity by testing two types, content validity and construct validity. To obtain construct validity, three tests of validity have to be performed. These are convergent validity scales correlates with other like scales, discriminant validity scales is sufficiently different from other related scales, and homological validity scale predicts as theoretically suggested.

5.2.4.1 Content Validity

Content or face validity as defined by Hair et al. (2006, p.102) is “the assessment of the degree of correspondence between the selected items to constitute a summated scale and its conceptual definition”. Moreover, Zikmund (2003, p.302) stated that face or content validity refers to subjective agreement between professionals that a scale which logically appears to reflect precisely what it is supposed to measure and the scale content expected to be adequate. When it appears evident to the experts that the scale provides enough coverage of the concept the scale provides face validity. Content validity is assumed as most of the constructs and its indicators selected carefully from prior studies, which has been tested for reliability and validity. Moreover, to improve the content and quality of this study instrument, content validity maintained as copies of the questionnaire have been given to Sana'a University accounting department professors and lecturers during the pilot test. They provided some useful remarks, which were taken care of by modifying the original questionnaire wording and structure prior to the distribution of the questionnaire sample.

5.2.4.2 Construct Validity

Hair, et al. (2006) stated that construct validity is the “extent to which a set of measured variables accurately represent the concept of interest or construct they are designed to measure.” Moreover, Zikmund (2003, p.303) mentioned that construct validity is obtained by the degree to which a measure confirms interrelated hypotheses’ network extracted from theory based on concepts.

Construct validity deals with the question of what characteristic the scale is measuring. The researcher tries to answer the theoretical queries about why the scale works and what deduction can be reached regarding the underlying theory. Therefore, construct validity asks for sound theory of the nature of the construct under use and how it relates to the other constructs (Malhotra, 2004; p.269). In other words, construct validity refers to how a questionnaire measures what it intends to measure. The above forms of validity can be established through correlation and factor analysis (Sekaran, 2003). According to Malhotra (2004), construct validity includes convergent, discriminant, and predictive or nomological validity the most widely accepted forms of validity. This study will address convergent and discriminant validity.

Accordingly, all validity measures in this part represent the outcome results from SPSS calculation results however not representing structure equation modeling (SEM) that are going to be obtained later on in this chapter from Smart PLS, which is a robust software program selected for this study to conduct structural equation modeling and to calculate both analysis.

5.2.4.3 Convergent Validity

Convergent validity is a type of validity, which assess the relationship between theoretical constructs, in order to confirm significant correlations between constructs as specified by theory. Convergent validity is the “extent to which the scale correlates positively with other measures of the same construct” (Malhotra, 2004; p. 269). To measure convergent validity the average extracted variances have to be 0.50 and preferably 0.70 (Hair, et al. 2006; p. 808). Convergent validity is calculated for every construct from the outputs of factor analysis, communalities extracted variance, which were rotated and provided maximum factor loading. The total extracted variance for every construct is, then summed up and averaged to provide the average variance extracted (AVE). Therefore, AVE is obtained. Table (5.16) demonstrates that and every construct AVE exceeds 0.50 as suggested by Hair et al. (2006).

Table (5.16): Constructs’ Average Variance Extracted and its Square Roots

CONSTRUCT NAME	AVE	$\sqrt{\text{AVE}}$
STM.C.AGNT	0.720	0.849
R.ADV	0.573	0.757
COMPT.COMPLX	0.659	0.812
ORG.S	0.621	0.788
T.ATTIT	0.501	0.708
T.RDNS	0.680	0.825
BARRIS	0.559	0.748
T.IT. INFRA	0.711	0.843
E.GOVt	0.706	0.840
ADPTN.F	0.546	0.739

5.2.4.4 Discriminant Validity

Discriminant validity is the extent to which a construct is truly different from other constructs and therefore, provides evidence of its uniqueness and ability in capturing some phenomena other measures cannot (Hair, et al. 2006; p.778).

Discriminant validity is a type of construct validity, which assesses the extent to which a measure does not correlate with other constructs from which it is supposed to differ (Malhotra, 2004). Table (5.17) demonstrates discriminant validity as the square root of AVE value for every construct, in the diagonal correlation matrix, is greater than any value of the correlation coefficient values presented for the other constructs. Therefore, discriminant validity is assumed.

Table (5.17): Correlations' Matrix with the Square Root of AVE , Mean, and Standard Deviation

V. No	Construct Type & Name		Mean	S.D	1	2	3	4	5	6	7	8	9	10
1	DV	ADPTN.F	4.19	.492	(74)									
2	MED	T.ATTIT	4.04	.438	.563**	(71)								
3	IV	STIM.C.AGNT	3.37	.568	.334**	.338**	(85)							
4	IV	R.ADV	4.19	.487	.451**	.611**	.274**	(76)						
5	IV	COMPT.COMPLX	4.04	.621	.309**	.463**	.132	.303**	(81)					
6	IV	ORG.S	3.85	.681	.363**	.548**	.256**	.356**	.482**	(79)				
7	IV	T.RDNS	3.81	.423	.588**	.607**	.215**	.394**	.424**	.594**	(83)			
8	IV	BARRIs	3.18	.772	.008	-.225**	-.008	-.136	-.135**	.244**	-.164**	(75)		
9	IV	T.IT.INFRA	3.22	.647	.194**	.161*	.246**	.084	.146**	.251**	.336**	-.125**	(84)	
10	MOD	E.GOV	4.17	.497	.519**	.523**	.261**	.365**	.274**	.351**	.444**	-.034	.263**	(84)

(XX) The square root of Average Variance Extracted (AVE)

N. of Cases = 203 * $p < 0.05$, ** $p < 0.01$ (two-tailed test)

5.2.4.5 Predictive (Nomological) Validity

Predictive validity is a type, which evaluate the relationship among theoretical constructs in order to confirm significant correlations as theoretical predicted among the constructs. In other words, predictive validity is the extent to which a scale theoretically correlates with other constructs to predict different ways with different measures of constructs that are not related (Malhotra, 2004). Table (5.17) provide correlation readings of constructs to prove predictive validity.

5.2.5 Hypotheses Testing

Performing factor analysis was the first step, the second step is to perform regression analysis, after all assumptions prior to conducting multiple regression analysis have been met. Regression analysis is a statistical procedure use for analysing the association relationships between one metric-dependent construct and at least one metric-independent construct (Malhotra, 2004; p.502). It is this dependence technique that is used to reach predictions results; a flexible, powerful, and handy technique. The application of multiple regression analysis goes in line with the objectives of this research study as explained by the research framework.

This research study utilises multiple regression analysis to examine statistically the effects of the predictors on the dependent construct and tests the hypotheses network associated with them.

The research study model depicted in Figure (5.1) expresses the existence of two regression equations that will to be used to answer the hypotheses for questions three, four, and five.

In the first regression equation, the dependent construct is T.ATTIT and the independent constructs are STIM.C.AGNT, R.ADV, COMPT.COMPLX, ORG.S, T.RDNS, BARRIs, T.IT.INFRA, and E.GONT, while the second regression equation the dependent construct is ADPTN.F and the independent construct is T.ATTIT. The two regression equations may be mathematically expressed as follows :-

Equation One :-

$$Y1 = a + b1X1 + b2X2 + b3X3 + b4X4 + b5X5 + b6X6 + b7X7 + b8X8 + b9X9 + b10X1X8 + b11X2X8 + b12X3X8 + b13X4X8 + b14X5X8 + b15X6X8 + b16X7X8 + e$$

Where :-

$Y1$ = T.ATTIT (attitude toward change)

a = Constant

$X1$ = STIM.C.AGNT (stimuli and change agent)

$X3$ = R.ADV (relative advantage)

$X4$ = COMP.COMPLX (compatibility and complexity)

$X5$ = ORG.S (organisation support)

$X6$ = T.RDNS (total readiness)

$X7$ = BARRIs (barriers)

$X8$ = T.IT.INFRA (total information technology infrastructure)

$X9$ = E.GOV (E-Government) and e = error term

Equation Two :-

$$Y2 = a + b16X10 + e$$

Where :-

$Y2$ = ADPTN.F (adoption feasibility), a = Constant, and

$X10$ = T.ATTIT (attitude toward change) + e = error term

5.2.5.1 Multiple Regression Analysis

Multiple regression analysis was carried out to examine the effects of the independent constructs in predicting the dependent construct. The test was conducted to test the following relationships :-

1. The direct effect of stimuli, change agent role, relative advantage, compatibility, complexity, organisational support, total organisational readiness, reform barriers, and total IT infrastructure, and E-Government on the mediating construct total attitude toward change.
2. The moderating effect of E-Government on the relationship between stimuli change agent and total attitude toward change, relative advantage and total attitude toward change, compatibility complexity and total attitude toward change, organisational support and total attitude toward change, total organisational readiness and total attitude toward change, reform barriers and total attitude toward change, and between total IT infrastructure and total attitude toward change.
3. The direct effect between total attitude toward change and adoption feasibility of accrual basis of accounting.

1. The direct effect between the independent constructs and the mediating construct

The direct relationship between stimuli, change agent role, relative advantage, compatibility, complexity, organisation support, total organisational readiness, reform barriers, and total IT infrastructure, and E-Government on the mediating construct total attitude toward change is presented in the following formula :-

$$Y1 = a + b1X1 + b2X2 + b3X3 + b4X4 + b5 X5 + b6X6 + b7X7$$

Where:

$Y1$ = T.ATTIT (attitude toward change)

a = constant

$X1$ = STIM.C.AGNT (stimuli and change agent)

$X2$ = R.ADV (relative advantage)

$X3$ = COMP.COMPLX (compatibility and complexity)

$X4$ = ORG.S (organisation support)

$X5$ = T.RDNS (total readiness)

$X6$ = BARRIs (barriers)

$X7$ = T.IT.INFRA (total information technology infrastructure) and e = error term

Table (5.18a): Regression Results of Direct Effect

Model	β^c	T	Sig.
1 <u>Coefficients^b of Direct Effect</u>			
STIM.C.AGENT	.107	2.819	.005
R.ADV	.320	6.854	.000
COMPT.COMPLX	.099	2.642	.009
ORG.S	.085	2.144	.033
T.RDNS	.320	5.062	.000
T.IT.INFRA	-.048	-1.425	.156
BARRIs	-.047	-1.744	.083
2 <u>Model Summary^a</u>			
F		41.129	.000
R		-	.772
R ²		-	.596

a. Predictors: (Constant), T.IT.INFRA, R.ADV, BARRIs, COMPT.COMPLX, STIM.C.AGENT, T.RDNS, ORG.S

b. Dependent Variable: T.ATTIT c. Unstandardised Coefficients Beta → For more details (see appendix A - 2)

The results of the regression analysis used to test the following hypotheses :-

- H1&2:* Reform Change Stimuli and The Change Agent Role are positively related to Attitude Toward Change.
- H3:* Relative Advantage is positively related to Attitude Toward Change.
- H4&5:* Compatibility and (Complexity) Ease of Use are positively (negatively) related to Attitude Toward Change.
- H6:* Organisational Support is positively related to Attitude Toward Change.
- H7:* Readiness for Organisational Change is positively related to Attitude Toward Change.
- H8:* There is a relationship between Information Technology Infrastructure and Attitude Toward Change.
- H9:* Barriers are negatively related to Attitude Toward Change.

Table (5.18a) above provides the total prediction results of every independent construct and jointly on the dependent (mediating) construct. The results of the model in general show a significant relationship level (of $F=41.13$, $p=.000$) between the independent constructs and the dependent construct with R of 0.772 and R^2 of 0.596 indicating that variations of all constructs explain 59.6% of the variation in the dependent construct attitude toward change.

Only one construct, which proved insignificant is the information technology infrastructure. On the other hand, the regression results pointed out in Table (5.18a) also demonstrates the predicated results that support or contradict the hypotheses proposed

in this study. As can be seen in hypotheses one + two, three, four + five, six, seven are supported with *t*-values that exceed ± 1.96 two-tailed test. Hypothesis nine has a *t*-value that exceeds ± 1.68 indicating a significant level at 0.05 one-tailed tests.

However, hypothesis eight has low *t*-values indicating no significant level has been achieved. A summary of the direct results of testing the model hypotheses is depicted in table (5.18b). Therefore, hypotheses eight and nine may become significant after entering the moderating construct as an independent variable.

Table (5.18b): Summary of Hypotheses Testing Results Direct Effect

Hypothesis Number	<i>b</i>	<i>t</i>	<i>Sign</i>	Test Result
<i>H1 & 2</i>	.107	2.819	.005	Supported
<i>H3</i>	.320	6.854	.000	Supported
<i>H4 & 5</i>	.099	2.642	.009	Supported
<i>H6</i>	.085	2.144	.033	Supported
<i>H7</i>	.320	5.062	.000	Supported
<i>H8</i>	-.048	-1.425	.156	Not Supported
<i>H9</i>	-.047	-1.744	.083*	Supported

*Significant at 0.05 one tailed test

Hypothesis eight's negative results mean that respondents' evaluation of the total IT Infrastructure level is low, which they consider not enough to meet the needs of reform change from cash basis accounting to full accrual basis of accounting.

2 The Moderating (E-Government) Effect Between the Independent Constructs and the Mediating Construct

To test the moderating effect the moderating construct has to be tested as an independent construct if the moderating reflects a significant predictive effect then it can be tested and treated as a moderator by keeping it as an independent and entering it into the regression formula as a moderation. The R^2 results should produce a noticeable level of increase in its value as it is treated and added as an independent construct on the original model and as it is treated as a moderating construct thereafter. These two steps will be illustrated in detail next. Therefore, hypothesis eight is presented below in addition to the ones presented above in (1) :-

H10: E-Government is positively related to Attitude Toward Change

- a. To treat the moderating construct as an independent construct, this must be performed in two steps. The first step of testing the moderating construct is by taking it into the regression model as an independent construct. If the regression test revealed an increase in the value of R and R^2 then it can be considered for the second stage to be treated as moderating construct. Table (5.19a) results show that the model in general has a significant relationship level (of $F=40.89$, $p=.000$) between the independent constructs and the dependent construct with R of 0.792 and R^2 of 0.628 indicating that variations of all constructs explain 62.8% of the variation in the dependent construct attitude toward change. Thus by comparing the results of the direct approach with the moderating approach it is found that an increase in R (from 0.772 to 0.792) and R^2 (from 0.596 to 0.628) is evident, which indicate a value and effective role of the moderating construct E-Government.

Table (5.19a): Regression Results with Moderating Effect

Model		β^c	T	Sig.
1	<u>Coefficients^b of Direct Effect</u>			
	STIM.C.AGENT	.091	2.481	.014
	R.ADV	.283	6.163	.000
	COMPT.COMPLX	.092	2.525	.012
	ORG.S	.076	1.989	.048
	T.RDNS	.265	4.249	.000
	BARRIs	-.056	-2.146	.033
	T.IT.INFRA	-.065	-1.996	.047
	E.GOVt	.184	4.054	.000
2	<u>Model Summary^a</u>			
	F		40.892	.000
	R		-	.792
	R ²		-	.628

a. Predictors: (Constant), T.IT.INFRA, R.ADV, BARRIs, COMPT.COMPLX, STIM.C.AGENT, T.RDNS, ORG.S

b. Dependent Variable: T.ATTIT c. Unstandardised Coefficients Beta → For more details (see appendix A - 2)

Moreover, by looking at the regression results provided in table (5.19a) also, it is found that all independent constructs become significant including IT Infrastructure, which indicates additional value the moderating construct had contributed to the model.

Table (5.19b) summarised the results of the hypotheses testing because of the positive contribution delivered by the moderating construct e-Government when treated as an independent construct. As can be seen all independent constructs revealed a direct relationship with dependent (mediating) construct, therefore the model hypotheses are supported.

Table (5.19b): Summary of Hypotheses Testing Results with Moderating

Hypothesis Number	<i>b</i>	<i>t</i> -value	<i>Sign</i>	Test Result
<i>H1&2</i>	.091	2.481	.014	Supported
<i>H3</i>	.283	6.163	.000	Supported
<i>H4&5</i>	.092	2.525	.012	Supported
<i>H6</i>	.072	1.989	.048	Supported
<i>H7</i>	.265	4.249	.000	Supported
<i>H8</i>	-.056	-2.146	.033	Supported
<i>H9</i>	-.065	-1.996	.047	Supported
<i>H10</i>	.184	4.054	.000	Supported

- b. Step two, testing the conditional (moderating) effect of E-government on every independent construct as predicted by literature and theory. In other words, by testing the interaction of E-Government with every relationship of all independent constructs and the dependent (mediating) construct as predicted by the stated hypotheses in this study. The process to do this is by entering the moderator E-Government into the regression model using the stepwise approach for every interaction between every independent construct relationship with the dependent (mediating) construct. The hypothesised integrations are set as follows :-

H11&12: E-Government Benefits have a moderating effect on the relationship between Stimuli Change Agent and Attitude Toward Change.

H113: E-Government Benefits have a moderating effect on the relationship between Relative Advantage and Attitude Toward Change.

- H14&15:* E-Government Benefits have a moderating effect on the relationship between Compatibility (Complexity) Ease of Use and Attitude Toward Change.
- H16:* E-Government Benefits have a moderating effect on the relationship between Organisational Support and Attitude Toward Change.
- H17:* E-Government Benefits have a moderating effect on the relationship between Organisational Readiness and Attitude Toward Change.
- H18:* E-Government Benefits have a moderating effect on the relationship between Reform Change Barriers and Attitude Toward Change.
- H19:* E-Government Benefits have a moderating effect on the relationship between IT Infrastructure and Attitude Toward Change.
- H20:* Attitude Toward Change will have an impact on the feasibility of Full Accrual Basis Adoption and Implementation.

Table (5.20a) summarises the regression results of the net interaction of E-Government with all independent constructs. It shows that organisational support among all other interactions was significant. The model in general has a significant relationship level ($F=34.22$, $p=.000$) between the independent constructs and the dependent construct in addition to the interaction of the moderator. The results of the direct approach including E-government as an independent construct and the moderating interaction, was compared. Moreover, an increase in R (from 0.792 to 0.800) and R^2 (from 0.628 to 0.641) is evident. This pointed out to the value and effective role of the moderating construct E-Government with the interaction of E-Government between the relationship of organisational support and the dependent (mediating) construct's total attitude toward change.

Table (5.20a): Regression Results of Moderating Interaction E-Government

Model 1		β^c	T	Sig.
1	<u>Coefficients^b of Direct Effect</u>			
	STIM.C.AGENT	.091	2.481	.014
	R.ADV	.283	6.163	.000
	COMPT.COMPLX	.092	2.525	.012
	ORG.S	.076	1.989	.048
	T.RDNS	.265	4.249	.000
	BARRIs	-.056	-2.146	.033
	T.IT.INFRA	-.065	-1.996	.047
	E.GOVt	.184	4.054	.000
2	<u>Model Summary^a</u>			
	F		40.892	.000
	R		-	.792
	R ²		-	.628
Model 2				
1	<u>Coefficients^b of Direct Effect</u>			
	STIM.C.AGENT	.090	2.489	.014
	R.ADV	.256	5.518	.000
	COMPT.COMPLX	.081	2.248	.026
	ORG.S	.592	2.961	.003
	T.RDNS	.287	4.633	.000
	BARRIs	-.049	-1.910*	.058
	T.IT.INFRA	-.063	-1.968	.051
	E.GOVt	.672	3.519	.001
	E.GOVt.ORG.S	-.126	-2.628	.009
2	<u>Model Summary^a</u>			
	F		6.908	.009
	R		-	.800
	R ²		-	.641

a. Predictors: (Constant), E.GOVt, BARRIs, STIM.11.C.AGNT.6, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOVt, BARRIs, STIM.11.C.AGNT.6, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOVt.ORG.S c. Dependent Variable: T.ATTIT * Significant at 0.10 (2-tailed test) OR Significant at 0.05 (one-tailed test)

→ For more details (see appendix A - 2)

Table (5.20a) also summarises the net results of the moderator construct E-Government's interaction with all independent constructs shown in model (1), the only moderating effect proved significant shown in model (2).

E-Government proved to interact significantly ($t = -2.628$) at 0.009 between organisational support and the dependent construct's (the mediating) attitude toward change. E-Government's moderating role altered the relationship from positive to negative relationship. The moderator E-Government interacted with the other constructs in model (1) when analysed alone it proved to be insignificant.

On the other hand, when total readiness is regressed alone it provides a significant moderating effect. This was expressed in table (5.20b); that expressed the hypotheses test at the individual level all interactions with E-Government were insignificant but significant for H16 and H17.

Table (5.20b): Hypotheses Testing Results Summary with the Moderating Interactions

Hypothesis Number	<i>b</i>	<i>t</i>	<i>Sign</i>	Test Result
<i>H11&12</i>	-.037	-.573	.567	Not Supported
<i>H13</i>	-.091	-1.278	.203	Not Supported
<i>H14&15</i>	-.074	-1.337	.183	Not Supported
<i>H16</i>	-.126	-2.628	.009	Supported
<i>H17</i>	-.155	-1.889	.060	Supported
<i>H18</i>	-.018	-.333	.740	Not Supported
<i>H19</i>	-.035	-.552	.582	Not Supported

On the other hand, when total readiness is regressed alone it proved to provide a significant moderating effect. This was expressed in table (5.20b). The results shown in tables (5.21a) model 1 and model 2 revealed an increase in R-value (from 0.792 to 0.797) and R² value (from 0.628 to 0.634). E-Government proved to

interact significantly ($t = -1.889$) at 0.060 between total Organisational Readiness and the dependent construct's (the mediating) attitude toward change. E-Government's moderating role altered the relationship from positive to negative relationship. The moderator E-Government interacted with the other constructs in model (1) when analysed alone it proved to be insignificant.

Table (5.21a): Regression Results of Moderating Interaction E-Government

Model 1		β^c	T	Sig.
1	<u>Coefficients^b of Direct Effect</u>			
	STIM.C.AGENT	.091	2.481	.014
	R.ADV	.283	6.163	.000
	COMPT.COMPLX	.092	2.525	.012
	ORG.S	.076	1.989	.048
	T.RDNS	.265	4.249	.000
	BARRIs	-.056	-2.146	.033
	T.IT.INFRA	-.065	-1.996	.047
	E.GOVt	.184	4.054	.000
2	<u>Model Summary^a</u>			
	F		40.892	.000
	R		-	.792
	R ²		-	.628
Model 2				
1	<u>Coefficients^b of Direct Effect</u>			
	STIM.C.AGENT	.089	2.436	.016
	R.ADV	.274	5.986	.000
	COMPT.COMPLX	.095	2.646	.009
	ORG.S	.075	1.968	.050
	T.RDNS	.915	2.615	.010
	BARRIs	-.047	-1.778	.077
	T.IT.INFRA	-.063	-1.939	.054
	E.GOVt	.772	2.455	.015
	E.GOVt.T.RDNS	-.155	-1.889	.060
2	<u>Model Summary^a</u>			
	F		3.567	.060
	R		-	.797
	R ²		-	.634

a. Predictors: (Constant), E.GOVt, BARRIs, STIM.11.C.AGNT.6, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOVt, BARRIs, STIM.11.C.AGNT.6, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOVt.ORG.S c. Dependent Variable: T.ATTIT * Significant at 0.10 (2-tailed test) OR Significant at 0.05 (one-tailed test)

→ For more details (see appendix A - 2)

The collective interaction of the moderating construct on the relationships of all independent constructs with the dependent (mediating) construct's attitude toward change produced one significant moderating (interaction) result, which is Organisational Support.

Table (5.22a) shows that R 0.801 and R² 0.641 readings increased with *F*-value = 22.28, *p*=0.000, indicating to the significance level of the moderating E-Government on the relationship between Organisational Support and Attitude Toward Change.

Table (5.22a): Regression Results Collective Moderating Effect of E-Government

Model	β^c	T	Sig.
1 Coefficients^b of Direct Effect			
STIM.C.AGENT	.091	2.481	.014
R.ADV	.283	6.163	.000
COMPT.COMPLX	.092	2.525	.012
ORG.S	.076	1.989	.048
T.RDNS	.265	4.249	.000
BARRIs	-.056	-2.146	.033
T.IT.INFRA	-.065	-1.996	.047
E.GOVt	.184	4.054	.000
E.GOVt.STIM.C.AGNT	.021	.293	.770
E.GOVt.R.ADV	-.001	-.013	.990
E.GOVt.COMPT.COMPLX	.007	.093	.926
E.GOVt.ORG.S	-.128	-1.704*	.090
E.GOVt.T.RDNS	-.040	-.345	.731
E.GOVt.BARRIs	-.018	-.327	.744
E.GOVt.T.IT.INFRA	.004	.061	.951
2 Model Summary^a			
F		22.278	.000
R		-	.801
R ²		-	.641

a. Predictors: (Constant), E.GOVt.T.IT.INFRA, BARRIs, R.ADV, COMPT.COMPLX, STIM.11.C.AGNT.6, ORG.S, T.RDNS, E.GOVt, E.GOVt.BARRIs, T.IT.INFRA, E.GOVt.COMPT.COMPLX, E.GOVt.STIM.C.AGNT, E.GOVt.ORG.S, E.GOVt.R.ADV, E.GOVt.T.RDNS

b. Dependent Variable: T.ATTIT c. Unstandardised Coefficients Beta → For more details (see appendix A - 2)

* Significant at 0.10 (2-tail test) OR Significant at 0.05 (1-tail test)

Table (5.22a) also provides the results of the regression analysis specified to be the regression beta and t-values and the level of significance. The results showed that for the interaction of the moderating constructs only Organisation Support has a significant level of moderating effects (t -value = -1.704) significant at 0.10 two tail test or 0.05 one tail test.

Table (5.22b) represents the results of the collective hypotheses testing of the moderating construct e-Government. The strength of the relationship is proven to be significant as indicated by $F=22.23$, $p=0.000$.

Table (5.22b): Hypotheses Testing Results with the Collective Moderating Interactions

Hypothesis Number	<i>b</i>	<i>t</i>	<i>Sign</i>	Test Result
<i>H11&12</i>	-.021	.293	.770	Not Supported
<i>H13</i>	-.001	-.013	.990	Not Supported
<i>H14&15</i>	-.007	.093	.926	Not Supported
<i>H16</i>	-.128	-1.704	.090*	Supported
<i>H17</i>	-.040	-.345	.731	Not Supported
<i>H18</i>	-.018	-.327	.744	Not Supported
<i>H19</i>	-.004	.061	.951	Not Supported

* t -value of -1.704 significant at 0.10 (2-tail test) OR significant at 0.05 (1-tail test)

Collectively, the result reveals that only the interaction of the moderating construct E-Government on the relationships between the independent construct Organisational Support and the dependent construct (the mediating) Attitude Toward Change with a t -value of -1.704 is significant. The remaining interactions proved to be insignificant.

3 The Direct Effect of Attitude Toward Change and the Dependent Construct

Total Attitude Toward Change the mediating construct will now be treated as an independent construct to be regressed with the dependent construct Adoption Feasibility of accrual basis of accounting. That is in order to test the hypothesis stated on the relationship between the two constructs as stated below :-

H20: Attitude Toward Change will have a positive impact on the feasibility of Full Accrual Basis Adoption and Implementation.

Table (5.23a) summarises the result of the regression analysis on the relationship between the independent and the dependent constructs specified above by hypothesis sixteen. The test result of the strength of the relationship between the two constructs is provided the coefficients value ($R=0.471$) of $R^2 = 0.222$ as indicated by the result of the test (F -value = 57.29, $p=0.000$) indicating a significant relationship.

Table (5.23a): Regression Results of Direct Effect (Mediating → Dependent)

Model	β^c	T	Sig.
1 <u>Coefficients^b of Direct Effect</u> T.ATTIT	-.447	7.569	.000
2 <u>Model Summary^a</u> F R R ²		57.289 - -	.000 .471 .222

a. Predictors: (Constant), T.ATTIT

b. Dependent Variable: : ADPTN.F c. Unstandardised Coefficients Beta → For more details (see appendix A - 2)

On the other hand, table (5.23a) also provides a test of the partial coefficients' importance; a t -value of 7.57 which is, greater than ± 1.96 2-tail test $p=0.05$ at, significant at $p=0.000$.

Table (5.23b) summarises the result of the hypothesis testing for H16. The result support the hypothesis claimed by theory.

Table (5.23b): Hypotheses Test - Direct Relationship between the Mediator and Dependent

Hypothesis Number	<i>b</i>	<i>t</i>	<i>Sign</i>	Test Result
<i>H20</i>	.447	7.569	.000	Supported

At the end of this part of hypotheses testing, it is appropriate to provide here a summary of all hypotheses tested above in order to get a full picture of the results of this exploratory analysis study. Table (5.24) presents the results of all hypotheses tested that are intend to answer the research questions of this study number 3, 4, and 5 which considered as stage on of this study research prior to moving into next part the application of structure equation modelling.

Table (5.24): Hypotheses Testing (EFA) - Summary

Hypothesis Number	<i>b</i>	<i>t</i>	<i>Sign</i>	Test Result
<i>H01&02</i>	.091	2.481	.014	Supported
<i>H03</i>	.283	6.163	.000	Supported
<i>H04&05</i>	.092	2.525	.012	Supported
<i>H06</i>	.076	1.989	.048	Supported
<i>H07</i>	.265	4.249	.000	Supported
<i>H08</i>	-.056	-2.146	.033	Supported
<i>H09</i>	-.065	-1.996	.047	Supported
<i>H10</i>	.184	4.054	.000	Supported
<i>H11&12</i>	-.021	.293	.770	Not Supported
<i>H113</i>	-.001	-.013	.990	Not Supported
<i>H14&15</i>	-.007	.093	.926	Not Supported
<i>H16</i>	-.128	-1.704	.090*	Supported
<i>H17</i>	-.040	-.345	.731	Not Supported
<i>H18</i>	-.018	-.327	.744	Not Supported
<i>H19</i>	-.004	.061	.951	Not Supported
<i>H20</i>	.447	7.569	.000	Supported

**t*-value of -1.704 significant at 0.10 (2-tail test) OR significant at 0.05 (1-tail test)

5.2.5.2 Analysing the Contextual Conditions Applicable to Reform

Lüder (1992, 1994, & 2001) specified the environmental conditions pertaining to reform initiation in one or more of the stimuli factors and institutional arrangements. The institutional arrangements include (but not limited to) the following variables :-

- The legal system : In Yemen the legal system is based on a common law similar to that in UK. Law does not detail the accounting and financial system and procedures of the government.
- The state (country) structure of Yemen replicates that of the United States of America where the country has two houses; the Parliament and the Shura Council. Position of power assumed and handed over periodically to elected party or parties. Competitions between political parties on elections for the seats of the parliament and for presidential office are evident.
- The finance function is centralised, under ministry of finance full authority.
- The qualification of accounting staff in general is high, based on the results extracted from the questionnaire survey 92.2% of the staff in the selected sample for this study, hold a bachelor Degree and above.
- The degree of openness in the political and administrative system is supportive to provide the public with the information they need. This was granted by the Constitution.

The outcomes of the institutional arrangements variable provide **a favourable** condition for the reform change. On the other hand, this study contains 12 stimuli factors half of which obtained from prior research studied the other half developed by the researcher most of which found to have a direct **favourable** effect. This result is based on the statistical analysis and the results of the multiple regression analysis.

Finally, the descriptive analysis derived here provides the answer for research question number two. Therefore, the contextual variables (environmental prevailing factors) found to

be in favour of the reform change supporting the adoption and implementation of accrual basis of accounting.

This section provided an exploratory factor analysis EFA, which does not provide a complete picture of the model structural equation modelling, as the moderating effect is performed collectively. While it should be conducted by multiplying each construct indicator with each indicator of the moderating construct. In the following section, another chapter of analysis will be conducted to overcome the shortages of the above performed analysis by SPSS. Confirmatory Factor Analysis CFA will be performed in this section and model goodness of path analysis will be generated. The outcomes from this part mostly will confirm the outcomes from SPSS data analysis and add to it. SmartPLS Path Modelling will be used in this part of the study.

5.2.6 Structural Equation Modelling (SEM) – Path Modelling

To test the hypotheses of this thesis - again, PLS path modelling (Lohmöller, 1989; Wold, 1975) is used in order to estimate the theoretical model of this study by applying SmartPLS software application developed by (Ringle, Wende, and Will, 2005). SmartPLS (2.0 – M3) Path Modelling is a software package that deals specifically with SEM analysis and path analysis. PLS has an advantage that has not been found in both SPSS and covariance-based SEM (CBSEM) such as AMOS, LISREL, EQS, SEPATH, and RAMONA. As these two approaches differ in their way of analyses' objectives, their fundamental statistical assumptions, and the nature of the statistical fit they generate (Gefen, et al. 2000).

The covariance analysis CBSEM is based on the developments achieved by Joreskog (1973), Keesling (1972), and Wiley (1973). CBSEM normally uses a maximum likelihood (ML) function, which requires a normal distribution to minimise the difference between the sample covariance and those predicted by the theoretical model.

In contrast, the PLS algorithm minimises the variance of all the dependent variables instead of explaining the covariation. Consequently, PLS makes lower demands on measurement scales, sample size, and residual distributions (Wold 1985). In addition, PLS avoids inadmissible solutions and factor indeterminacy (Fornell and Bookstein 1982). Moreover, PLS maximises variance explained in R^2 (in a regression sense) and it provides a reliable measurement for the moderating effects. It allows for the simultaneous assessment of the measurement and complex structural models. It calculates the interaction not in total but in item by item at the indicators' level. This package applies Partial Least Square (PLS) which utilises algorithm and bootstrapping methodology for calculation and provides well-established output reporting. PLS Path modelling is more suited towards prediction studies. Technical simplicity and availability of supporting materials, give a positive and practical judgment to use this package. Table (5.24a) provides an assessment and comparison between PLS and CBSEM.

Overall, PLS Path Modelling is considered to be an adequate alternative to CBSEM if the problem under investigation has the following characteristics (Chin 1998b; Chin and Newsted 1999) :-

- The phenomenon to be investigated is relatively new and measurement models need to be newly developed;

- The structural equation model is complex with a large number of LVs and indicator variables;
- Relationships between the indicators and LVs have to be modelled in different modes (i.e., formative and reflective measurement models);
- The conditions relating to sample size, independence, or normal distribution are not met; and/or
- Prediction is more important than parameter estimation.

Therefore, PLS Path modelling is considered appropriate and selected for this study. The following stages in analysing this study involving SEM modelling framework.

Table (5.24a): Comparison of PLS and CBSEM

Criteria	PLS	CBSEM
Objective	Prediction-oriented	Parameter-oriented
Approach	Variance-based	Covariance-based
Assumption	Predictor specification (nonparametric)	Typically multivariate normal distribution and independent observations (parametric)
Parameter estimates	Consistent as indicators and sample size increase (i.e., consistency at large)	Consistent
Latent variable scores	Explicitly estimated	Indeterminate
Epistemic relationship between an LV and its measures	Can be modeled in either formative or reflective mode	Typically only with reflective indicators. However, the formative mode is also supported.
Implications	Optimal for prediction accuracy	Optimal for parameter accuracy
Model complexity	Large complexity (e.g., 100 constructs and 1,000 indicators)	Small to moderate complexity (e.g., less than 100 indicators)
Sample size	Power analysis based on the portion of the model with the largest number of predictors. Minimal recommendations range from 30 to 100 cases.	Ideally based on power analysis of specific model—minimal recommendations range from 200 to 800.
Type of optimization	Locally iterative	Globally iterative
Significance tests	Only by means of simulations; restricted validity	Available
Availability of global Goodness of Fit (GoF) metrics	Are currently being developed and discussed	Established GoF metrics available

Source: Chin and Newsted (1999)

5.2.6.1 Setting the Stage for SEM in PLS

- A comma excel file of the data was transferred and then the model was built by loading the items from the SPSS final analysis Exploratory Analysis into each latent drown construct for the whole model including the main dependent construct and the mediating and the independent constructs.
- Then a calculation of algorithm and bootstrapping was performed. The outcome indicated insignificance. Therefore, a further item reduction was executed for confirmatory factor analysis CFA. Remaining scales' items are shown in table (5.26).
- The results of the first run indicating a model fit and significant. With readings of tow tails t -values above ± 1.96 (p -value ≥ 0.05 sig.) this indicated a significant level. That will be disclosed in details in the measurement and structural model later on.

According to Tenenhaus et al. (2005) a PLS path model have to be described by two models :-

- (1) - a measurement model, which relates to the MVs to their own LV; and
- (2) - a structural model relating some endogenous LVs to other LVs.

The measurement model is also called the outer model and the structural model is called the inner model. Both models will be addressed shortly.

5.2.6.2 Measurement Model

Validity is defined as the extent to which a scale or measuring instrument is able to measure what it is intended to measure (Zikmund, 2003; p.302). One of the greatest advantages of CFA/SEM is its ability to assess constructs' validity of a proposed

measurement theory (Hair et al., 2006; p.776). Measurement model properties are evaluated by the assessment of constructs' face validity, construct validity, unidimensional validity, reliability, convergent validity, and discriminant validity. Face or content and construct validity are addressed in sub-sections 5.2.4.1&2 of this chapter. The remaining validity and reliability measures for CFA will be addressed hereafter.

5.2.6.2.1 Unidimensional Validity

According to Gerbing and Anderson (1988) *Unidimensionality* refers to a latent variable LV having each of its measurement items relate to it better than to any others. A scale is unidimensional if all the items of the scale measure one common latent variable.

The methodological literature on conceptualisation and measurement stresses the need for unidimensionality in scale and index construction.

Where a composite measure should represent only one dimension of a concept (Babbie, 2004, p.154). In other words, unidimensionality means that a set of indicators or items can only be explained by one construct (Hair, et al. 2010; p. 696). To assess that, cross CFA loading results in table (5.25) exceeds 0.50 with *t*-value for each indicator above 1.96 ($p \leq 0.05$) two tails test. This clearly supports the existence of CFA unidimensional validity in this study. The results of EFA, which are different from these results, are addressed in sub-section 5.2.3.4 see table (5.15).

Table (5.25): Cross Loading - Confirmatory Factor Analysis (CFA)

INDICATORS	ADPTN. F.	BARRIS	C. AGNT	COMPT. COMPLX	E. GOVT	ORG.S	R. ADV	STIM	T. ATTIT	T.IT. INFRA	T. RDNS	t-value
Attit.1	0.401	-0.066	0.265	0.394	0.477	0.429	0.492	0.105	0.755	0.148	0.350	19.22
Attit.12	0.348	-0.103	0.097	0.339	0.383	0.295	0.338	0.135	0.672	0.102	0.231	13.75
Attit.13	0.490	-0.134	0.234	0.400	0.475	0.358	0.550	0.056	0.772	0.096	0.321	22.72
Attit.18	0.355	-0.174	0.158	0.342	0.381	0.403	0.359	0.213	0.649	0.194	0.371	12.02
Attit.4	0.439	-0.148	0.277	0.394	0.416	0.427	0.474	0.248	0.796	0.111	0.341	18.88
Attit.5	0.394	-0.147	0.209	0.367	0.470	0.434	0.476	0.146	0.829	0.124	0.366	21.06
Attit.7	0.376	-0.280	0.233	0.262	0.294	0.227	0.332	0.076	0.568	0.182	0.292	12.34
Attit.8	0.384	-0.285	0.072	0.270	0.279	0.222	0.298	0.060	0.530	0.105	0.230	9.77
Attit.9	0.339	-0.135	0.268	0.422	0.441	0.486	0.478	0.184	0.757	0.163	0.411	17.60
Barri.1	-0.140	0.835	-0.004	-0.105	-0.056	-0.138	-0.062	-0.014	-0.205	-0.106	-0.057	6.47
Barri.2	-0.127	0.827	-0.134	-0.188	-0.087	-0.234	-0.137	-0.044	-0.182	-0.116	-0.177	5.79
Barri.9	-0.048	0.648	0.053	-0.110	-0.042	-0.149	-0.105	0.103	-0.096	-0.133	-0.084	2.24
C.Ag.3	0.340	-0.116	0.790	0.382	0.367	0.346	0.226	0.130	0.279	0.202	0.374	10.96
C.Ag.4	0.236	-0.011	0.810	0.163	0.275	0.270	0.134	0.208	0.147	0.222	0.366	6.87
C.Ag.6	0.253	0.050	0.833	0.247	0.406	0.224	0.196	0.242	0.260	0.318	0.361	9.79
C.Ag.7	0.300	-0.080	0.859	0.187	0.338	0.243	0.103	0.177	0.226	0.312	0.382	13.98
Cmplx.4	0.319	-0.199	0.208	0.818	0.293	0.364	0.397	0.089	0.448	0.189	0.327	12.43
Cmplx.5	0.296	-0.154	0.258	0.836	0.310	0.385	0.338	0.061	0.439	0.213	0.310	13.61
Compt.1	0.203	-0.026	0.273	0.590	0.150	0.361	0.222	-0.034	0.263	0.104	0.262	6.47
Compt.2	0.192	-0.031	0.172	0.502	0.106	0.212	0.140	-0.136	0.184	0.147	0.226	4.87
E.Gov10	0.279	0.012	0.304	0.279	0.678	0.174	0.282	0.160	0.389	0.237	0.224	12.20
E.Gov11	0.320	0.005	0.375	0.271	0.643	0.149	0.289	0.096	0.381	0.210	0.242	13.01
E.Gov12	0.339	-0.062	0.286	0.149	0.794	0.233	0.291	0.076	0.491	0.272	0.278	20.48
E.Gov13	0.275	-0.069	0.249	0.181	0.757	0.234	0.185	0.022	0.419	0.234	0.246	14.60
E.Gov14	0.352	-0.123	0.314	0.184	0.767	0.213	0.198	-0.012	0.418	0.209	0.213	17.17
E.Gov15	0.272	-0.009	0.288	0.184	0.773	0.214	0.237	0.036	0.383	0.174	0.223	14.67
E.Gov16	0.335	-0.043	0.370	0.255	0.781	0.203	0.264	0.068	0.388	0.211	0.198	10.67
E.Gov17	0.333	-0.100	0.351	0.315	0.803	0.306	0.320	0.058	0.458	0.272	0.346	19.44
E.Gov18	0.347	-0.019	0.255	0.248	0.752	0.194	0.284	0.019	0.396	0.213	0.232	16.22
E.Gov19	0.369	-0.018	0.349	0.140	0.695	0.210	0.285	0.060	0.379	0.210	0.244	9.61
E.Gov20	0.413	-0.057	0.357	0.199	0.704	0.287	0.242	0.061	0.454	0.252	0.245	14.60
E.Gov21	0.434	-0.084	0.327	0.263	0.769	0.300	0.271	0.051	0.470	0.314	0.350	16.52
E.Gov22	0.405	-0.124	0.301	0.398	0.776	0.217	0.367	0.027	0.509	0.286	0.264	18.28
E.Gov23	0.380	-0.101	0.327	0.312	0.812	0.284	0.358	0.094	0.477	0.271	0.357	19.74
E.Gov24	0.319	-0.012	0.370	0.248	0.754	0.172	0.256	0.112	0.397	0.277	0.295	14.11
E.Gov25	0.383	-0.092	0.269	0.273	0.798	0.205	0.300	0.096	0.416	0.254	0.251	17.44
E.Gov26	0.337	-0.108	0.416	0.383	0.696	0.222	0.377	0.066	0.397	0.231	0.280	13.34
E.Gov27	0.361	-0.087	0.378	0.281	0.743	0.324	0.371	0.137	0.516	0.264	0.315	12.63
E.Gov4	0.292	0.097	0.179	0.110	0.508	0.023	0.127	0.050	0.326	0.166	0.126	9.45
E.Gov6	0.274	-0.114	0.316	0.204	0.702	0.176	0.290	0.141	0.389	0.240	0.243	13.25
E.Gov7	0.296	-0.100	0.312	0.242	0.700	0.225	0.270	0.074	0.361	0.244	0.243	13.35
E.Gov8	0.176	-0.029	0.291	0.186	0.687	0.213	0.206	0.026	0.352	0.189	0.198	9.03
Fsiblt.1	0.810	-0.121	0.271	0.291	0.398	0.255	0.374	0.035	0.420	0.194	0.364	18.17
Fsiblt.2	0.773	-0.118	0.249	0.219	0.318	0.255	0.343	0.096	0.449	0.129	0.358	14.46
Fsiblt.3	0.830	-0.106	0.312	0.285	0.374	0.204	0.414	0.162	0.443	0.093	0.308	23.45
Fsiblt.4	0.785	-0.128	0.293	0.335	0.322	0.193	0.446	0.150	0.470	0.155	0.338	19.08
Fsiblt.6	0.793	-0.157	0.264	0.313	0.373	0.255	0.421	0.130	0.418	0.160	0.364	17.13
Fsiblt.8	0.784	-0.072	0.284	0.317	0.397	0.243	0.435	0.177	0.436	0.098	0.303	18.47
ITI.15	0.178	-0.100	0.400	0.239	0.291	0.176	0.092	0.042	0.156	0.739	0.380	4.55
ITI.16	0.021	0.023	0.393	0.051	0.200	0.072	-0.084	0.044	-0.001	0.617	0.295	2.20
ITI.26	0.112	-0.212	0.215	0.200	0.320	0.224	0.058	0.031	0.192	0.780	0.309	4.41
ITI.27	0.183	-0.119	0.199	0.172	0.260	0.159	0.124	0.017	0.161	0.779	0.312	4.47
ITI.28	0.232	-0.122	0.206	0.201	0.262	0.159	0.181	0.075	0.186	0.798	0.326	4.86
ITI.32	0.043	-0.062	0.096	0.148	0.085	0.148	0.069	0.016	0.042	0.630	0.222	2.02
ITI.33	0.067	-0.043	0.149	0.220	0.153	0.174	0.067	0.086	0.106	0.733	0.290	2.27
ITI.39	0.054	-0.081	0.162	0.129	0.107	0.142	0.037	0.078	0.106	0.791	0.325	2.37
ITI.40	0.051	-0.086	0.164	0.133	0.038	0.108	0.058	0.120	0.049	0.753	0.241	2.40
ITI.41	0.081	-0.097	0.195	0.218	0.232	0.123	0.083	0.042	0.108	0.814	0.278	3.43
ITI.42	0.097	-0.142	0.139	0.163	0.223	0.180	0.093	0.038	0.156	0.780	0.272	3.95
ITI.43	0.091	-0.132	0.280	0.089	0.187	0.136	0.020	0.042	0.070	0.726	0.302	2.78
ITI.7	0.141	-0.086	0.310	0.120	0.186	0.122	0.051	0.053	0.088	0.581	0.341	2.44
ITI.8	0.111	-0.060	0.369	0.095	0.367	0.140	0.071	0.130	0.155	0.580	0.335	3.03
ITI.9	0.130	-0.006	0.299	0.196	0.240	0.126	0.090	0.055	0.102	0.606	0.316	2.52
Org.S.3	0.271	-0.201	0.289	0.449	0.307	0.808	0.327	0.106	0.492	0.188	0.494	12.19
Org.S.6	0.220	-0.165	0.213	0.419	0.215	0.851	0.270	0.006	0.399	0.079	0.509	15.61
Org.S.7	0.264	-0.190	0.279	0.380	0.216	0.809	0.234	0.038	0.356	0.113	0.462	13.17
Org.S.8	0.155	-0.133	0.258	0.213	0.190	0.660	0.198	0.214	0.366	0.305	0.460	10.26
R.Adv.10	0.304	-0.089	0.088	0.275	0.261	0.134	0.726	0.083	0.368	0.035	0.156	12.43
R.Adv.11	0.468	-0.152	0.199	0.306	0.393	0.399	0.802	0.095	0.593	0.126	0.324	15.43
R.Adv.5	0.346	-0.155	0.192	0.402	0.247	0.296	0.724	0.213	0.448	0.099	0.319	10.28
R.Adv.6	0.315	0.008	0.111	0.242	0.184	0.142	0.681	0.083	0.334	0.080	0.143	12.12

R.Adv.8	0.396	-0.016	0.146	0.296	0.254	0.162	0.724	0.083	0.397	0.074	0.259	16.38
Rdns.11	0.346	-0.168	0.377	0.246	0.263	0.571	0.323	0.136	0.383	0.374	0.835	16.15
Rdns.12	0.365	-0.153	0.389	0.348	0.300	0.577	0.283	0.063	0.355	0.289	0.866	17.07
Rdns.14	0.200	-0.152	0.362	0.335	0.291	0.496	0.245	-0.002	0.298	0.350	0.770	8.88
Rdns.19	0.352	0.072	0.224	0.286	0.209	0.188	0.169	0.056	0.335	0.268	0.522	9.09
Stm.3	0.106	-0.020	0.163	0.048	0.012	0.089	0.096	0.659	0.131	0.021	0.022	3.29
Stm.8	0.096	0.009	0.181	0.027	0.055	0.077	0.145	0.801	0.161	0.096	0.071	5.26
Stm.9	0.160	0.002	0.170	0.003	0.143	0.099	0.104	0.805	0.146	0.056	0.108	6.04

5.2.6.2.2 Reliability

Reliability is the degree to which measures are free from errors and thus produce consistent results (Zikumnd, 2003; p. 300). The threshold, to arrive at good reliability level, is to obtain the composite reliability CR of ≥ 0.70 of all constructs in this study. The CR is obtained and can be seen clearly in table (5.26). Therefore, all constructs applied in this research study are reliable.

5.2.6.2.3 Convergent Validity

Convergent validity involves the degree to which individual items reflecting a construct converge in contrast to items measuring different constructs. A commonly applied criterion of convergent validity is the average variance extracted (AVE) proposed by Fornell and Larcker (1981). An AVE value, of at least 0.50, shows that an LV is on average able to explain more than half of the variance of its indicators and, thus, exhibits sufficient convergent validity. To assess the convergent validity in this study the data analysis results revealed that an EVA reading for all constructs ≥ 0.50 is established and a composite reliability CR of ≥ 0.70 is established too. The results can be seen in table (5.26).

Table (5.26): Convergent Validity of Constructs

CONSTRUCT NAME	Remaining Indicators (Items) in CFA	AVE	Composite Reliability CR
ADPTN.F.	6	0.63	0.91
STIM	3	0.57	0.80
C.AGNT	4	0.68	0.89
R,ADV	5	0.54	0.85
COMPT.COMPLX	4	0.50	0.79
ORG.S.	4	0.62	0.86
T.RDNS	4	0.57	0.84
BARRIs	3	0.60	0.82
T.ATTIT	15	0.50	0.90
T.IT.INFRA	15	0.52	0.94
E.GOVt	22	0.54	0.96

5.2.6.2.4 Discriminant Validity

Discriminant validity is defined as the degree to which the measures of different constructs differ from one another. Whereas convergent validity tests whether a particular item measures the construct it is supposed to measure, discriminant validity tests whether the items do not unintentionally measure other things. In SEM using PLS, two measures of discriminant validity are usually used. For the first measure, cross-loadings are obtained by correlating each LV's component scores with all the other items (Chin, 1998b). If each indicator's loading is higher for its appointed construct than for any of the other constructs, and each of the constructs loads highest with its assigned items, it can be inferred that the different constructs' indicators are not interchangeable. The second measure, the Fornell-Larcker condition (Fornell and Larcker 1981), requires that an LV shares more variance with its assigned indicators than with any other LV. Therefore, the AVE of each LV should be greater than the LV's highest squared correlation with any other LV.

Discriminant validity is achieved if the square root of the AVE of each construct is greater than its covariate correlations with other constructs, and if the indicators load higher on their respective constructs when compared to other indicators (Chin, 1998; Compeau, et al. 1999). It can be seen in Table (5.27); the square roots of the AVE on the diagonal elements found to be greater than the covariate construct correlations on the off-diagonal elements range. Thus, the discriminant validity is achieved for this research study.

Table (5.27): Latent Variables' Correlations

CONSTRUCT NAME	CR	ICR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. ADPTN.F.	0.91	0.88	0.796										
2. BARRIs	0.82	0.68	-0.147	0.775									
3. C.AGNT	0.89	0.84	0.351	-0.052	0.823								
4. COMPT. COMPLX	0.79	0.67	0.369	-0.172	0.316	0.702							
5. E.GOVt	0.96	0.96	0.456	-0.082	0.433	0.333	0.734						
6. ORG.S	0.86	0.79	0.293	-0.222	0.333	0.475	0.302	0.785					
7. R.ADV	0.85	0.79	0.510	-0.124	0.209	0.418	0.381	0.335	0.732				
8. STIM	0.80	0.63	0.158	-0.003	0.226	0.033	0.094	0.116	0.154	0.758			
9. T.ATTIT	0.90	0.87	0.553	-0.220	0.290	0.506	0.574	0.523	0.605	0.193	0.710		
10.T.IT.INFRA	0.94	0.93	0.173	-0.145	0.323	0.237	0.327	0.218	0.119	0.079	0.189	0.718	
11.T.RDNS	0.84	0.74	0.426	-0.135	0.451	0.401	0.353	0.615	0.343	0.090	0.460	0.427	0.760

* The bold elements in the main diagonal are the square roots of the Average Extracted Variance (AVE)
Construct Composite Reliability (CR), Internal Consistency Reliability (ICR) > 0.60

5.2.6.3 Analysis of the Structural Model and Hypotheses Testing

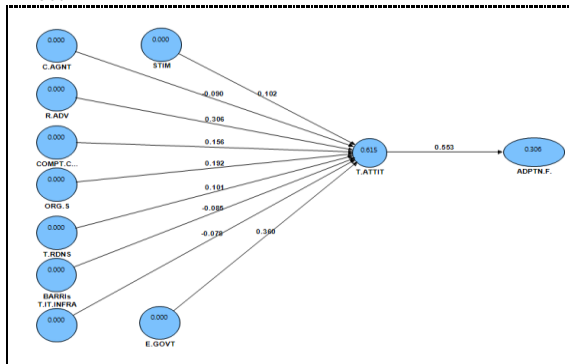
The measurement of properties acceptance testing of the model is achieved after conducting data reduction, that is to obtain manageable and meaningful number of valid and reliable constructs that can be used in the final stage of analysis, evaluating the structural models and testing the hypotheses. The structural model was tested using SmartPLS 2.0 M3 to estimate the path coefficients, which calculate the strength of the relationships between the

constructs and the dependent construct through the mediating construct and estimate the path coefficients of the interaction effects. R^2 values also estimated to demonstrate the variance explained by the independent variables and the mediating variable. Bootstrapping with 600 re-samples was performed to get the statistical significance of the model path coefficients using *t*-test statistics. Thereafter, testing the research hypotheses relationships, which were derived from the theoretical framework addressed in chapter four.

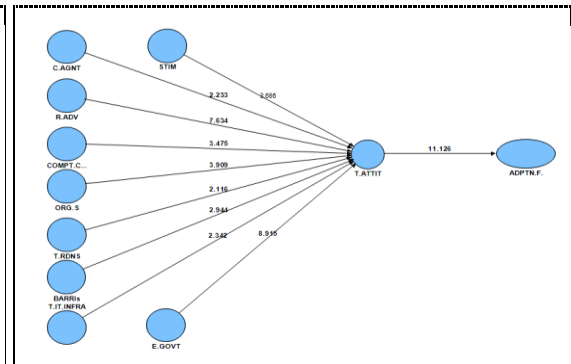
There will be two stages of analysis needed to examine the relationships between constructs (in the framework) and to test the associated hypotheses. The first stage will evaluate the structural model with the mediating construct including the moderating construct as an independent variable; because it is represented as an integral part of the model significance fit see Table (5.19b). The second stage will address the moderating effect in two parts (a&b). In part (a) the independent, that is by testing the effect of moderating construct E-Government on each relationship and presenting that in a new model (8 models were emerged from this analysis). Then in part (b) the effect of the moderating construct E-Government will be tested on all relationships simultaneously and will be presented in one model.

Figure (5.1): Alternative Models for Testing the Mediating Effect

Model 1a: PLS Algorithm - Mediation Effect



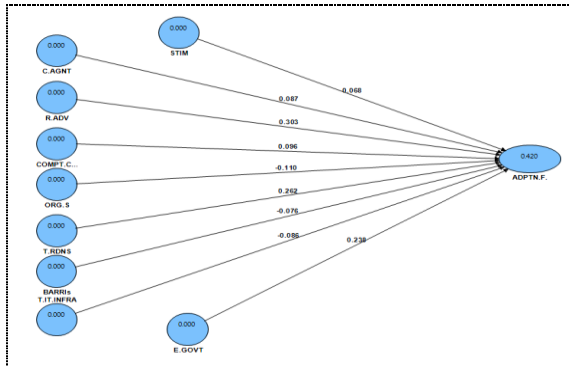
Model 1b: Bootstrapping Logarithm Path - Mediation



Model: 1a - assembles R²s (0.615 for T.ATTIT and 0.306 for ADPTN.F.) the readings in the oval shape and path coefficients (the readings on the arrows) t -values above in the model ≥ 1.96 are significant two tail test $P < 0.05$

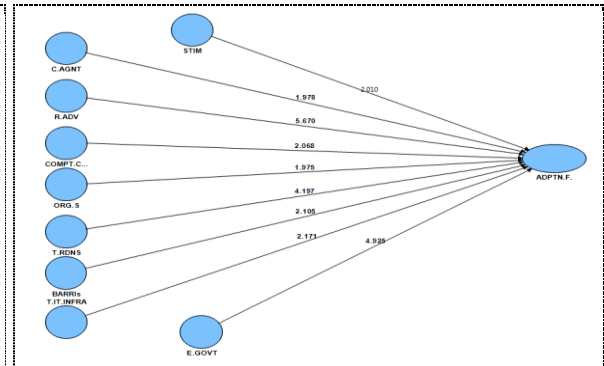
Model 2a: PLS Algorithm - No Mediation Effect

The Direct Effect



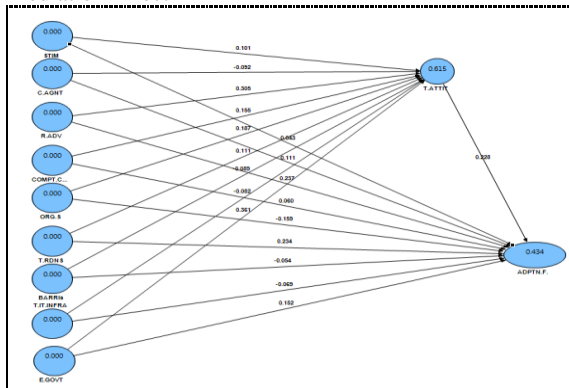
Model 2b: Bootstrapping Logarithm Path - No

Effect - the Direct Effect

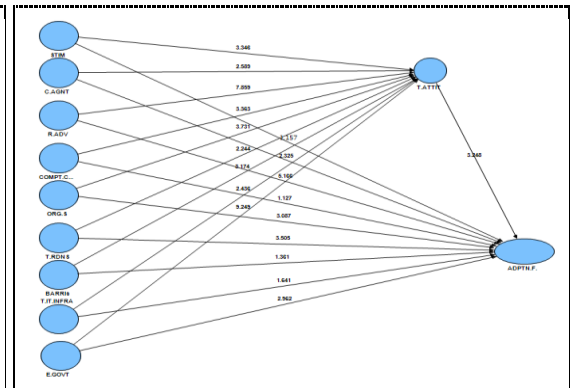


Model 2a - R² (0.420 for ADPTN.F.) the readings in the oval shape and path coefficients (the readings on the arrows) t -Values above in the model (direct path) ≥ 1.96 are significant two tail test $P < 0.05$

Model 3a: PLS Algorithm - Full Mediation Effect



Model 3b: Bootstrapping Logarithm Path - Full



Model: 3a - assembles R²s (0.615 for T.ATTIT and 0.434 for ADPTN.F.) the readings in the oval shape and path coefficients (the readings on the arrows). t -Values above in the model (indirect path) ≥ 1.96 are significant two tail test $P < 0.05$

5.2.6.3.1 *Testing the Structure Model without the Moderation Effect*

The objective of testing the structure model with the mediation effect and without the moderation effect is to examine the causal relationships between the independent constructs all together, total attitude toward change, and adoption feasibility of accrual-basis accounting. Therefore, total attitude toward change is tested as the mediating variable between the independent variables stimuli, the role of change agent, accrual-basis relative advantage, accrual-basis compatibility and complexity or ease-of-use, organisational support, total readiness for change, barriers to change, total IT infrastructure, E-Government, and the dependent variable the feasibility of adopting accrual-basis accounting, see Figure (5.1) Model 1a&b. This matter is investigated by comparing it with two alternative models. In Model 2a&b the mediating variable total attitude toward change is excluded and all independent variables were linked directly to the dependent variable the feasibility of adopting accrual-basis accounting. Model 3a&b combines both models by linking the direct and indirect paths. The results from model 1a&b will be discussed and compared with the other two models 2a&b and 3a&b.

Table (5.28) demonstrates the standardised parameters extracted from the bootstrap simulation (Chin, 1998). That is for model-1a the p -value confirms the relationship between the ten constructs of ≥ 0.05 two tail t -test. This shows that the ten hypotheses are statistically significant. The path coefficients expressed in model-1b ranges from -0.078 to 0.553. Moreover, Table (5.29) shows that the explained variance (R^2) is 0.615 for total attitude toward change and 0.31 for adoption feasibility.

Table (5.28): Parameter Estimation of PLS Models by Bootstrapping Method

PATH DIRECTION	MODEL (1)			MODEL (2)			MODEL (3)		
	Path Coefficient	t-Value	P-Value	Path Coefficient	t-Value	P-Value	Path Coefficient	t-Value	P-Value
BARRIs -> T.ATTIT	-0.085	2.944	0.004	-	-	-	-0.089	3.174	0.002
C.AGNT -> T.ATTIT	-0.090	2.233	0.027	-	-	-	-0.092	2.589	0.010
COMPT.COMPLX -> T.ATTIT	0.156	3.475	0.001	-	-	-	0.155	3.363	0.001
E.GOVt -> T.ATTIT	0.360	8.915	0.000	-	-	-	0.361	9.249	0.000
ORG.S -> T.ATTIT	0.192	3.909	0.000	-	-	-	0.187	3.731	0.000
R.ADV -> T.ATTIT	0.306	7.634	0.000	-	-	-	0.305	7.859	0.000
STIM -> T.ATTIT	0.102	3.686	0.000	-	-	-	0.101	3.346	0.001
T.IT.INFRA -> T.ATTIT	-0.078	2.342	0.020	-	-	-	-0.082	2.436	0.016
T.RDNS -> T.ATTIT	0.101	2.116	0.036	-	-	-	0.111	2.244	0.026
T.ATTIT -> ADPTN.F.	0.553	11.126	0.000	-	-	-	0.228	3.248	0.001
BARRIs -> ADPTN.F.	-	-	-	-0.076	2.105	0.037	-0.054	1.361	0.175
C.AGNT -> ADPTN.F.	-	-	-	0.087	1.978	0.049	0.111	2.325	0.021
COMPT.COMPLX -> ADPTN.F.	-	-	-	0.096	2.068	0.040	0.060	1.127	0.261
E.GOVt -> ADPTN.F.	-	-	-	0.238	4.925	0.000	0.152	2.962	0.003
ORG.S -> ADPTN.F.	-	-	-	-0.110	1.975	0.050	-0.159	3.087	0.002
R.ADV -> ADPTN.F.	-	-	-	0.303	5.670	0.000	0.237	5.166	0.000
STIM -> ADPTN.F.	-	-	-	0.068	2.010	0.046	0.043	1.157	0.249
T.IT.INFRA -> ADPTN.F.	-	-	-	-0.086	2.171	0.031	-0.069	1.641	0.102
T.RDNS -> ADPTN.F.	-	-	-	0.262	4.197	0.000	0.234	3.505	0.001

In line with the results in Table 5.29, goodness-of-fit for model-1 is 0.51, which shows that the model is satisfactory (Tenenhaus, et al. 2005). The results extracted from testing model-1 are considered the foundation to be compared with the other two models.

$$GoF (\text{model 1}) = \sqrt{[(\text{average communality}) \times (\text{average } R^2)]}$$

$$GoF (\text{model 1}) = \sqrt{[(0.57) \times (0.46)]} = \mathbf{0.51}$$

When comparing model-1 with model-2, as can be seen in Table 5.28, model-2 (the direct path effect) also showed significant p -values of ≤ 0.05 two tail t -test. The results for model-2 the direct path is statistically significant. In Table 5.29 R^2 for model-2 decreased to 0.42 and goodness-of-fit decreased too to 0.49, that is when the mediating variable total attitude toward change is excluded from model-2.

Table (5.29): Goodness-of-Fit Index for the three Models

CONSTRUCT	MODEL (1)		MODEL (2)		MODEL (3)	
	R ²	C	R ²	C	R ²	C
BARRIs		0.60		0.59		0.60
C.AGNT		0.68		0.68		0.68
COMPT.COMPLX		0.49		0.50		0.50
E.GOVt		0.54		0.54		0.54
ORG.S		0.62		0.62		0.62
R.ADV		0.54		0.54		0.54
STIM		0.57		0.57		0.57
T.RDNS		0.58		0.57		0.57
T.IT.INFRA		0.52		0.51		0.52
T.ATTIT	0.61	0.50	-	-	0.61	0.50
ADPTN.F.	0.31	0.63	0.42	0.63	0.43	0.63
Average	<i>0.46</i>	<i>0.57</i>	<i>0.42</i>	<i>0.58</i>	<i>0.52</i>	<i>0.57</i>
GoF	<i>0.51</i>		<i>0.49</i>		0.55	

Model 1: the original model; **Model 2:** with no mediation - attitude toward change; **Model 3:** full model including direct and indirect paths. **C:** Communality coefficients are the equivalent of the squared correlations between manifest variables and its associated latent variables.

Table 5.30 demonstrates different CV-communality for both models ($H^2=0.56$) for model-1 and ($H^2=0.52$) for model-2, which shows an acceptable level of measurement quality for each one of the models. However, the average CV-redundancy for model-1 is ($F^2=0.25$) and ($F^2=0.22$) for model-2, indicating that the structure model quality for model-1 is better than the structure model quality for model-2. These results on average provide a better quality prediction for total attitude toward change model-1.

Table (5.30): Blindfolding Results

CONSTRUCT	MODEL (1)		MODEL (2)		MODEL (3)	
	H ²	F ²	H ²	F ²	H ²	F ²
BARRIs	0.59	-	0.59	-	0.59	-
C.AGNT	0.67	-	0.68	-	0.68	-
COMPT.COMPLX	0.49	-	0.50	-	0.50	-
E.GOVt	0.53	-	0.53	-	0.54	-
ORG.S	0.61	-	0.61	-	0.62	-
R.ADV	0.53	-	0.53	-	0.54	-
STIM	0.56	-	0.56	-	0.57	-
T.RDNS	0.57	-	0.57	-	0.57	-
T.IT.INFRA	0.51	-	0.51	-	0.52	-
T.ATTIT	0.50	0.31	-	-	0.50	0.31
ADPTN.F.	0.63	0.19	0.63	0.22	0.63	0.22
Average	0.56	0.25	0.52	0.22	0.57	0.27

CV-Communality: H^2 , CV- Redundancy: F^2

Moreover, when comparing model-1 with model-3 in Table 5.28., Model-3 exhibits that indirect paths for all independent variables are significant while the direct paths are either less significant than that found in model-1 or insignificant. On the other hand, in Table 5.29, model-3 demonstrates an increase in the explained variance ($R^2=0.43$) and an increase in the goodness-of-fit ($GoF=0.55$). Furthermore, in Table (5.30) model-3 shows an average communality of ($H^2=0.57$), which is slightly better than that of model-1 ($H^2=0.56$). That shows that the model has a better measurement model and confirms the results of the measurement model in section 5.2.6.2. In addition, the average redundancy of model-3 ($F^2=0.27$) is higher than that found in model-1 ($F^2=0.25$). This indicates clearly that the structure model for model-3 is better than that of model-1.

In summary, the previous results imply that model-3 is the best model when compared with models 1 and 2. Model-3 presents evidence that total attitude toward change is fully mediating the relationships between the independent variables and the dependent variable the feasibility of adopting accrual-basis accounting. Therefore, model-3 will be selected and used in stage two of the analysis testing the moderating effect next.

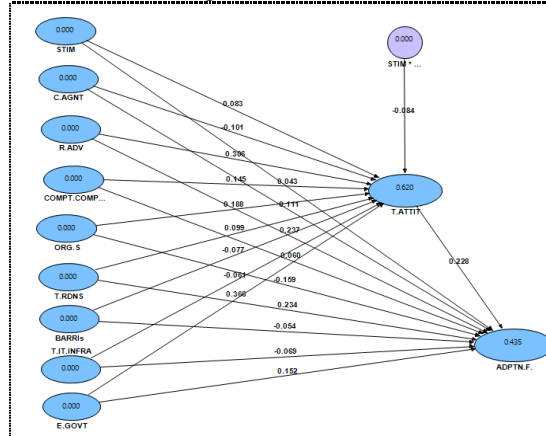
5.2.6.3.2 *Testing the Structure Model with the Moderation Effect*

In the previous section the analysis results confirm the hypotheses claims on the relationships between all independent variables and the mediating variable and between the mediating variable and the dependent variable, the feasibility of accrual-basis accounting adoption. The mediating variable was tested and the best model from the three competing models were selected. In this section, the analysis will address the moderating (interaction) effects of E-Government individually and simultaneously.

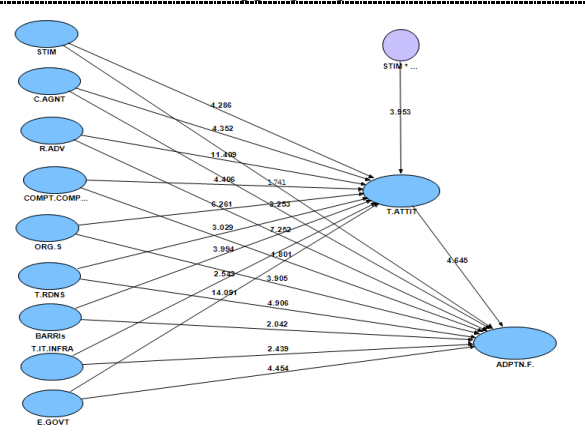
Figure (5.2): Testing the Moderating Effect Individual-effects

Model 1- Moderating Effect - STIM*E.GOV

Model 1a: PLS Algorithm



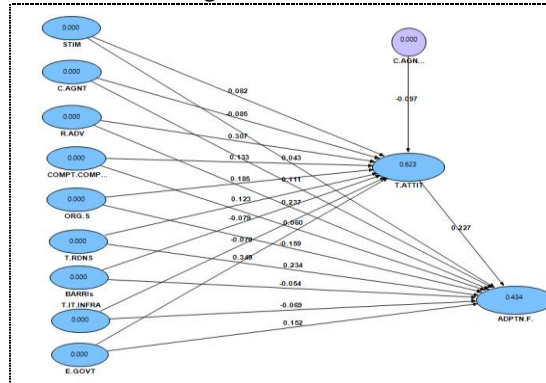
Model 1b: Bootstrapping Algorithm Path



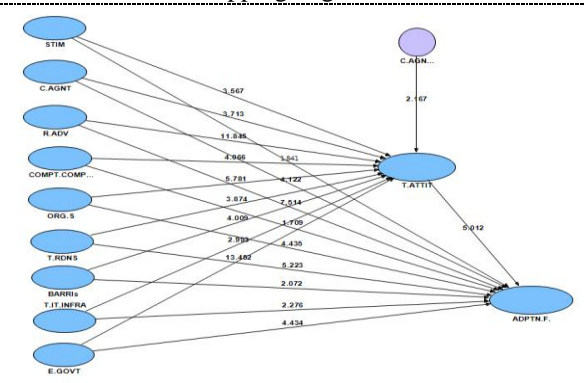
t-Values above in the model ≥ 1.96 are significant two tail test $P \leq 0.05$

Model 2 - Moderating Effect - C.AGNT*E.GOV

Model 2a: PLS Algorithm



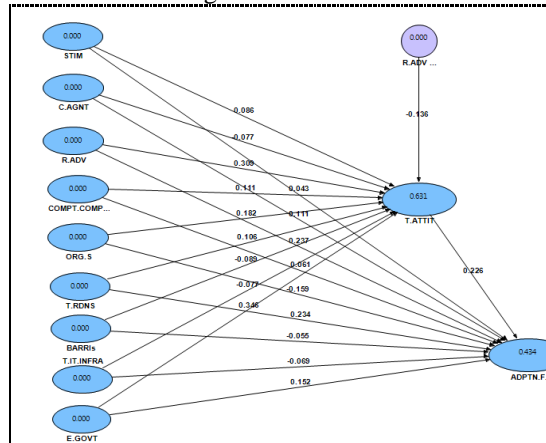
Model 2b: Bootstrapping Algorithm Path



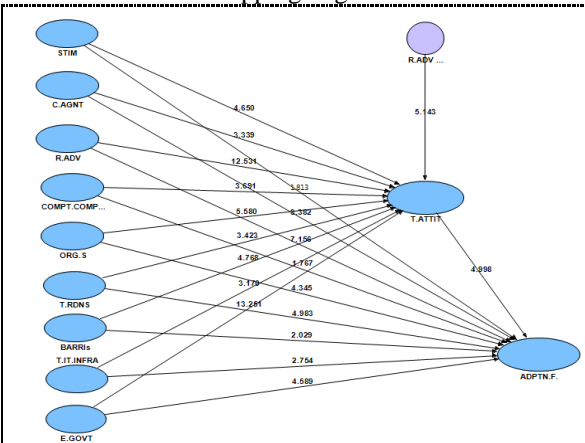
t-Values above in the model ≥ 1.96 are significant two tail test $P \leq 0.05$

Model 3 - Moderating Effect - R.ADV*E.GOV

Model 3a: PLS Algorithm



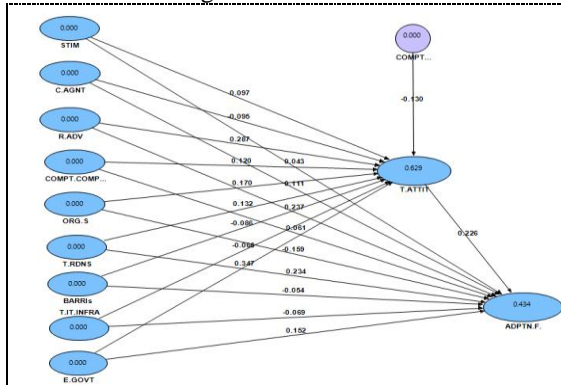
Model 3b: Bootstrapping Algorithm Path



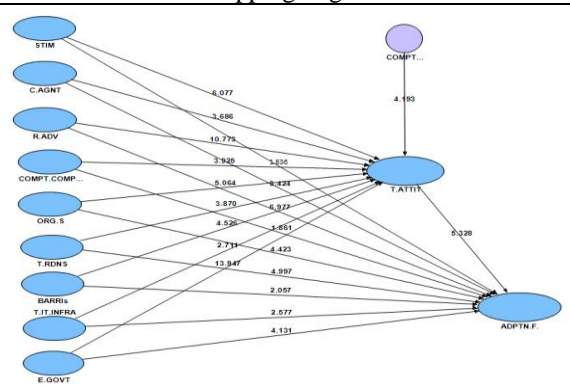
t-Values above in the model ≥ 1.96 are significant two tail test $P \leq 0.05$

Model 4 - Moderating Effect - COMPT.COMPLX*E.GOV

Model 4a: PLS Algorithm



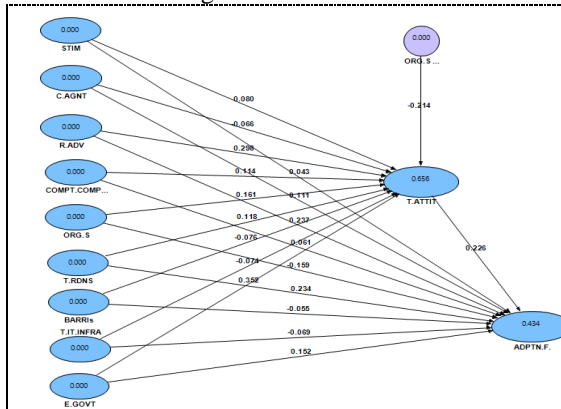
Model 4b: Bootstrapping Algorithm Path



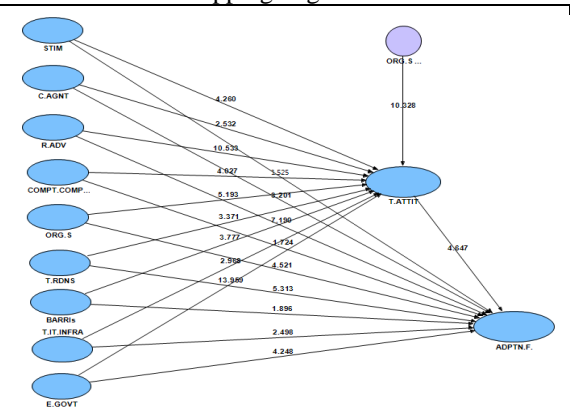
t-values above in the model ≥ 1.96 are significant two tail test $P \leq 0.05$

Model 5 - Moderating Effect - ORG.S*E.GOV

Model 5a: PLS Algorithm



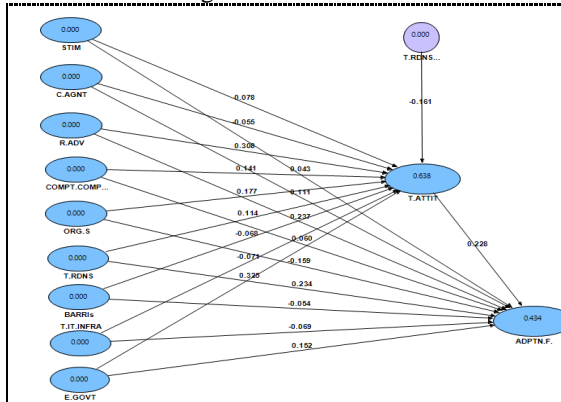
Model 5b: Bootstrapping Algorithm Path



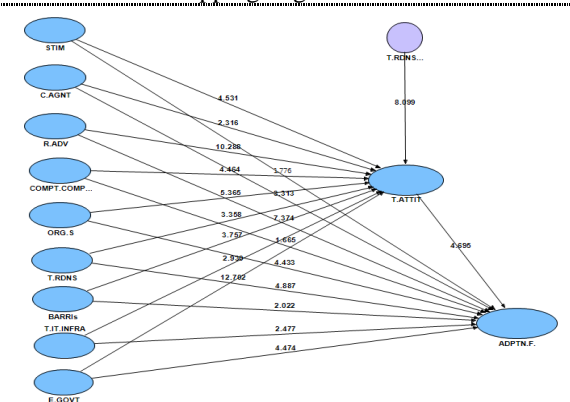
t-values above in the model ≥ 1.96 are significant two tail test $P \leq 0.05$

Model 6 - Moderating Effect - T.RDNS*E.GOV

Model 6a: PLS Algorithm



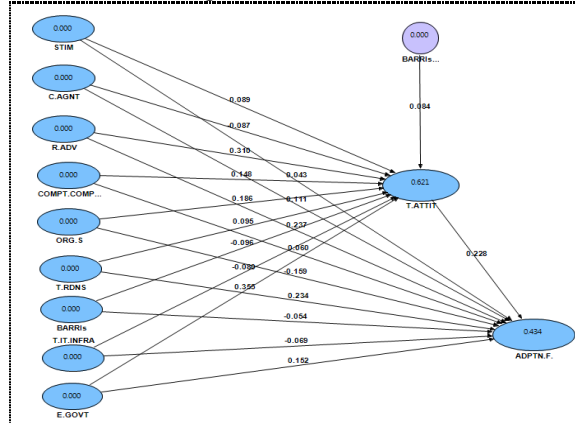
Model 6b: Bootstrapping Algorithm Path



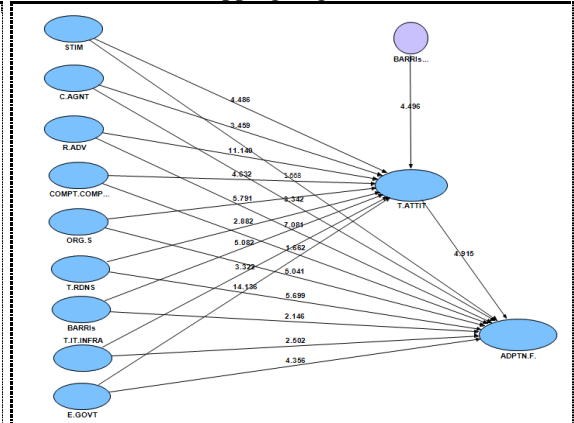
t-values above in the model ≥ 1.96 are significant two tail test $P \leq 0.05$

Model 7 - Moderating Effect - BARRIs*E.GOVt

Model 7a: PLS Algorithm



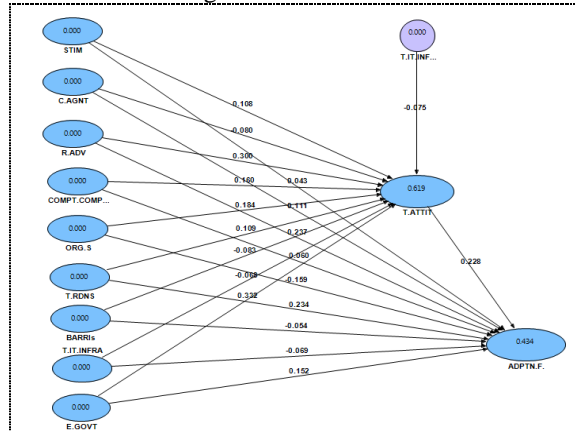
Model 7b: Bootstrapping Algorithm Path



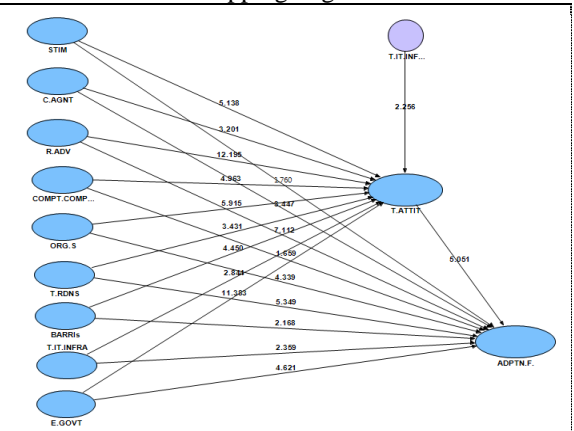
t-values above in the model ≥ 1.96 are significant two tail test $P \leq 0.05$

Model 8 - Moderating Effect - T.IT.INFRA*E.GOVt

Model 8a: PLS Algorithm



Model 8b: Bootstrapping Algorithm Path



t-values above in the model ≥ 1.96 are significant two tail test $P \leq 0.05$

Figure (5.2) contains eight models (a&b) that explains the interaction of the moderating variable on each relationship that connects the independent variables and the mediating variable total attitude toward change. Models-a reveals the results of PLS algorithms, which reports the path weights and the variance explained R^2 s. On the other hand, Models-b reports the significance levels achieved expressed by the t -values. The analysis in this part, the moderating effect, will explain the analysis in stage 2a compared with that in the stage1 model, which contains the mediating variable and the moderating variable E-Government as an independent variable. Similar to the procedures followed in the previous section, the two-stage approach is followed to evaluate the interaction effects of the moderating

variable modelled by PLS (Chin, et al. 2003; Henseler & Chin, 2010; Walter, et al. 2006). The interaction effect in stage 2a is investigated by comparing the base line model-1 (a&b) extracted from stage 1 with the eight models shown in stage 2a illustrated in figure (5.3).

The interaction effect of (STIM*E.GOV) represents the results of multiplying the independent variable indicators with the moderator variable indicators as recommended by Chin et al. (2003). The bootstrapping approach of sampling with replacement is used and the standard errors computed based on 600 bootstrapping runs. The effect size f^2 (a measure of the strength of the theoretical relationships originated in the analysis discussed in chapter three) is calculated.

$$f^2 = [R^2(\text{stage 2a}) - R^2(\text{stage 1})] / [1 - R^2(\text{stage 2a})]$$

Tenenhuis et al. (2005) mentioned that values of 0.02, 0.015, and 0.35 are considered to have small, medium, and large moderating effects.

Table 5.31; 1, presents the moderating effect of E-Government on the relationships of STIM → T.ATTIT model.1 and C.AGNT → T.ATTIT model.2. The results show a statistical significant moderating effect t -value of 3.953, $p \geq 0.05$ for model 1 and t -value of 2.167, $p \geq 0.05$ for model 2. Based on the procedures suggested by Tabachnick and Fidell (2007; p.148), the explained variance R^2 of 0.620 for model.1 and 0.623 for model.2, are higher than R^2 found in the model of stage 1 of 0.615. The goodness-of-fit GoF is 0.54 for both models. Then the effective size f^2 for model.1 is 0.020 and for model.2 is 0.021 which is considered small but have a

moderating effect; there is an increase in the beta values for both models. The increase in the explained variance R^2 and the effect size f^2 come from the contribution of the moderating effect. Therefore, the results confirm the claimed hypotheses.

Table (5.31) 1: Tests of PLS Algorithm Paths and Bootstrapping for Stages 1&2

PATH DIRECTION	STAGE (1)		STAGE (2a)			
	Model with No Moderating Effect		Model: 1 with Moderating Effect		Model: 2 with Moderating Effect	
	Path Coefficient	t-value	Path Coefficient	t-value	Path Coefficient	t-value
BARRIs -> T.ATTIT	-0.089	3.174**	-0.077	3.994**	-0.054	2.072**
C.AGNT -> T.ATTIT	-0.092	2.589**	-0.101	4.352**	-0.085	3.713**
COMPT.COMPLX -> T.ATTIT	0.155	3.363**	0.145	4.406**	0.133	4.066**
E.GOVt -> T.ATTIT	0.361	9.249**	0.366	14.091**	0.349	13.452**
ORG.S -> T.ATTIT	0.187	3.731**	0.188	6.261**	0.185	5.781**
R.ADV -> T.ATTIT	0.305	7.859**	0.306	11.409**	0.307	11.845**
STIM -> T.ATTIT	0.101	3.346**	0.083	4.286**	0.082	3.567**
T.IT.INFRA -> T.ATTIT	-0.082	2.436**	-0.061	2.543**	-0.070	2.993**
T.RDNS -> T.ATTIT	0.111	2.244**	0.099	3.029**	0.123	3.874**
T.ATTIT -> ADPTN.F.	0.228	3.248**	0.228	4.645**	0.227	5.012**
BARRIs -> ADPTN.F.	-0.054	1.361	-0.054	2.042	-0.054	2.072
C.AGNT -> ADPTN.F.	0.111	2.325	0.111	3.253	0.111	4.122
COMPT.COMPLX -> ADPTN.F.	0.06	1.127	0.060	1.801	0.060	1.709
E.GOVt -> ADPTN.F.	0.152	2.962	0.152	4.454	0.152	4.434
ORG.S -> ADPTN.F.	-0.159	3.087	-0.159	3.905	-0.159	4.435
R.ADV -> ADPTN.F.	0.237	5.166	0.237	7.252	0.237	7.514
STIM -> ADPTN.F.	0.043	1.157	0.043	1.741	0.043	1.841
T.IT.INFRA -> ADPTN.F.	-0.069	1.641	-0.069	2.439	-0.069	2.276
T.RDNS -> ADPTN.F.	0.234	3.505	0.234	4.906	0.234	5.223
STIM * E.GOVt -> T.ATTIT	-	-	-0.084	3.953**	-	-
C.AGNT * E.GOVt -> T.ATTIT	-	-	-	-	-0.097	2.167**

R²	0.615	0.620	0.623
GoF	0.55	0.54	0.54
Effect Size = f²	-	0.02*	0.021*
	-	β 0.083 β - 0.084↑	β 0.085 β - 0.097↑
	-	Low.....Medium.....Large	Low.....Medium.....Large
	-	0.02 0.15 0.35	0.02 0.15 0.35

* Even though the effect size is considered low however, the path coefficient β (Beta) increased. Thus there is a moderating effect.

** Sig. if the value ≥ 1.96 two tail t-test. $p \leq 0.05$

Table 5.31; 2, shows the moderating effect of E-Government on the relationships of R.ADV -> T.ATTIT model.3 and COMPT.COMPLX->T.ATTIT model.4. The results show a statistical significant moderating effect with t-value of 5.143, $p \geq 0.05$ for model.3

and t -value of 4.193, $p \geq 0.05$ for model.4. The explained variance R^2 is 0.631 for model 1 and 0.629 for model 2; these are higher than R^2 found in the model of stage 1 of 0.615. The goodness-of-fit GoF is 0.54 for both models. Then the effect size f^2 for model.3 is 0.040 and for model.4 is 0.040 which is considered small but have a moderating effect; there is an increase in the beta values for both models. Therefore, the results confirm the claimed hypotheses.

Table (5.31) 2 : Tests of PLS Algorithm Paths and Bootstrapping for Stages 1&2

PATH DIRECTION	STAGE (1)		STAGE (2a)			
	Model with No Moderating Effect		Model: 3 with Moderating Effect		Model: 4 with Moderating Effect	
	Path Coefficient	t -value	Path Coefficient	t -value	Path Coefficient	t -value
BARRIs -> T.ATTIT	-0.089	3.174**	-0.089	4.768	-0.086	4.526
C.AGNT -> T.ATTIT	-0.092	2.589**	-0.077	3.339	-0.095	3.686
COMPT.COMPLX -> T.ATTIT	0.155	3.363**	0.111	3.691	0.120	3.925
E.GOVt -> T.ATTIT	0.361	9.249**	0.346	13.251	0.347	13.947
ORG.S -> T.ATTIT	0.187	3.731**	0.182	5.580	0.170	5.064
R.ADV -> T.ATTIT	0.305	7.859**	0.309	12.531	0.287	10.773
STIM -> T.ATTIT	0.101	3.346**	0.086	4.650	0.097	6.077
T.IT.INFRA -> T.ATTIT	-0.082	2.436**	-0.077	3.170	-0.066	2.711
T.RDNS -> T.ATTIT	0.111	2.244**	0.106	3.423	0.132	3.870
T.ATTIT -> ADPTN.F.	0.228	3.248**	0.226	4.998	0.226	5.328
BARRIs -> ADPTN.F.	-0.054	1.361	-0.055	2.029	-0.054	2.057
C.AGNT -> ADPTN.F.	0.111	2.325	0.111	3.382	0.111	3.424
COMPT.COMPLX -> ADPTN.F.	0.06	1.127	0.061	1.767	0.061	1.861
E.GOVt -> ADPTN.F.	0.152	2.962	0.152	4.589	0.152	4.131
ORG.S -> ADPTN.F.	-0.159	3.087	-0.159	4.345	-0.159	4.423
R.ADV -> ADPTN.F.	0.237	5.166	0.237	7.156	0.237	6.977
STIM -> ADPTN.F.	0.043	1.157	0.043	1.813	0.043	1.836
T.IT.INFRA -> ADPTN.F.	-0.069	1.641	-0.069	2.754	-0.069	2.577
T.RDNS -> ADPTN.F.	0.234	3.505	0.234	4.983	0.234	4.997
R.ADV * E.GOVt -> T.ATTIT	-	-	-0.136	5.143	-	-
COMPT.COMPLX * E.GOVt -> T.ATTIT	-	-	-	-	-0.130	4.193

R²	0.615	0.631	0.629
GoF	0.55	0.54	0.54
Effect Size = f^2	-	0.04	0.04
	-	β 0.309 β - 0.136	β 0.120 β - 0.130 ↑
	-	Low.....Medium....Large	Low...Medium....Large
	-	0.02 0.15 0.35	0.02 0.15 0.35

* Even though the effect size is considered low however, the path coefficient β (Beta) increased. Thus there is a moderating effect.

** Sig. if the value ≥ 1.96 two tail t -test. $p \leq 0.05$

Table 5.31; 3 shows the moderating effect of E-Government on the relationships of ORG.S -> T.ATTIT (model.5) and T.RDNS->T.ATTIT (model.6). The results show a statistical

significant moderating effect (t -value of 10.328, $p \geq 0.05$ for model.5 and t -value of 8.099, $p \geq 0.05$ for model.6. The explained variance R^2 is 0.656 for model.5 and 0.638 for model.6; these are higher than R^2 found in the model of stage 1 of 0.615. The goodness-of-fit GoF is 0.55 for both models. Then the effect size f^2 for model.5 is 0.120 and for model.6 is 0.060 considered small close to medium but have a moderating effect there is an increase in the beta values for both models. Therefore, the results confirm the claimed hypotheses.

Table (5.31) 3 : Tests of PLS Algorithm Paths and Bootstrapping for Stages 1&2

PATH DIRECTION	STAGE (1)		STAGE (2a)			
	Model with No Moderating Effect		Model: 5 with Moderating Effect		Model: 6 with Moderating Effect	
	Path Coefficient	t -value	Path Coefficient	t -value	Path Coefficient	t -value
BARRIs -> T.ATTIT	-0.089	3.174**	-0.076	3.777	-0.068	3.757
C.AGNT -> T.ATTIT	-0.092	2.589**	-0.066	2.532	-0.055	2.316
COMPT.COMPLX -> T.ATTIT	0.155	3.363**	0.114	4.027	0.141	4.464
E.GOVt -> T.ATTIT	0.361	9.249**	0.352	13.959	0.325	12.702
ORG.S -> T.ATTIT	0.187	3.731**	0.161	5.193	0.177	5.365
R.ADV -> T.ATTIT	0.305	7.859**	0.298	10.533	0.308	10.288
STIM -> T.ATTIT	0.101	3.346**	0.080	4.260	0.078	4.531
T.IT.INFRA -> T.ATTIT	-0.082	2.436**	-0.074	2.968	-0.071	2.930
T.RDNS -> T.ATTIT	0.111	2.244**	0.118	3.371	0.114	3.358
T.ATTIT -> ADPTN.F.	0.228	3.248**	0.226	4.647	0.228	4.695
BARRIs -> ADPTN.F.	-0.054	1.361	-0.055	1.896	-0.054	2.022
C.AGNT -> ADPTN.F.	0.111	2.325	0.111	3.201	0.111	3.313
COMPT.COMPLX -> ADPTN.F.	0.06	1.127	0.061	1.724	0.060	1.665
E.GOVt -> ADPTN.F.	0.152	2.962	0.152	4.248	0.152	4.474
ORG.S -> ADPTN.F.	-0.159	3.087	-0.159	4.521	-0.159	4.433
R.ADV -> ADPTN.F.	0.237	5.166	0.237	7.190	0.237	7.374
STIM -> ADPTN.F.	0.043	1.157	0.043	1.525	0.043	1.776
T.IT.INFRA -> ADPTN.F.	-0.069	1.641	-0.069	2.498	-0.069	2.477
T.RDNS -> ADPTN.F.	0.234	3.505	0.234	5.313	0.234	4.887
ORG.S * E.GOVt -> T.ATTIT	-	-	-0.214	10.328	-	-
T.RDNS * E.GOVt -> T.ATTIT	-	-	-	-	-0.161	8.099

R²	0.615	0.656	0.638
GoF	0.55	0.55	0.55
Effect Size = f²	-	0.12	0.06
	-	β 0.85	β - 0.97 ↑
	-	Low.....Medium.....Large	Low.....Medium.....Large
	-	0.02 0.15 0.35	0.02 0.15 0.35

* Even though the effect size is considered low however, the path coefficient β (Beta) increased. Thus there is a moderating effect.

** Sig. if the value ≥ 1.96 two tail t -test. $p \leq 0.05$

Table 5.31; 4, demonstrates the moderating effect of E-Government on the relationships of BARRIs->T.ATTIT (model.7) and T.IT.INFRA->T.ATTIT (model.8). The results show a statistical significant moderating effect (t -value of 4.496, $p \geq 0.05$ for model.7 and t -value of 2.256, $p \geq 0.05$ for model.8).

Table (5.31) 4 : Tests of PLS Algorithm Paths and Bootstrapping for Stages 1&2

PATH DIRECTION	STAGE (1)		STAGE (2a)			
	Model with No Moderating Effect		Model: 7 with Moderating Effect		Model: 8 with Moderating Effect	
	Path Coefficient	t -value	Path Coefficient	t -value	Path Coefficient	t -value
BARRIs -> T.ATTIT	-0.089	3.174**	-0.096	5.082**	-0.083	4.450**
C.AGNT -> T.ATTIT	-0.092	2.589**	-0.087	3.459**	-0.080	3.201**
COMPT.COMPLX -> T.ATTIT	0.155	3.363**	0.148	4.632**	0.160	4.963**
E.GOVt -> T.ATTIT	0.361	9.249**	0.355	14.136**	0.332	11.383**
ORG.S -> T.ATTIT	0.187	3.731**	0.186	5.791**	0.184	5.915**
R.ADV -> T.ATTIT	0.305	7.859**	0.310	11.140**	0.300	12.195**
STIM -> T.ATTIT	0.101	3.346**	0.089	4.486**	0.108	5.138**
T.IT.INFRA -> T.ATTIT	-0.082	2.436**	-0.080	3.322**	-0.068	2.844**
T.RDns -> T.ATTIT	0.111	2.244**	0.095	2.882**	0.109	3.431**
T.ATTIT -> ADPTN.F.	0.228	3.248**	0.228	4.915**	0.228	5.051**
BARRIs -> ADPTN.F.	-0.054	1.361	-0.054	2.146	-0.054	2.168
C.AGNT -> ADPTN.F.	0.111	2.325	0.111	3.342	0.111	3.447
COMPT.COMPLX -> ADPTN.F.	0.06	1.127	0.060	1.662	0.060	1.659
E.GOVt -> ADPTN.F.	0.152	2.962	0.152	4.356	0.152	4.621
ORG.S -> ADPTN.F.	-0.159	3.087	-0.159	5.041	-0.159	4.339
R.ADV -> ADPTN.F.	0.237	5.166	0.237	7.081	0.237	7.112
STIM -> ADPTN.F.	0.043	1.157	0.043	1.668	0.043	1.760
T.IT.INFRA -> ADPTN.F.	-0.069	1.641	-0.069	2.502	-0.069	2.359
T.RDns -> ADPTN.F.	0.234	3.505	0.234	5.699	0.234	5.349
BARRIs * E.GOVt -> T.ATTIT	-	-	0.084	4.496**	-	-
T.IT.INFRA * E.GOVt -> T.ATTIT	-	-	-	-	-0.075	2.256**
R²	0.615		0.621		0.619	
GoF	0.55		0.54		0.54	
Effect Size = f^2	-		0.02		0.02	
	-		β 0.084	β -0.096 ↑	β -0.068	β -0.075 ↑
	-		Low.....Medium.....Large		Low.....Medium.....Large	
	-		0.02	0.15 0.35	0.02	0.15 0.35

* Even though the effect size is considered low however, the path coefficient β (Beta) increased. Thus there is a moderating effect.

** Sig. if the value ≥ 1.96 two tail t -test. $p \leq 0.05$

The explained variance R^2 is 0.621 for model.7 and 0.619 for model.8; these are higher than R^2 found in the model of stage 1 of 0.615. The goodness-of-fit (GoF) is 0.54 for both models. Then the effect size f^2 for model 1 is 0.020 and for model 2 is 0.020 considered

small but have a moderating effect there is an increase in the beta values for both models. Therefore, the results confirm the claimed hypotheses.

The results of the analyses from stage one and from stage two - testing the moderating effect of E-Government on each relationship (independently-Models 1 to 8) of the select fit model presented in stage one - above are expressed and summarised in table 5.32. It is found that hypotheses 1 to 20 are supported.

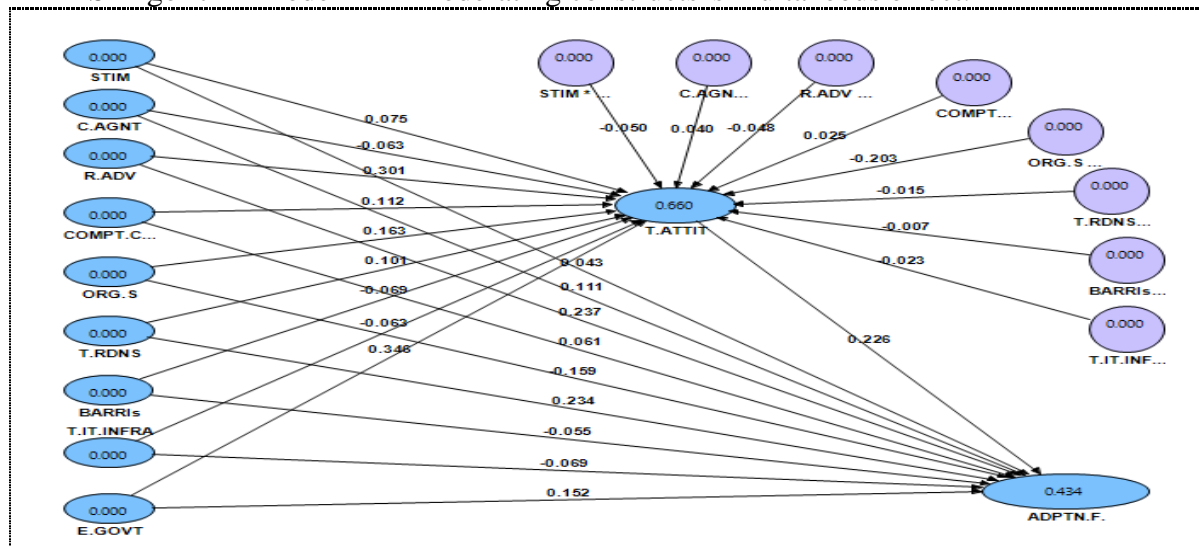
Table (5.32): Results of Hypotheses Testing Using Structural Equation Modeling - No Simultaneous Moderation Effect (Moderating Effect once on each relationship only)

Hypothesis Number	Relationship	Path Coefficient	t-value	p-value	Test Results
H1	STIM -> T.ATTIT	0.101	3.346	0.001	Supported
H2	C.AGNT -> T.ATTIT	-0.092	2.589	0.010	Supported
H3	R.ADV -> T.ATTIT	0.305	7.859	0.000	Supported
H4&5	COMPT.COMPLX -> T.ATTIT	0.155	3.363	0.001	Supported
H6	ORG.S -> T.ATTIT	0.187	3.731	0.000	Supported
H7	T.RDNS -> T.ATTIT	0.111	2.244	0.026	Supported
H8	T.IT.INFRA -> T.ATTIT	-0.082	2.436	0.016	Supported
H9	BARRIs -> T.ATTIT	-0.089	3.174	0.002	Supported
H10	E.GOVt -> T.ATTIT	0.361	9.249	0.000	Supported
H11	Model 1: - STIM * E.GOVt -> T.ATTIT	-0.084	3.953	0.000	Supported
H12	Model 2: - C.AGNT * E.GOVt -> T.ATTIT	-0.097	2.167	0.031	Supported
H13	Model 3: - R.ADV * E.GOVt -> T.ATTIT	-0.136	5.143	0.000	Supported
H14&15	Model 4: - COMPT.COMPLX * E.GOVt -> T.ATTIT	-0.130	4.193	0.000	Supported
H16	Model 5: - ORG.S * E.GOVt -> T.ATTIT	-0.214	10.328	0.000	Supported
H17	Model 6: - T.RDNS * E.GOVt -> T.ATTIT	-0.161	8.099	0.000	Supported
H18	Model 8: - T.IT.INFRA * E.GOVt -> T.ATTIT	-0.075	2.256	0.025	Supported
H19	Model 7: - BARRIs * E.GOVt -> T.ATTIT	-0.084	4.496	0.000	Supported
H20	T.ATTIT -> ADPTN.F.	0.228	3.248	0.001	Supported

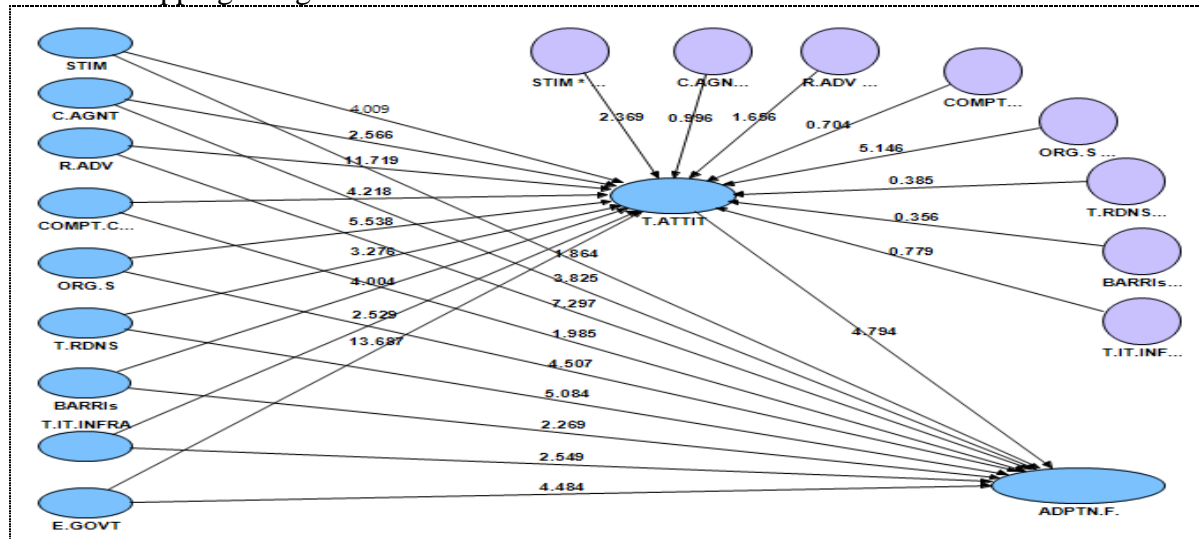
On the other hand, this part of the analysis presents additional findings. The objective of this part of the analysis is to test the simultaneous effect of the moderating variable E-Government on all relationships of the independent variables and the mediating variable total attitude toward change. Figure 5.3 reveals the computed results of the simultaneous effect analysis part (1) which shows the path coefficients and R² results for the independent variables, the mediating variable, and the moderating effects.

Figure (5.3): PLS Algorithm and Bootstrapping Path Modeling Results

1 - PLS Algorithm Model - All moderating constructs' simultaneous effect.



2 - Bootstrapping - Logarithm Path Model - Simultaneous Moderation Effect.



Part (2) reveals the t -values results for all independent variables, the mediating variable total attitude toward change, and the interaction effects. The t -test values are for two tail test.

Table 5.33 summaries the results of PLS simultaneous analyses of the moderating effect.

The path analysis reveals a significance simultaneous effect of only three relationships.

Table (5.33): Tests of PLS Algorithm Paths and Bootstrapping for Stages 1&2 Simultaneous Moderation Effect

PATH DIRECTION	STAGE (1)			STAGE (2b)		
	Model with No Moderating Effect			Model: 9 Simultaneous Moderating Effect		
	Path Coefficient	t-value	p	Path Coefficient	t-value	p
BARRIs -> T.ATTIT	-0.089	3.174	0.002	-0.069	4.004	0.000
C.AGNT -> T.ATTIT	-0.092	2.589	0.010	-0.063	2.566	0.011
COMPT.COMPLX -> T.ATTIT	0.155	3.363	0.001	0.112	4.218	0.000
E.GOVt -> T.ATTIT	0.361	9.249	0.000	0.346	13.687	0.000
ORG.S -> T.ATTIT	0.187	3.731	0.000	0.163	5.538	0.000
R.ADV -> T.ATTIT	0.305	7.859	0.000	0.301	11.719	0.000
STIM -> T.ATTIT	0.101	3.346	0.001	0.075	4.009	0.000
T.IT.INFRA -> T.ATTIT	-0.082	2.436	0.016	-0.063	2.529	0.012
T.RDNS -> T.ATTIT	0.111	2.244	0.026	0.101	3.276	0.001
BARRIs -> ADPTN.F.	0.228	3.248	0.001	-0.055	2.269	0.024
C.AGNT -> ADPTN.F.	-0.054	1.361	0.175	0.111	3.825	0.000
COMPT.COMPLX -> ADPTN.F.	0.111	2.325	0.021	0.061	1.985	0.048
E.GOVt -> ADPTN.F.	0.06	1.127	0.261	0.152	4.484	0.000
ORG.S -> ADPTN.F.	0.152	2.962	0.003	-0.159	4.507	0.000
R.ADV -> ADPTN.F.	-0.159	3.087	0.002	0.237	7.297	0.000
STIM -> ADPTN.F.	0.237	5.166	0.000	0.043	1.864	0.064
T.ATTIT -> ADPTN.F.	0.043	1.157	0.249	0.226	4.794	0.000
T.IT.INFRA -> ADPTN.F.	-0.069	1.641	0.102	-0.069	2.549	0.012
T.RDNS -> ADPTN.F.	0.234	3.505	0.001	0.234	5.084	0.000
BARRIs * E.GOVt -> T.ATTIT	-	-	-	-0.007	0.356	0.722
COMPT.COMPLX * E.GOVt -> T.ATTIT	-	-	-	0.025	0.704	0.482
ORG.S * E.GOVt -> T.ATTIT	-	-	-	-0.203	5.146**	0.000
R.ADV * E.GOVt -> T.ATTIT	-	-	-	-0.048	1.656*	0.050
STIM * E.GOVt -> T.ATTIT	-	-	-	-0.050	2.369**	0.019
C.AGNT * E.GOVt -> T.ATTIT	-	-	-	0.040	0.996	0.321
T.IT.INFRA * E.GOVt -> T.ATTIT	-	-	-	-0.023	0.779	0.437
T.RDNS * E.GOVt -> T.ATTIT	-	-	-	-0.015	0.385	0.701
R²	0.615			0.660		
GoF	0.55			0.51		
Effect Size = f² (Close to Medium)	-			0.13		
	-			Low.....Medium.....Large		
	-			0.02	0.15	0.35

** Sig. if the value ≥ 1.96 two tail t-test. $p \leq 0.05$, * Sig. if the value ≥ 1.64 one tail t-test. $p \leq 0.05$

There is a moderation effect of E-Government on the relationships on organisational support and total attitude toward change with $\beta = -.203$, t -value = 5.146, $p \geq 0.000$, relative advantage and total attitude toward change with $\beta = -.048$, t -value = 1.656 - one tail t -test, $p \geq 0.050$, and change stimuli and total attitude toward change with $\beta = -.050$, t -value =

2.369, $p \geq 0.019$. The variance explained R^2 increased from 0.615 in stage one to 0.660 in stage 2b. The model goodness-of-fit found to be in the acceptable range of 0.51, while the model effect size found to be close to the medium level $f^2 = 0.13$. The other relationships the model were found to be insignificant.

In conclusion, the results of the moderation effects on the simultaneous model are demonstrated on the hypotheses testing presented in table 5.34, which is confirming the support for hypotheses : -

H: 1, H: 2, H: 3, H: 4&5, H: 6, H: 7, H: 8, H: 9, H: 10, H:11, H: 13, H: 16, & H: 20

Table (5.34): Results of Hypotheses Testing Using Structural Equation Modeling Simultaneous Moderation Effect

Hypothesis Number	Relationship	Path Coefficient	t-value	p-value	Test Results
H1	STIM -> T.ATTIT	0.075	4.009	0.000	Supported
H2	C.AGNT -> T.ATTIT	-0.063	2.566	0.011	Supported
H3	R.ADV -> T.ATTIT	0.301	11.719	0.000	Supported
H4&5	COMPT.COMPLX -> T.ATTIT	0.112	4.218	0.000	Supported
H6	ORG.S -> T.ATTIT	0.163	5.538	0.000	Supported
H7	T.RDNS -> T.ATTIT	0.101	3.276	0.001	Supported
H8	T.IT.INFRA -> T.ATTIT	-0.063	2.529	0.012	Supported
H9	BARRIs -> T.ATTIT	-0.069	4.004	0.000	Supported
H10	E.GOVt -> T.ATTIT	0.346	13.687	0.000	Supported
H11	Model 9: - STIM * E.GOVt -> T.ATTIT	-0.050	2.369**	0.019	Supported
H12	- C.AGNT * E.GOVt -> T.ATTIT	0.040	0.996	0.321	Not Supported
H13	- R.ADV * E.GOVt -> T.ATTIT	-0.048	1.656*	0.050	Supported
H14&15	- COMPT.COMPLX * E.GOVt -> T.ATTIT	0.025	0.704	0.482	Not Supported
H16	- ORG.S * E.GOVt -> T.ATTIT	-0.203	5.146**	0.000	Supported
H17	- T.RDNS * E.GOVt -> T.ATTIT	-0.015	0.385	0.701	Not Supported
H18	- T.IT.INFRA * E.GOVt -> T.ATTIT	-0.023	0.779	0.437	Not Supported
H19	- BARRIs * E.GOVt -> T.ATTIT	-0.007	0.356	0.722	Not Supported
H20	T.ATTIT -> ADPTN.F.	0.226	4.794	0.000	Supported

** Sig. if the value ≥ 1.96 two tail t-test. $p \leq 0.05$, * Sig. if the value ≥ 1.64 one tail t-test. $p \leq 0.05$

5.3 Results from the Interview Survey

From the fifty-two interviewees selected to be interviewed who are government leadership, former ministers, politicians, accounting professional society, audit institutions, and consulting firms, and academics (epistemic Communities) that are specified in theory by Lüder (2001), only eleven respondents answered the interview survey in writing on the condition to not mention directly or indirectly their names. The objective of the interview survey is to support this research study in answering all research questions, and to support and validate the data collected by the questionnaire survey, to provide future and deep insights. There is no overlap between the instruments used in this research as the questionnaire survey addressed the middle layer of the central government of Yemen accountants, auditors, and financial managers who are fully responsible of carrying out all accounting and financial management activities of the whole government, while the interview protocol addressed the top layer of the government mostly political leaders and top executive of the government (the champions). Normally those champions or leaders are the ones who took the initial decision to adopt the reform and change from cash basis accounting to full accrual basis of accounting. The vision here is to see and check the matching between these two layers of the government leadership and management regarding the reform change matter. The results of the analysis that will come from the questionnaire survey and from the interview protocol, if matched, then confirms and validities the vision of the two parties and proves that an acceptable level of coordination is existing between the two groups in supporting and standing strongly and positively with the reform change.

5.3.1 Analysis and Interpretation Approach

Data analysis involves making a general sense of the data. There are some features of this process included. The features are the inductive ie. going from the particular to the general, the simultaneous and iterative analysing and collecting data, the development of deeper understanding of data by reading several times; the interpretive and required personal assessment, and analysing data, which entails no single method (Creswell, 2008).

Data analysis and interpretation involved six main steps: preparing and organising the data, exploring and coding the database, describing findings and forming themes, representing and reporting findings, interpreting the meaning of the findings, and validating the accuracy of the findings (Creswell, 2008).

1. Preparing and organising the data

This process includes transferring the audio interviews (spoken) into text (transcript). After this, the decision shall be made regarding using manual analysis or using computer software. According to Creswell (2008), the decision of analysing data manually depends on the size of the manuscript (less than 500 pages of single-spaced transcription); the desire to be close to the data without the intrusion of a machine; and the availability of time for hand analysis, since this process takes too much time and effort.

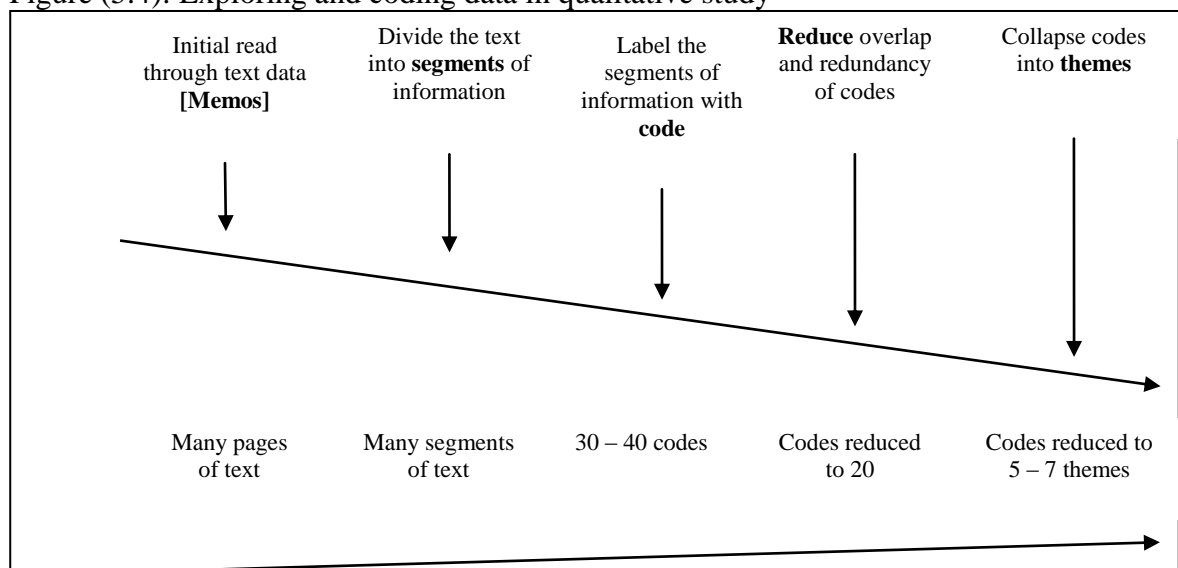
2. Exploring and coding

Exploring and coding data is the first step in data analysis. It involves reading the transcript and conducting the following : writing memos in the margin of the text of

ideas, phrases or hunches in the first reading, dividing the text into segments (which are labelled sentences or paragraphs in the transcript that can explain the phenomena or answer the research questions). These segments shall assign to some codes. Codes can be *in vivo* codes that are the actual words of the participants or can be words of standards terms that are extracted from the literature (Creswell, 2008). Normally a manuscript of 20 pages entails 10 to 15 codes (Creswell, 2008). After coding the whole text, a list of all codes shall be arranged in a table to reduce the similar and the redundant codes. After that, the codes shall be collapsed to a less number of themes or categories, usually 5 to 7 themes.

Themes that have similar codes are aggregated to form a major idea in the database (Creswell, 2008). Figure 5.4 illustrates these processes of exploring and the coding of data.

Figure (5.4): Exploring and coding data in qualitative study



(Source: Creswell, 2008)

5.3.2 Analysis of the Results

Based on the methodological approach specified in figure 5.4 above, the analysis revealed common themes that are consistent with the classification of the questionnaire results. Classification and detailed explanations follows, starting with background information related to every person interviewed.

5.3.2.1 Interview Respondents' Profiles

The objective of the interview survey was to collect data pertinent to this study from top officials in the government, who had the initiative to reform change decision. The questionnaire survey data had been collected from online officials in the ministries of the central government of Yemen that are considered as practitioners such as general managers for financial affairs, financial managers, accounting and auditing department heads.

On the other hand, respondents of the interview survey are in higher ranks officials who are considered as policy makers such as ministers, deputy ministers, assistant deputy ministers and general managers in government corporations. The selected officials for the interview survey came from or related to the Ministry of Finance, the Ministry of Telecommunication and Information Technology, and COCA. They had sufficient background and knowledge related the government budgeting, accounting, finance, public administration operations, auditing, information systems and technology.

On the interview with respondents, all of them accepted to be interviewed on a face to face meeting. They asked to be given the interview protocol and they selected to answer the questions in writing on the conditions that if anything is not understood or unclear then they

will contact the researcher. They did that because they did not want that to happen officially in office working hours for political and managerial considerations and they did not want anyone to know who they were, and that they answered such interview survey. They insisted to keep that totally confidential. For this purpose, interviewees were referred to in numerical terms only and the titles; they have no time period specification at all.

Table (5.35): Respondents of the Semi-Structured Interview

Interviewees' Profile				
No.:	Gender	Position	Qualification	Experience
1	Male	Former Minister of Finance, Member of the Sura Council	Economics and Public Finance	≥ 25 Years
2	Male	Deputy Assistant at Central Organisation for Control & Audit (COCA)	Bachelor in Economics	≥ 20 Years
3	Male	Accounting & Financial Management Information System (AFMIS), Project Coordinator, Ministry of Finance.	Master degree in Information Technology, IT Specialist	≤ 5 Years
4	Male	General Manager (GM) Internal Audit at the General Corporation for Telecommunication and Information Technology (GCTIT)	Bachelor in Business Admin.	≥ 20 Years
5	Male	GM Expert in Government accounting and information system at the Financial Institute, Ministry of Finance.	Bachelor degree in Accounting	≥ 20 Years
6	Male	Deputy Minister for Planning and Statistics, Ministry of Finance.	Professor of economics at Sana'a University	≥ 30 Years
7	Male	Deputy Assistant for Planning and Statistics, Ministry of Finance.	Bachelor + Master In Economics & Political Science	≥ 25 Years
8	Male	GM Department of Info. Systems & IT Infra. Ministry of Telecommunication and Information Technology (MTIT)	Bachelor Science in Computer Science	≥ 13 Years
9	Male	Former deputy Minister and Consultant to the Minister of Finance	Bachelor in Accounting & 2 Diplomas. Author of several accounting books	≥ 32 Years
10	Male	Deputy Minister for Financial and Administrative Affairs, at the Ministry of Finance.	PhD - Lecturer at Sana'a University	≥ 20 Years
11	Male	Deputy Minister for Government Accounts Affairs, at the Ministry of Finance.	Associate Prof. of Accounting, Lecturer at Sana'a University	≥ 25 Years

The data collected from interviewees were only for eleven officials, one former minister, four deputy ministers, two deputy ministers' assistants, three general managers, and one project co-coordinator. Eight selected officials from the Ministry of Finance and its authorities, two officials from the Ministry of Telecommunication and Information Technology, one official from the central organisation for control and audit COCA.

Those officials are well respected and well experienced, they served in the government for long periods of time see table 5.35 seven for more than twenty years, two for more than thirty years, one for more than thirteen years, and only one for less than five years. They were well qualified; three of them hold at least a PhD degree, two master degrees, and six at least bachelor degrees. All of them are familiar with the specific and environmental conditions of the work form and work application procedures to policy formulation. Most of them encountered many challenges and obstacles in their work and witnessed many turmoil and changes in their work settings before and after the country's unification.

5.3.2.2 Analysis of Responses on the Characteristics of Yemen Governmental Accounting & Information System Currently in Use

The analysis in this part goes in the same direction and objectives with that in the questionnaire survey. The results from analysing the data in this axis corresponds to research questions one in this study, to match the outcomes from the questionnaire survey. The following themes are extracted from the data analysis will be discussed :-

5.3.2.2.1 *Basis of Accounting*

As pointed out in the literature, country background, and in the questionnaire survey, governmental accounting in Yemen central government is working under cash basis of accounting and thereafter adjusted to be working under the modified cash basis accounting so that finance ministry accountants and officials can expense-budget amounts until the end of January of the coming year, and can carried on the previous year's budget and accounts. However, the intention of the leadership of the government and the Ministry of Finance are willing to transform from the modified cash basis accounting to full accrual basis of accounting and the expected date set to accomplish that objective is by the end of fiscal year 2014. As interviewee number 5 stated :-

"Our former deputy prime minister and finance minister then stressed the importance of transforming from the cash basis of accounting to full accrual basis of accounting even though we will have difficult times ahead in the process of the implementation. But we all can do it, and the government represented by his Excellency will provide all training and support needed" (Interviewee, 5).

Six interviewees agreed with interviewee 5, the remaining four expressed their negative feelings against the whole deal and said that is a joke, we are not like western countries we are still poor and our salaries are very low and they ask us to do more.. how come even though they promised us that but in reality that is different.

Similarly, Saleh & Pendlebury (2006), using Lüder contingency model, found that the Malaysian context contributes to the debates on the use of accruals accounting by the government to improve its financial management procedures, see page 83 in this study.

5.3.2.2.2 *Government Institutional Framework*

The government of Yemen's accounting and financial management and reporting by law is dominated by its Ministry of Finance's staff and officials. That is, all government ministries, branches, units, authorities, public organisations and universities, governorates, and local authorities accounting and financial management and reporting function is performed and managed by the Ministry of Finance's official staff who were appointed to work in these units. Official staff can be altered, or return back to their ministry (the Ministry of Finance), to be put into service in other units of the government based on a decree from the Minister of Finance. The Ministry of Finance has its own academic and research institution (the Finance Institute) which train its staff and accounting officers and facilitate the acquisition of professional knowledge.

Coordination exists between the Ministry of Finance and COCA regarding the external annual audit and special cases' audit performed by COCA on government periodical (annual) financial performance, as part of the legal and constitutional requirements, the reports accompanied by the final accounts must be presented to the Parliament on time. In both cases the Ministry of Finance's accountants and financial officers and COCA auditors exercise their full professional independence.

Interviewees were asked if the Finance Institute currently is able to provide the necessary training and qualification for government accountants and financial officers in the application of accrual basis of accounting system at the government level. Interviewee 7 declared the following statement :-

"The Finance Institute has a limited number of well qualified academicians and staff, therefore it cannot do it alone because it does not have the needed resources, qualified staff, and preparation to meet such huge work. Coordination with universities and other academic and professional institutions is needed" (Interviewee, 7).

All other interviewees in general share this view and opinion with interviewee number 7, and some added that moral encouragement of their importance and value to the government and the promised bright future is needed for the trained official and financial compensation support is also needed. Moreover, they stressed the importance of the private sector academic and professional society's participation to gain part of their experience and knowledge in the matter.

All budgeting activities are translated at the end into accounting and numbers that are linked between the two functions in total, which is under the authority of the Ministry of Finance. The country's annual budgets have to go through the Parliament for approval and the approval of the cabinet who forwards it after reaching a consensus to the Parliament for discussions and study until reaching a common ground and having it approved. Then the budget goes to the president of the republic of approval of the budget by issuing a law of the budget based of the Parliament approval and signing, before going to ministry of finance for execution arrangements, according to the government accounting policies and procedures under the ministry financial administration's formalities.

Governorates and local authorities gained IT, financial, and managerial independence that does not contradict prevailing laws under the local authorities law. Interviewees were asked

if the current modified cash basis accounting works properly with the decentralisation issue. According interviewee 6 :-

"...the modified cash basis accounting is designed to work perfectly with the bureaucratic centralised system which works meet line item budgeting specification. However, decentralisation means delegation of authority and work by objectives to perform independent accounting and management, which is in reality happening. The accounting function still very centralised under the direct supervision of and control of the ministry of finance. To reach centralisation requirements time and an active reform in other law and a total change in procedures is needed" (Interviewee, 6).

Six interviewees' in their opinion see that the current modified cash basis accounting do not work properly with governorates and local authorities' decentralisation and financial independence. While two interviewees confirm that and said it can work. The rest mentioned that it can work to some extent. This is confirmed in Lüder (1992), see pages 120 and 183, under structural variables of the politico-administrative system. See also Harun (2007) page 94 in this study.

5.3.2.2.3 *Government Financial Reporting*

As mentioned earlier that the accounting function at the Ministry of Finance is to reflect the budget allocations which is still using the cash basis accounting (modified). Therefore, the accounting system is made to facilitate the budget control, to facilitate legislatives' oversight that represents the general public as a whole. The outcomes of the system are mainly directed at the peoples' representatives, who are interested from the public to gather such information. Generally, a summary of the budget and the final account go public on time via all government official media. The following information has been recorded from observations and the explanations of some high ranking officials at the Ministry of Finance.

Accrual basis of accounting until now is not practised, as some limited double entry accounting are used mainly at the end of the year to record the due amounts for late payment within the month of January of the next fiscal year, for commitment accounting, and advance payments. Other than that all are still using cash based accounting. There is no recognition for capital assets or liabilities, but all are expensed. The government uses the historical cost approach for evaluating its transactions. The deficit at the end of the year is transferred into the government's general account (an accumulated account) and is used in the national accounts. Only cash received or disbursed are recognised and all obligations might be recorded as commitments but only recognised when payment occurred.

At the end of the fiscal year all accounting books are closed, sealed, stamped, and officially transferred for keeping with designated responsible officials. Normally what will be remaining are the periodical reports, budgets, and final accounts at the ministry departments.

The Ministry of Finance usually collects all budgeting and accounting reports for the purpose of documentation and closing the fiscal year accounts from all units of the government across the country. There are no financial statements yet but the final account of the government as a whole is still issued. It is for the government policies and the responsibility of the Ministry of Finance to not exceed all accounts, not to exceed its budgeted specific allocations at whatever reasons. Doing that is only at the very top level of the government and for very limited transactions.

Financial reports are issued periodically and distributed all over the country to all government units, organisations, local and international agencies, public libraries and universities for the general public and for all interested researchers. The reports are disseminated in text format and in CDs and through the official web site of the ministry of finance. Researchers and interested parties are allowed to full access of data based on an official request.

Interviewees were asked to provide their opinions on the deficiencies of the government current modified cash basis accounting, reporting, and information system. According to interviewee 1 :-

"The current modified cash basis accounting and reporting system does not provide enough information for government leadership for control and for modern management" (Interviewee, 1).

Nine of the interviewees agreed with interviewee 1's response and only one of them thinks to the contrary that the current system does provide enough information for the government leadership for control and decision making.

Interviewees were also asked if the current modified cash basis accounting, reporting, and information system meet the needs and requirements of international donor and lending agencies. Seven of them said it does not and the remaining four mentioned that it can provide to some extent their needs. As interviewee number 3 stated :-

"It is appropriate, but after implementing the economic classification of government financial statistics according to the IMF 2001 manual." (Interviewee, 3)

Moreover, interviewees were asked whether the current modified cash basis accounting, reporting, and information system can provide enough information on the government assets and liabilities. All interviewees agreed that the current accounting and reporting system does not provide any accounting information on the government assets and liabilities. They mentioned that the Ministry of Finance record that on non-accounting books and for statistical references only. In the same context, it is found by Saleh & Pendlebury (2006) that the change to accruals accounting for external financial reporting is little; however, in Malaysia the willingness to adopt private sector remedies that accrual accounting is capable of providing.

5.3.2.2.4 *Government Accounting Information System & Technology*

The government represented by the Ministry of Finance started the modernisation of its accounting and financial management information system early in the nineties. First, it computerises the existing modified cash basis accounting system. After 1995 it initiated the concept of reforming the government accounting and financial management information system under a broader project called the civil service modernisation project. The new project called, accounting and financial management information system AFMIS. The intension was to cover multiple objectives with the full support of the WB, IMF, donor countries and agencies. That includes the gradual adoption of full accrual basis of accounting and reporting to reach the ultimate goal of full operating E-Government, which is still progressing.

Interviewees were asked on why such reform change to the accounting and financial policies systems is happening now. Diverse responses were collected and summarised as follows :-

“Increase transparency and improve the flow of information - technology. Developments in accounting are needed. That is because of external pressures. This is due to pursue the government's policy financial and administrative reforms. That is as a result of the increasing number of the population. That is due to rapid development of industries to help meet the needs of communities. That is due to the boom of global business world trade, which is based primarily on the partnership between governments and individuals. That is to meet international requirements to keep pace with modern trends and globalisation. The country needs to increased countries' relations and transactions at the global level. It lacks periodic assessment and clarity of policy objectives and systems for decision makers. Because technicians and specialists are involved in the formulation of these policies and systems, but they are heavily rely on foreign experiences. To meet the progress achieved by the public sector. It is needed to improve the delivery of services to the public. That is to come over the deficiencies in the current system. That is to keep pace with global developments and donor requirements and others. It is needed to unify the financial and economic data”.

All interviewees in general agreed on the emergent need for reform and change. One main reason is to transform the government accounting and financial works from the manual style to electronic style, and to meet the requirement of the international organisations and donor agencies.

Interviewees when asked about their opinion on the current level adequacy of IT infrastructure that is needed to coop with the required reform change. Interviewee 5 stated the following :-

"This matter requires substantive material and technical support especially when the reform work began in all units of the central government authority and local authorities no doubt during the work will appear imbalances and problems must intervene to address at the time of ..." (Interviewee, 5).

All interviewees agreed for not enough IT infrastructure and the reform cannot be performed unless this matter is fulfilled and that including all needs related to IT and IS, especially those related to the accounting and financial management system. What they have no is a computerised system at the Ministry of Finance and the intention that is linked with the Central Bank of Yemen and some ministries and the work is progressing into linking all government units to the AFMIS. But the intra-government G2G work is at an infancy stage. Besides, the Ministry of Finance departments are not yet fully computer linked. The manual and paper works are used until now and dominating the work process. As discussed in chapter 3, Hepworth (2003) stated that for successful transition from cash to accruals accounting certain conditions have to be met one of which is to have adequate level of an information technology IT. In addition, according to Lüder (1992), under the institutional variables the level of computerisation have to be measured according to his interim report of 1989.

5.3.2.2.5 *Government Accountants' Qualifications*

The number of qualified accountants at the Ministry of Finance is notable. As the requirements of the IT automation and accounting professionalism is increasing in demand. Now to be an accountant at the Ministry of Finance one should hold at least a bachelor degree in accounting, business, finance, or economics, and preferably with some work experience. This support Lüder's (1992, 1994, 2001) claim, see page 71, 120, and 183, that among the factors which lead innovation in governmental accounting and reporting is the availability of qualified professional accountants, even though government accountants are not yet required to be holders or certified public sector accountants. Those, if they become professional the tendency is for them to favour the adoption of accrual basis of accounting.

According to interviewee 6, the government shall take this matter seriously and be firm in the required conditions needed for government accountant education and professional level, he added :-

"....In the current situation I do not think qualifications are enough for that, the government (Ministry of Finance) should do the following : an evaluation of its financial representatives, the current general managers for financial affairs, financial managers, general accounts manger, department heads and their employees. Then stand and look at their qualifications and education levels - and then appoint representatives with suitable competencies and capabilities instead of those at the lower levels ..." (Interviewee, 6).

The government then has to provide the qualified accountants with special training in the application of accrual basis of accounting and in use of computers and accounting information systems and the information communication technologies and especially the Internet. It is noticeable that the Ministry of Finance is encouraging its staff and accountants to attend specialised courses in accounting and finance at the Finance Institute and even at local government universities and faculties. The Ministry of Finance's leadership expresses its continuous support for the reform and for training and qualifying its staff and promoting them to higher levels based on their dedication and gradual success in gaining knowledge and professional qualification.

5.3.2.3 Analysis of Responses on Governmental Accounting Innovations and Developments

The analysis in this part goes in the same direction and objectives with that in the questionnaire survey. The results from analysing the data in this axis corresponds to research question two in this study, to match the outcomes from the questionnaire survey.

The following themes are extracted from the data analysis and will be discussed, according to Lüder (2001); the contextual variables factors are the driving forces for an innovation in governmental accounting to happen. The contextual variables consist of stimuli and institutional variables :-

5.3.2.3.1 *Stimuli*

Lüder (2001) stated that stimuli for reform change can be a combination of or at least one of the following factors : financial or economic crisis which is an underlying factor of fiscal stress, financial scandal, dominating doctrine, and requirements of public sector reforms. This theme was asked to be answered by the designated interviewees. The collected answers of the (stimuli) reform or drivers for reform change as seen by all eleven interviewees are summarised below :-

1. Economic and financial crises
2. The steady increase of the population and its requirements
3. Mismanagement and weak cadres
4. Pressure exerted by the Yemeni opposition parties on the performance of the ruling party GPC and its financial practices
5. Poor data and information extracted and delaying its extraction
6. Requirements of globalisation
7. Requirements for joining the World Trade Organisation WTO
8. Requirements to enter into the millennium
9. Requirements to integrate with the international community
10. The continuing economic downturn and poor standard of living
11. Requirements needed for development and prosperity to the community and to achieve transparency, accountability and anti-corruption
12. Increase the burdens and obligations of the government and the weakness of financial resources and the different possibilities available
13. Donors, coinciding with the advice and application developments of GFS 2001; obviously all countries of the world issued by the International Monetary Fund
14. Inability of the government apparatus to conduct comprehensive control over public funds, and the funds, and the financial collection efficiency and the efficiency of the balance of cash flows incoming and outgoing
15. Improper measurement of debt within government agencies
16. Proper appreciation of others and improper for the general budget surplus
17. Lack of separation between reality and substantive link financial and contracting and disbursement of funds accumulated by government units

18. The existence of private accounts operate outside of the state budget
19. Monitor pledges and commitments
20. Support transparency considerations that require the provision of information on intra-group transactions and movement of assets and liabilities
21. Political developments and the international economic and financial
22. Emulate the achievements of economic reform programs and the financial and administrative of positive results in many countries
23. Financial and administrative corruption
24. The deteriorating economic situation
25. Increasing pressure from the people and political parties and international donors
26. The orientations of the government to international institutions and donor countries in order to obtain foreign loans and aid to creating the right business environment to attract foreign investment as well as address some of the problems facing financial success of the private sector due to the adoption of accrual basis of accounting
27. Lack of productivity and the continuing deterioration in some government economic institutions
28. Meet the technological requirements of the need to deal with others on the basis of technical knowledge and is consistent with the principle of E-Government
29. The need to develop financial systems to keep pace with international standards, as well as to keep up with the use of GFSM issued by the International Monetary Fund in 2001's various accounting Conversation - Career - Economic
30. Work to keep up with the progress and development of the old accounting processes and follow the modern style that followed many developed countries in the world
31. Work on the development and reform of the institutional system and raise performance
32. The need to use modern methods abreast of modern information technology in order to provide services easily
33. Respond to the requirements and conditions of the donor and the desire to update the existing financial regulations

These stimuli specified by the interviewees on this study covers all twelve stimuli addressed in the questionnaire survey and added a lot more. The twenty-one newly added items cannot be generalised as each country has its characteristics and contextual conditions governing and affecting the path of reform change.

This is confirmed in part in studies conducted by Saleh & Pendlebury (2006), see page 83, and by Lüder (1992, 1994, 2001), see pages 71, 120, and 183, which stated that there must be at least one stimuli that produce a need for enhanced information on the part of users of accounting information and increase the producers' readiness to supply such accounting information.

5.3.2.3.2 *The Institutional (Variables) Arrangements*

This cluster of variables contains the legal system structure, the state structure, the administrative structure, the qualification of the civil service in general and the government accountants in particular, and national culture. These variables will be analysed and explained in more details in the following categorisation :-

1. The Legal System

The Constitution of the Republic of Yemen clearly stated in articles 15, 88, 89, 90, and 91 that specified timing of the state budget, the preparation of the budget, the final accounts, fund collection and disbursements, all shall be executed according to the law. The financial law number 8 for 1990 and its amendments specified general rules and delegated to the Ministry of Finance the right to detail the appropriate accounting and financial management procedures. The general classification for the legal system can be said to be similar to the common law that are used in the United States and the United Kingdom. Interviewees were asked in this matter. The question addressed to them; if the reform change have existing legal and constitutional backup. According to interviewee 5 there is no need for an amendment in the constitution :-

"There is no contradiction with the constitution, but requires a change in the structures and laws and regulations related financial structures authorities supervising the public money ...the most Important thing is the political will on the actual implementation and not just on paper" (Interviewee, 5).

All interviewees agreed against the need for an amendment to the Constitution, but to legal amendments one of them said no need, while the rest mentioned that there is a need for that. That is laws, bylaws, and regulations have to be modified to reflect the change made by the Ministry of Finance. Therefore, in general, the change as it progresses does not need

legal backup for the reform, for change to happen. Maybe legal amendments are needed later on to reflect the reality of the implementation of the new innovation.

2. The State Structure

According to Lüder (2001), the state structure refers to categories related to the political structure that is to find out the state of Yemen political system under which of the classification provided "unitary/federal", "co-operative federalism/competitive federalism", "one chamber parliament/two chamber parliament", and the power division between electorate, the government executive branch and the elected officials and bodies. The combination of two with the power in favour of the executive will yield to support government reform. In the case of Yemen, this combination is existing, the countries have election for the Parliament and elected for the Shura council. Besides there is a separation of powers between the legislative, the legal, and the executive powers of the government. For more details see section 2.2.2 in chapter 2, the political structure.

3. The Administrative Structure

Lüder (2001) explained that it refers to the organisational characteristics of the administration if the government units are "centralised/decentralised", "concentrated/fragmented" regarding the financial management functions...and so on. The administrative structure in Yemen is decentralised for governorates and local authorities according to the local authority's law and has the administrative and financial independence. But the ministry of finance has the grip and power over the financial matters.

Therefore, it can be concluded that such form of structure, according to Lüder (2001), should be supportive to government accounting reform.

4. The Qualification of the Civil Service

This refers to the qualification of the government civil service staff in general and accountants in particular, which is very important in determining the time and cost of implementing governmental accounting reform as per Lüder (2001). Trained and qualified staff and accountants will work positively in the direction of reform. Qualified and experienced accountants will ease the tasks of adoption and implementation. In the case of Yemen, it is a matter of attitude accompanied by knowledge and training, leadership support, and incentives. As most of them have long experience and have an acceptable level of education. According to interviewee 2, he stated that :-

".....even if they have long experience still they need to be trained for the new system and that include accounting and computers and information technology applications and need to consider the associated costs and efforts with good faith to make it work successfully...." (Interviewee, 2).

He believes six other interviewees share with him this vision. The rest do not have faith and said it will not succeed and it will come to a closed end. They claim that the political leadership does not have the will for such reform to succeed and see it in implications. Trained and qualified accountants will positively go in line with the reform, which will not be in their benefits.

In general, as can be summarised from the interviewees' responses; it can happen and they can do it and they have the will to do that but needs full, complete and powerful support so that the staff can feel and share and not to be scared to lose their jobs.

5. The National Culture

Lüder (2001) specified that the national culture (social , political, and administrative) is categorised by the general attitude towards risk and uncertainty prevailing to individual or collectively groups and the level of their openness in the political and administrative process and the level of responsiveness to the needs of the general public. The combination of those factors is expected to form a positive reform climate. According to the country's Constitution, the political structure, and social structure and peoples' openness in the country the dominating party who is controlling the country took the initiative for such reform even though a level of uncertainty and fear exists. Therefore, one can predict based on the results above and on many observations gathered by the researcher in the field that the national culture is in favour of the reform and change.

5.4 Chapter Summary

This chapter covered the data analysis and findings for this study. It mainly covers the quantitative and qualitative analysis and its detailed results. Questions one and two answers were provided by qualitative analysis. The analysis to answer question two used was based on the Lüder's contingency model and approach. On the other hand, the analysis and results handled to answer questions three, four, and five was based on sophisticated statistical exploratory multiple regression analysis and on structural equation modeling. The final part was dedicated to outline the findings of this study and to form the background to be discussed next.

CHAPTER SIX

DISCUSSION OF THE RESULTS

6.1 Introduction

This chapter provides discussions of the key empirical findings identified in chapter five. The discussion covers the findings and relate them to the proposed hypotheses and previous studies. This chapter starts with section 6.2, which discusses the key findings based on the objectives of the study in relation to hypotheses detailed in chapter 5. In-depth discussion of the findings of the general and specific findings from the questionnaire survey and from the interview survey and from other sources is addressed after addressing exploratory results, followed by discussion on SEM and path modeling in sub-sections 6.2.1 to 6.2.5. Finally, section 6.3 provides a summary of the main discussions and conclude the chapter.

6.2 Discussion of the Findings

This part will address the key findings from the questionnaire and interview surveys, extracted from chapter 5. Then the extracted findings will be reorganised and discussed in accordance with the objectives set for this study. Thus a meaningful path toward answering the research questions will be obtained, which will then be discussed in chapter seven. The discussion in this part will integrate the results from both the questionnaire survey and the interview survey in the following order :-

6.2.1 Characteristics of Yemen Governmental Accounting

To meet this objective, which meant to indentify the attributes of Yemen governmental accounting and reporting policy currently in use and its place and direction in the scale of two extreme ends, cash basis and accrual basis, the statistical technique (for data from the questionnaire survey) used is one sample t -test. For the analysis please refer to table 5.10; a. A standardised fit t -test (t -value) was selected to compare the sample test results with the neutral value of 3. Two main clusters of variables have to be compared and checked for its comparative significance. The two clusters are governmental accounting institutional framework and governmental accounting and reporting policies, which represent the characteristics of governmental accounting as specified by Chan, et al. (1996) and theoretically supported by Lüder's (1989, 1992) contingency model.

(1) Institutional Framework

This cluster addressed four issues (i) professionalism and independence, (ii) private sector influence, (iii) functional integration, and (iv) centralisation :-

- ***Professionalism and independence***

Found to be significant and revealing a positive mean difference.

- ***Private sector influence***

Found to be significant and revealing a positive mean difference.

- ***Functional Integration***

Found to be not significant and revealing a negative mean difference.

- ***Centralisation***

Found to be significant and revealing a positive mean difference.

In general, except for functional integration, Yemen governmental accounting institutional framework revealed a significant and positive mean difference.

The results from the interview analysis (see subsection 5.3.2.2.2 in chapter 5) confirm the results extracted from the analysis of the data gathered by the questionnaire survey above. The majority of the interviewees in general confirm that Yemen governmental accounting institutional framework is favourable towards the adoption of accrual basis of accounting.

(2) Accounting & Financial Reporting Policy

This cluster addressed five issues (a) objectives, (b) accounting recognition and measurement, (c) financial reporting, (d) contents of financial reporting, and (e) information dissemination; all items revealed a significant level of mean differences.

In general, accounting and financial reporting revealed a significant mean difference towards the adoption of accrual basis of accounting. Confirming in total a significant mean difference of the characteristics of central government of Yemen and indicating the level of integration across the two extreme ends it is now in the direction to full adoption of accrual basis of accounting.

The results from the interview analysis (see subsection 5.3.2.2.3 in chapter 5) confirm the results extracted from the analysis of the data gathered by the questionnaire survey above. The majority of the interviewees in general confirm that Yemen governmental accounting and financial reporting is in favour of and in the direction of accrual basis of accounting adoption.

The findings above that describe the characteristics of Yemen central governmental accounting and reporting institutional framework and financial accounting and reporting policy is analysed based on the contingency model (Chan, et al. 1996; Lüder, 1989; 1992) and the results match the theory claimed. The findings confirm that the system currently in use is in the positive side of the extreme cash-accrual scale toward the accrual basis of accounting. The result came out in this part is confirmed by Lüder et al. (1989), on comparative international government accounting for seven countries and with that of UK and the USA, common law countries using accounting regulation approach.

6.2.2 Contextual Factors' Effect on Yemen Governmental Accounting

To meet this objective, which meant to identify the environmental conditions that affect Yemen governmental accounting to change from cash basis accounting to accrual basis of accounting and evaluating its favourableness or un-favourableness according to the contingency model (Lüder, 1992; 1994; 2001), the results from the interview survey combined with some from the archival research and in only stimuli and civil service staff qualifications from the questionnaire survey was used and discussed. The discussion will start with stimuli and followed by the institutional arrangements.

6.2.2.1 Stimuli

Lüder's (1992) contingency model, a theoretical model for government accounting innovation, in part stated the following hypothesis for stimuli :-

"...the first three types of types of contextual variables (stimuli is number 1) would positively influence the attitudes and behaviour of users and producers of government financial information..."

Table 5.12 provided the results of factor analysis for the stimuli; 12 items which revealed in total an Eigen value of 6.745 and the explained variance of 56.212 with KMO of .764 that holds a Chronbach's Alpha of 0.811. The results significantly support the factorability of the correlation matrix with the dependent variable attitude toward change. These 12 items for stimuli are distributed as follows; 4 items from Lüder (1994), 2 items from Kudo (2008) and 6 items self-developed by the researcher, and panel tested and pilot tested and revealed an acceptable reliability level as illustrated above for data collected by the questionnaire survey. The results are similar to Lüder's (1994) and to Kudo (2008) adding to that the self developed items which are due to Yemen different environmental conditions.

Interviewees were asked to provide their opinion on the stimuli factors that have impact on governmental accounting and reporting to change. The results are presented in chapter 5 (see 5.3.2.3.1). Accordingly, the theory - the contingency model - is confirmed and the hypothesis supported by the analysis extracted from the interview survey above. In this study the results in part of the theory match other studies findings such as Jaruga & Nawak (1996), Chan (1994; 1996), Godfrey, et al. (2001); the diffusion-contingency model, and others.

6.2.2.2 Institutional Arrangements

The institutional variables as part of the contextual variable contains five variables as specified by Lüder (2001) in his new model named financial management reform process. These variables are the legal system, the state structure, the administrative structure, civil service staff qualification, and the national culture. Lüder (2001) explained these structural variables and elaborated on each one of them, but generally he hypothesised that the

combination of both stimuli and institutional arrangements, which form contextual variables influence the attitudes and behaviours of the users and produces of accounting information toward changing the accounting policy from cash basis accounting to accrual basis of accounting. He mentioned that if *the State Legal System* is common law as found in this study about Yemen that will contribute to a positive influence toward the innovation. Also *the State Structure* referring to the political system prevailing in the country among many other classifications he offered is democratic multi-party with parliament representation and two chambers and power is divided into like legal, executive, juridical then the combination of the two will contribute to positive influence toward the adoption and change which is confirmed to exist in Yemen. In addition, *the State Administrative structure* referring to the division of power between government organisational units centralised versus decentralised and concentrated versus fragmented. A decentralised structure with financial management function concentrated in centralised powerful units would support a government accounting reform change.

It is found in Yemen that the Ministry of Finance controls the financial management and accounting matter totally even though governorates and local authorities, by law, become decentralised and should exercise full financial and administrative independence. He added that the qualification of the *State Civil Service* in general and the government accountants in particular are essential factors for the reform of government accounting mode, cost, and implementation time duration. It may cause, for the reform, beside pose delay in the short term an increase in the level of resistance that might at the end endanger or block the reform success. In the case of Yemen accounting staff found to have high level of education and professionalism, See table (5.9a) education level. Finally, he stated that *the National Culture* (social, political, and administrative) categorised by the general attitude towards

the associated risk and uncertainty and the prevailing inclination to individualism/collectivism, the degree of openness in the political and administrative process, and the level of responsiveness to the needs and demands of the general public. He stated that the combination of the following factors risk-taking, individualistic, openness, responsiveness, is anticipated to generate the most favourable reform environment.

The results in this regard see 5.3.2.3.2 number 5, confirms and supports this factor based on and with reference to the country constitution and live observations noticed. In general, the findings from the analysis for the data from the interview survey presented in chapter 5 subsection 5.3.2.3.2 for the institutional arrangements (variables) detailed in 1, 2, 3, 4, and 5 go in line with the theoretical framework presented above by Lüder (2001). This was also confirmed by other studies such as Harun & Robinson (2010), Saleh (2007), and Chan (1994).

The above findings and discussions mentioned addresses Yemen government's contextual variables level of influence toward the adoption and implementation of accrual basis of accounting and is confirmed by the applicable theory discussed above and other studies from the literature. Therefore, Yemen governmental accounting environmental conditions found to be in favour of the reform change from the cash basis of accounting to the full accrual basis of accounting.

Section 6.2.1 discussed Yemen governmental accounting characteristics at the current time and where it stands in the scale of reform and change from the cash basis to the accrual basis of accounting, then section 6.2.2 discussed the environmental conditions level of influence on Yemen governmental accounting to change from cash basis accounting to full

accrual basis of accounting. In both sections above the discussion represent the essential step toward the completion of the reform change process. Mainly, one can say that it is an evaluation stage directed toward understanding the reality and acceptability of such reform change to happen. The following sections 6.2.3, 6.2.4, and 6.2.5 next will address the change theoretical model established in these discussions.

6.2.3 The Relationships Between Attitude Toward Change and Innovation, Organisational Factors, and Barriers

Attitude toward change mediation role is confirmed in the contingency model of governmental accounting innovations Lüder (1992, 1994, 2001) and other theories such as the diffusion of innovations theory Rogers (1995, 2003), and technological acceptance model Davis (1989). Its importance came from measuring the elements of human involvement in the diffusion of innovation process. Earlier in studies in accounting applies the diffusion of innovation theories was performed by Comiskey & Groves (1971), Hussein (1981), and Tornatzky & Klein (1982). Godfrey, et al. (2001) later came up with the Diffusion-Contingency model for governmental accounting innovation, which is considered as an approach that synthesised two theoretical models into one in a multi theory direction. The current study took the same path of multi theory multi paradigm approach. It adds two construct (organisational support and readiness for organisational change) from organisational change theory, ITI information technology infrastructure from the theories of MIS enterprise-wide, and E-government.

This study's theoretical framework consist of three clusters of constructs; the first one is the innovation cluster (stimuli, change agent role, relative advantage, compatibility, and

complexity or ease of use) its collective hypotheses is to have a positive relationship with attitude toward change from the modified cash basis - currently in use - to the full accrual basis of accounting, the second one is the organisation cluster (organisational support, IT infrastructure, readiness for organisational change, and followed by E-Government) its collective hypotheses is to have a positive relationship with attitude toward change from the modified cash basis, currently in use to the full accrual basis of accounting, and the third one is barriers which expected to have a negative relationship with attitude toward change from the modified cash basis, currently in use to the full accrual basis of accounting. Then E-Government was added (under the organisational factors cluster) as an independent variable to check its effect on the whole model.

To test the projected hypotheses exploratory factor analysis, correlation and reliability tests, multiple regression analyses, and validity tests are performed and found significant. All constructs support the hypotheses which proved to have significant relationship with attitude toward change. For more details see chapter 5, table 5.19; c.

Another test intended to support and validate the previous results from the exploratory analysis is used for confirmatory analysis called structural equation modeling using partial least squares PLS and path analysis. Confirmation for this stage, and for the remaining stages that will test the mediation and moderation effects, is established and the results found confirm those from the exploratory stage. For more details see chapter 5 table 5.28 model 1.

These results of the innovation cluster variables are confirmed in general by previous studies in governmental accounting, in general terms (not in specific methodology and in

analysis techniques), found in the literature such as Hussein (1981) relative advantage and compatibility, Chan (1994) stimuli, Godfrey, et. al. (2000) stimuli, change agent, relative advantage, complexity, and compatibility. These studies range between descriptive and case study no robust and complex statistical analysis is used as the ones used in this study. In this study, Yemen government accountants do not see the application of accrual basis of accounting as complex rather easy to use as found from the analysis of results.

These results of the organisation cluster variables are confirmed by previous studies results in general terms directly or indirectly (not in specific methodology and in analysis techniques) such as Ginzberg (1981), Igbaria (1990), and Igbaria & Panasuraman (1991) found organisational support has positive relationship with attitude toward change, readiness for organisational change Duncan (1995), Tsai et al. (2010), and Chong et al. (2009), IT Infrastructure Aldhmour & Eleyan (2012) and Huang & Lai (2012), The benefits of E-Government services Tung & Tieck (2005).

Finally, the results on barriers for organisational change construct in general (produced negative effect), which is similar to that in prior studies of Lüder (1992, 1994, 1996), Godfrey et al. (2001), and Ibrahim & Irani (2005).

The dependent (mediating) construct in this part is attitude toward change. For an innovation to succeed especially in the case of Yemen central government accounting reform change is of top importance to obtain a positive attitude of the people in charge of maintaining and operating the accounting and financial management function in the government, because they are the ones who will carry out the reform and change process. Therefore, their positive attitude will definitely contribute effectively to the adoption and implementation of accrual basis of accounting and to its full success.

The independent constructs provided all dimensions (on the reasons behind the reform change, the change agent role, the attributes of the new system accrual basis of accounting, technological needs such as IT Infrastructure complemented by the valued added of the benefits of E-Government services, and organisational support and readiness, then the problematic factors that might hinder such reform change) needed for the reform change to happen and function properly. The relationship between the independent constructs mentioned above and the dependent (mediating) construct tested in this study found to be significant and attitude toward change three model tests confirmed its full mediation see chapter 5 subsection 5.2.3.6.1 and tables 5.28, 5.29 & 5.30. Model three was chosen as the best model.

The results of this study might not exactly match previous studies' results. But the results confirmed the theories' claims using in that robust double-checked and validated approach of statistical analysis, which the majority of previous studies did not use such as multiple regression analysis and structural equation modeling path analysis.

6.2.4 The Moderating Effect of E-Government on the Relationship between Innovation, Organisational factors, and Barriers

E-Government is the moderating (interaction) construct used in this study. The moderating effect of E-Government is tested, on each relationship of every construct of the innovation cluster, the organisation cluster, and barriers with attitude toward change, twice. One time is used in the exploratory study and the second time is used at the confirmatory stage of this study. Before getting into these two stages of interaction analysis, the moderating E-Government is tested as an independent construct to evaluate its significance level and

effect on the main model. In the exploratory stage it proved significant alpha less than 5% .000 with t -value of 4.054 and a standardised beta coefficient of 0.209 which increased the model predictive power R^2 from 0.596 to 0.628 and made all constructs significant at 5% or less level (2-tailed test) see tables 5.19; a & b at chapter 5. Then the moderating construct test of each relationship is made individually and resulted a significant effect only organisational change see chapter 5 tables 5.20a,b,c and on readiness for organisational change see chapter 5 tables 5.21; a & b. E-Government on the other relationship revealed insignificant results. E-Government moderation effect also tested collectively (simultaneously) on all relationships and the result show that only an effect at $\alpha = 0.09$ & t -value = -1.704 on the relationship between organisation support and attitude toward change and reversed the relationship from positive to negative relationship as can be seen from the beta un-standardised coefficient -.128 see chapter 5 tables 5.22; a, b, & c.

While in the confirmatory stage, E-Government test confirmed the results in the previous stage, besides it is taken as an independent construct because in the exploratory stage it reframed the main model and became an integral part of the model significance. Thereafter, three models were tested and proved the full mediation of attitude toward change and model three is chosen as the best of the three models and carried forward to next stages as indicated above. The moderation effect of E-Government in the confirmatory stage is tested on each relationship individually for each hypothesis then tested collectively (simultaneously) on all relationships. E-Government moderation effect on each relationship is expressed, with acceptable levels of models' predictive powers R^2 , goodness of fit GoF, and effect size f^2 of the eight models, and proved to have a significant moderating effect on each relationship of the eight models and therefore, all 20 hypotheses of this study are supported on the individual level base, see chapter 5 table 5.31; 1, 2, 3, & 4 and table 5.32.

Additionally, E-Government moderation effect on all relationships collectively (simultaneously) is expressed in stage 2: b, with an acceptable level of model predictive power $R^2 = 0.660$ which is higher than the model in stage 1 with $R^2 = 0.615$ contributed by E-Government moderation effect, goodness of fit $GoF = 0.51$, and a medium effect size of $f^2 = 0.13$ of the model, and proved to have significant moderating effect on only three relationships of the model. The three moderation relationships effect are [E-Government X (Relative Advantage---> Attitude Toward Change; Stimuli---> Attitude Toward Change; and Organisational Support---> Attitude Toward Change)], see chapter 5 table 5.33.

Therefore, according to the results found and reported collectively (simultaneously) in model stage 2; b in table 5.33, all hypotheses are supported except hypotheses H: 12, H: 14+15, H: 17, H: 18, and H: 19 are not supported, see table 5.34 chapter 5.

The results are theoretically supported as explained the theoretical part in chapter 4, E-Government benefits, according to the researcher knowledge and review, had never been tested before as either an independent and/or as a moderating construct. Therefore, it is considered as one of the contributions of this study. The theoretical and practical claims concerning E-Government reform capabilities is supported by the findings of this study as that have been seen in the impressive effect of E-Government as an independent variables on the main model used in this study. Moreover, the moderation effect also contributed significantly on each relationship stated in the model. As this study main objective is concerned with the adoption and implementation of accrual basis of accounting in central government (Yemen), E-Government was tested and proved to have a considerable effect on the accounting proposed model of accounting change.

6.2.5 The relationship Between Attitude Toward Change and the Feasibility of Accrual Basis of Accounting Adoption and Implementation

The theoretical and practical claims related to this part of the study as confirmed by previous theories and studies stated that positive attitudes toward an innovation is an essential and important factor contributing positively to the decision of the adoption and implementation of an innovation. This is supported by the contingency model of governmental accounting innovation Lüder (1992, 1994, 2001) and other related studies such as Godfrey et al. (2001) the Diffusion-Contingency model, Hussein (1991) process model - the Innovative Process in Financial Accounting Standards Setting, and Rogers' (1995, 2003) Diffusion of Innovation process model.

The results from the regression analysis in the exploratory analysis between attitude and the adoption and implementation feasibility of accrual basis of accounting by Yemen central government revealed a positive significant relationship t -value 7.57; $\alpha = 0.00$, & $b = .45$, showing a predictive power of $R^2 = 0.22$. Therefore, supporting the stated hypothesis set of this relationship. For more details see chapter 5 tables 5.23; a, b, & c.

Whereas, the results from the confirmatory analysis supports the findings from the exploratory analysis but after conducting additional needed tests and path analysis for selecting the best model that passes the mediation tests and the moderation tests. The results from the structure equation analysis path modeling revealed that Yemen central government general financial managers, their deputies, department heads and assistants, financial managers, auditors, and accountants attitude toward change have a significant positive direct impact on the adoption and implementation feasibility of accrual basis of

accounting by the central government with t -value 3.25; $\alpha = 0.00$, & *Path Coefficient* $b = .23$, a predictive power of $R^2 = 0.43$, model goodness of fit $GoF = 0.55$, and an effect size of $f^2 = 0.27$ see chapter 5 tables 5.28, 5.29, and 5.30.

Thus, the reached conclusion is a robust theoretical model for adoption and implementation of accrual basis of accounting by central governments at the information technology and cross-governments' operations.

It is worth mentioning here that information technology which is represented in this study through two main comprehensive constructs IT Infrastructure and E-Government which are considered essential components of today's government ready to go and to operate in high level of technological efficiency at the lowest cost possible. Both are tested and proven to have value added and robust contribution to the theoretical model generated by this study. The use of these two constructs is new and had not been used before in any models of governmental accounting innovation. Also readiness for organisational change is used in this study as an important construct to evaluate an organisation leadership and staff readiness to the reform change of Yemen central government accounting and financial management system from the modified cash basis of accounting to the full accrual basis of accounting across the time span stated in the reform change master (phases and stages) plan.

The following represents a summary of this study research questions, objectives, theoretical orientation, research methodology applies and the statements of the final findings - See table 6.1 below.

Table (6.1): Summary of Research Questions, Objectives, Theory, and Findings

Research Question	Research Objectives	Theory Paradigm	Method Utilized	Findings
1. What are the characteristics of Yemen governmental accounting and reporting system?	To describe the institutional framework and policy characteristics of Yemen governmental accounting and reporting system currently in place.	Lüder's: Contingency Model of Governmental Accounting Innovations	Archival Research, Questionnaire Survey, and Interview Survey	Yemen governmental accounting and reporting system characteristics found to be moving in favour of accrual basis adoption & implementation. (Section 3.5)
2. What are the perceived environmental conditions or factors that have effect on Yemen governmental accounting and reporting system to change?	To describe the environmental conditions or factors that affect Yemen governmental accounting system to change and to check its favourable or unfavourable effect.	Lüder's: Contingency Model of Governmental Accounting Innovations	Archival Research, Questionnaire Survey, and Interview Survey	Yemen governmental accounting and reporting system environmental conditions found to be in favour of the adoption of accrual basis of accounting. (Section 3.5)
3. Is there a relationship between attitude towards change and innovation factors, organisational factors, and barriers?	To investigate the relationships between attitude towards change and innovation factors, organisational factors, and barriers.	Rogers': DOI, Contingency, Organisational Change; Support, DOI-Contingency Model, & MIS Enterprise-wide	Questionnaire Survey	There is a relationship between attitude towards change and innovation factors, organisational factors, and barriers. (Section 3.5)
4. Does E-Government moderate the relationship between attitude toward change and innovation factors, organisational factors, and barriers?	To investigate the moderating effect of E-Government on the relationship between innovation factors, organisation factors, and barriers and attitude toward change.	E-Government	Questionnaire Survey	*E-Government moderates the relationship between attitude toward change and innovation factors, organisation factors, and barriers. (Section 3.7)
5. Does attitude towards change affect feasibility of accrual basis adoption and implementation?	To examine the relationship between attitude toward change and feasibility of accrual basis of accounting adoption and implementation.	Rogers': DOI	Questionnaire Survey	Attitude towards change found to have a positive effect on feasibility of accrual basis adoption and implementation. (Section 3.5)

* E-Government moderation effect also tested **simultaneously** on the relationship between attitude toward change and innovation factors, organisation factors, and barriers. The results show that E-Government has a moderating effect only on the following relationships: Attitude toward change--> Innovation factors (stimuli--> attitude toward change and relative advantage--> attitude toward change) and organisational factors--> attitude toward change (organisational support--> attitude toward change).

6.3 Chapter Summary

This chapter discusses the findings from chapter five in detail. It starts by discussing the findings of the current characteristics of central Yemen governmental accounting and then it discusses the prevailing contextual conditions of central Yemen governmental accounting to see if they are in favour of the reform change or not. Then the findings from multiple regression analysis for exploratory and structure equation modeling and path analysis are discussed and elaborated. The discussion highlights the significant results for all mediating and independent constructs including the moderating construct when accounted for as an independent construct. Also the moderating construct interactions analysis is discussed which revealed that E-Government is only significant and have moderating effect on the relationship between organisational support and total attitude toward change in the exploratory analysis stage then the discussions addressed the remaining models generated by the confirmatory analysis and discussed the meaning of its results. The hypotheses tests findings in the exploratory and confirmatory analyses are also discussed. Then the same process continued on the relationship between attitude toward change and the adoption and implementation feasibility. The chapter ended the discussion by providing a summary table of the findings of this research study.

CHAPTER SEVEN

SUMMARY AND CONCLUSIONS

7.1 Introduction

This chapter summarises the findings of the study. It illustrates the meaning and values extracted from this study so that decision makers and policy makers in the central government of Yemen will get valuable insights in dealing with matters related to governmental accounting reforms. This study also provides them with empirical results on the critical value of E-Government that would deliver to the accounting and financial reform in particular and to the whole of government reform. The government must have a clear and promising intention towards its staff especially those who are in charge of financial accounting and financial management, as their attitude and behaviour contribute positively or negatively to the success or failure of the reform change process.

7.2 Summary

The summary follows the order of research questions. It is divided into five parts, each part representing a summary for every research question. The conclusions expressed are based on the findings of each research question and discussions from previous chapters. See the summary of the results outlined in table 6.1 page 386.

7.2.1 Research Question 1

What are the characteristics of Yemen governmental accounting and reporting system?

Governmental accounting and reporting of the central government of Yemen is under the authority and control of the Ministry of Finance (MOF). The external audit function for the whole government is under the authority of COCA. The heads of the two government institutions are appointed by presidential decrees. To answer this question, on characterising Yemen governmental accounting system, two main clusters according to Chan et al. (1996) have to be addressed the institutional framework and the accounting and financial reporting policy. Based on the analysis and findings stated in chapter five and the discussions of the results provided in chapter six, Yemen central government governmental accounting **institutional framework** addressed four main issues. The first issue, *professionalism & independence*, the analysis tested statistically one-sample *t*-test differences, revealed a significant mean differences indicating to an acceptable level of professionalism and independence. The second issue refers to the *private-sector influence*; on governmental accounting revealed a significant mean differences indicating to a level of private sector influence. The third issue detects the level of *functional integration*; the result shows insignificant level of functional integration due to the questions asked on remote electronic integration, which is not available yet. This altered the normal accounting integration that should be significant otherwise. The fourth issue refers to the level of government, *centralisation*; this revealed significant mean differences pointing out to the existence of a level of centralisation referring to the level of bureaucratic work. In short the institutional framework's means difference was found to be significant.

In addition, Yemen **governmental accounting and financial policy** addressed five main issues. The first one intended to diagnose the *objectives* of governmental accounting and financial policy. The results show significant mean differences in explaining the objectives of the accounting and reporting system. The second issue tackles technical aspects on *accounting recognition and measurement*, the results showed negative significant mean differences indicating to insufficient level of government accounting recognition and measurement. The third issue tackles technical aspects *on financial reporting*; the result shows significant mean differences indicating an acceptable level of financial reporting. The fourth issue on the *content of governmental financial reporting*. The result shows negative significant mean differences indicating to insufficient level of the contents of financial reports. Finally, *information dissemination*, result shows significant mean differences indicating an acceptable level of information dissemination. In general, Yemen governmental accounting and reporting policy current system reveals negative significant level. This is in comparison to the optimal reporting system of full accrual basis of accounting. The current system therefore, is not providing an acceptable level of financial reporting as it is still uses the cash basis of accounting and it has not produced financial statements and balance sheets, but only final accounts which are not sufficient. Full discussion on the findings of this research question is provided in chapter six subsection 6.2.1. This goes in line with what Lüder (1992, 1994, 2001) specified in his contingency model (see discussions on pages 71, 120, and 181).

In conclusion, despite the positive steps taken by the central government toward the application of accrual basis of accounting, the current system of Yemen government accounting is still operating under the modified cash base accounting and it is found that the system has low level of computerisation integration across government departments.

7.2.2 Research Question 2

What are the perceived environmental conditions or factors that have effect on Yemen's governmental accounting and reporting system, to change?

The factors that have impact or influence the Yemen central government accounting to develop and change according to Lüder (2001) clustered into two main groups of variables, contextual variables or environmental, stimuli and institutional arrangement variables. The results and discussion on this research question is covered thoroughly in chapter six subsection 6.2.2. This study added six more factors to **stimuli** so that the number of stimuli is 12 items. The result shows more than one factor contributes to the initiation of accrual basis of accounting reform of Yemen central government.

On the other hand, the contextual or **institutional variables** consist of legal system factors, state structure, administrative structure, staff qualifications, and the national culture. The contingency model is utilised and the results show that the mentioned factors are in favour of moving to the accrual basis of accounting. Full discussion on the findings of this part is also provided in chapter six subsection 6.2.2. The results are consistent with Lüder's discussions on contingency model (1992, 1994, 2001) as well the analysis provided by Chan et al.(1996).

7.2.3 Research Question 3

Is there a relationship between attitude towards change and innovation factors, organisational factors, and barriers?

With reference to chapter five, 5.2.6.3 analysis of the structural model and hypotheses testing, 5.2.6.3.1 testing the structural model without the moderating effect, table 5.28 stage one, table 8.31 stage one, and tables 5.32 and 5.34 results of hypotheses testing using structural equation path modeling, the hypotheses H: 1 to H: 9 on this research question are supported. Therefore, it can be concluded that there is a relationship between innovation factors (stimuli, change agent, relative advantage, and compatibility & complexity or ease of use) and attitude toward change. In addition, it is found that there is a relationship between organisational factors (organisational support, IT infrastructure, and readiness for organisational change) and attitude toward change. Moreover, barriers are found to have a negative relationship with attitude toward change. Besides, it is found that E-Government, when tested as an independent variable H: 10, has an integral and significant part of the model and proves to have a strong positive relationship with attitude toward change from cash basis accounting to accrual basis of accounting in Yemen central government. Full discussion on the findings of this research question is provided in details in chapter six subsection 6.2.3.

This is confirmed in part by Lüder's (1992, 1994, 2001) see pages 71, 120, and 181 specified in his contingency model, and by Rogers (1995, 2003) diffusion of innovations see pages 186. See also Hussain (1981) page 127. Full coverage of the literature in this matter is covered in section 3.5.

7.2.4 Research Question 4

Does E-Government moderate the relationship between attitude towards change and innovation factors, organisational factors and barriers?

With reference to chapter five, subsection 5.2.6.3's analysis of the structural model and hypotheses testing, sub 5.2.6.3.2 testing the structural model with the moderating effect, table 5.28 stage one, table 5.31: 1,2, and 3 stage two a & b, and table 5.32 details the results of the hypotheses testing using structural equation modeling, hypotheses H: 11 to H: 19, models 1 to model 8, on this research question are supported when taking the moderating effect for E-Government independently on each construct (not simultaneously).

Therefore, based on the above references it can be concluded that E-Government has a moderator effect on each of the following relationships innovation factors --> Attitude toward change [(Stimuli --> Attitude toward change), (Change agent --> Attitude toward change), (Relative advantage --> Attitude toward change), and (Compatibility & Complexity or Ease of use --> Attitude toward change)], organisational factors --> Attitude toward change [(Organisational support --> Attitude toward change), (IT infrastructure --> Attitude toward change), and (Readiness for organisational change --> Attitude toward change)], and barriers --> Attitude toward change. Thus, all hypotheses in this research question are supported.

However, an additional test is made to test the whole moderating effect of E-Government on each of the relationships simultaneously. This is the test of the total effect of the moderating construct effect on all relationships in the model. The results as demonstrated in

table 5.34 - results of hypotheses testing using structural equation modeling simultaneous moderating effect - model 9, show partial moderating effect. That is, E-Government is moderating the relationship between innovation factors --> Attitude toward change [only on (Stimuli --> Attitude toward change) and (Relative advantage)] and organisational factors --> Attitude toward change [only (Organisational support --> Attitude toward change)]. Full discussion on the findings of this research question is provided in chapter six subsection 6.2.4.

In general this goes in line with what Dias and Rafael (2006) specified for E-Government, see page 140. Also as Homburg (2004) matched E-Government and NPM concepts importance in modernising the government, see page 149. The results confirms the extensive benefits that governments would gain from the application of E-Government services, see section 3.7.

7.2.5 Research Question 5

Does attitude towards change affect feasibility of accrual basis adoption and implementation?

Attitude toward change found to have a strong direct effect on the feasibility of accrual basis of accounting adoption and implementation. That can be extracted from the results that are reported in tables 5.32 [(attitude toward change --> adoption feasibility) path coefficient 0.228 and *p*-value of 0.001)] and 5.34 [(attitude toward change --> adoption feasibility) path coefficient 0.226 and *p*-value of 0.000)] in chapter five. Thus, the

hypothesis on this research question is supported. Full discussion on the findings of this research question is provided in chapter six subsection 6.2.5.

This is confirmed in part by Lüder's (1992, 1994, 2001) see pages 71, 120, and 181 specified in his contingency model, and by Rogers (1995, 2003) diffusion of innovations see pages 186. See also Hussain (1981) page 127. Full coverage of the literature in this matter is covered in section 3.5.

7.3 Implication for Theory and Practice

The humble work in this research study is expected to add to the literature of CIGAR, in the form of country study on Yemen and due to its unique experience of merging two different state economies of which one to the extreme right and the other to the extreme left in the heart of the Arabian land that have special characteristics.

This study added new dimensions to the construct Stimuli presented in the contingency model of governmental accounting innovation by Prof. Lüder (1992) and the modified models that follows. These dimensions (at least) are Population Size, Technology and Modernisation, Technical and Professional Needs, and Forces of Globalisation.

This study contributes to the theories of government accounting innovation by adding one behavioural and attitudinal construct as a new dimension to have the process of accounting change (diffusion of innovation process). This construct is readiness for organisational change. It has not been used in all model related to governmental accounting change. This study confirms the positive effect of readiness on organisational change on the attitude toward change and on the adoption and implementation of an accounting innovation.

Accounting is an information system oriented science and information systems currently are highly involved in the heart of information technologies and information and communication technologies at the information age. For that reform change stressed the importance and value added of information technology by adding the information technology infrastructure construct (IT Infrastructure) to the theoretical model. This study confirms the significant effect of IT Infrastructure on attitude toward change and on the adoption and implementation of an accounting innovation.

Remote business is the conducting of online business, and is becoming very important in the information age and the Internet. E-Government is one of the major and promising tools for government reform; change enablement for intergovernmental and its surrounding environments for better government services and at the lowest costs. The construct of E-Government Benefits had not been used in any of theoretical frameworks of governmental accounting innovation. E-Government is used in this study as an enabling reform construct. This study confirms the positive effect of E-Government Benefits on attitude toward change and on the adoption and implementation of an accounting innovation.

Moreover, this study empirically investigated the moderating effect of E-Government on each of the relationships between the independent constructs and the mediating construct attitude toward change, and confirms the following conclusions :-

- E-Government has a moderating effect on the relationship between stimuli and attitude toward change.
- E-Government has a moderating effect on the relationship between change agent and attitude toward change.

- E-Government has a moderating effect on the relationship between relative advantage and attitude toward change.
- E-Government has a moderating effect on the relationship between compatibility and complexity (ease of use) and attitude toward change.
- E-Government has a moderating effect on the relationship between organisational support and attitude toward change.
- E-Government has a moderating effect on the relationship between readiness for organisational change and attitude toward change.
- E-Government has a moderating effect on the relationship between attitudes toward change.
- E-Government has a moderating effect on the relationship between IT infrastructure and attitude toward change.
- E-Government has a moderating effect on the relationship between barriers and attitude toward change.

Finally, the theoretical model developed in this study is new and adds to the governmental accounting theory and literature as it contains multiple theories. The model is tested and proven of its validity, reliability and goodness of fit. Therefore, the model can be used in the future studies similar to this study.

This study will provide Yemen central government officials and decision makers the confidence they need to assure that the adoption and implementation of accrual basis of accounting is valid reliable and would deliver what it is intended to do. It will give them

insight on the importance of their staff attitude toward change. It will also guide them to the importance and value of using E-Government. This study examined multiple theory approach in accounting, and information and communications technologies that are reflected in real world.

7.4 Limitation of the Study

Governments work to satisfy many goals because it is huge in business, have multiple objectives and goals, meet many political challenges at the local level and at the international level. In the era of globalisation, vast development in information technologies, levied taxes become not enough for most governments across the globe. Therefore, governments' politicians focus in elections on fewer taxes and on more services delivery to the citizenry in democratic nations. Up until today, in research studies of governmental accounting states that no fit model can be generalised as different nations have different environments but they promote for more research to be done and to be subject to international governmental accounting innovations and practice. The constructs taken into this study does not accommodate the multiple factors in any governmental accounting innovations.

7.5 Recommendations for Further Research

This research study contributed to some extent but not that much to solve governments' ample problems in accounting and financial management. More research is needed on the behavioural intervening constructs considering the application of multiple mediating and moderating constructs and on the effect of broadband E-Government technologies. More

studies on multi-paradigm and multi-theory applications are needed. Several studies in governmental accounting innovations are needed on studying other E-Government dimensions effects.

7.6 Conclusion

The findings from this research study highlights the importance of Yemen's central government accountants, auditors, financial managers, general managers for financial affairs and their deputies, and department heads and their assistant's active involvement and participation in the reform process and its implementation. Their full mediating attitude toward the change from cash based accounting system to full accrual basis of accounting system prove to be vital to the adoption and implementation of such system as they are the ones who are in charge of carrying the reform change. Decision makers and policy makers in Yemen's central government have to consider the findings from this research for better results in solving the paths of the reform currently in place. E-Government moderating role in this research study provides an important role that must be considered in the reform process. E-Government benefits found to important in enhancing the process and application of the accounting and financial management reform process. Its capabilities will contribute a lot to the functioning of the accrual basis of accounting system in particular, and to the whole government financial management system. An appropriate level of IT infrastructure proves to contribute to the success of the reform adoption process and implementation. The government has to ensure a satisfactory level of readiness among its staff to get better results. The government also has to find the proper ways to overcome the reform barriers found in this study to guarantee a smooth reform process.

REFERENCES

- Affisco, J. F., & Soliman, K. S. (2006). E-government: a strategic operations management framework for service delivery. *Business Process Management Journal*, 12(1), 13-21.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior* (Vol. 278): Prentice-Hall.
- Alam, M. (2006). The interaction amongst reform drivers in governmental accounting changes: The case of Indonesian local government. *Journal of Accounting & Organizational Change*, 2(2), 144-163.
- Al-Asaly, S.M. (2001). *The political economy of economic growth policies: The case of Yemen Republic*. Paper presented at the Third Annual Global Development Conference, Rio de Janeiro, Brazil.
- Al-Busaidy, M., & Weerakkody, V. (2009). E-government diffusion in Oman: a public sector employees' perspective. *Transforming Government: People, Process and Policy*, 3(4), 375-393.
- Aldhmour, F.M., & Eleyan, M.B. (2012). Factors Influencing the Successful Adoption of Decision Support Systems: The Context of Aqaba Special Economic Zone Authority. *International Journal of Business and Management*, 7(2), p163.
- Alexander, J. H., & Grubbs, J. W. (1998). Wired government: Information technology, external public organizations, and cyber democracy. *Public Administration and Management: An Interactive Journal*, 3 (1), 120-137. <http://www.pamij.com/>.
- Alomari, M., Woods, P., & Sandhu, K. (2012). Predictors for e-government adoption in Jordan: Deployment of an empirical evaluation based on a citizen-centric approach. *Information Technology & People*, 25(2), 207-234.
- Andriani, Y., Kober, R., & Ng, J. (2010). Decision Usefulness of Cash and Accrual Information: Public Sector Managers' Perceptions. *Australian Accounting Review*, 20(2), 144-153.
- Anessi Pessina, E., & Steccolini, I. (2007). Effects of budgetary and accruals accounting coexistence: Evidence from Italian local governments. *Financial Accountability & Management*, 23(2), 113-131.
- Anthony, R. N. (1989). *Should business and nonbusiness accounting be different?* : Harvard Business School Press.
- Armenakis, A. A., Harris, S. G., & Mossholder, K. W. (1993). Creating readiness for organizational change. *Human relations*, 46(6), 681-703.
- Arnaboldi, M., & Lapsley, I. (2009). On the Implementation of Accrual Accounting: A Study of Conflict and Ambiguity. *European Accounting Review*, 18(4), 809-836.

- Association, A. A. (1972). Committee on Concepts of Accounting Applicable to the Public Sector, 1970-71. [Article]. *Accounting Review*, 47(4 Supplement), 76-108.
- Athukorala, S. L. a. R., B. . (2003). "Accrual Budgeting and Accounting in Government and Its Relevance for Developing Member Countries". *Asian Development Bank*
- Babbie, E. R. (2004). *The practice of social research, 10th edition*: Thomson (Wadsworth) Learning Academic Centre.
- Baker, R., Rennie, M. D., & Regina, U. (2006). Forces Leading to the Adoption of Accrual Accounting by the Canadian Federal Government: An Institutional Perspective/Les Forces Ayant Mené L'administration Fédérale Canadienne À Adopter La Comptabilité D'exercice: Une Perspective Institutionnelle. *Canadian Accounting Perspectives*, 5(1), 83-112.
- Baraldi, E., & Nadin, G. (2006). The challenges in digitalising business relationships. The construction of an IT infrastructure for a textile-related business network. *Technovation*, 26(10), 1111-1126.
- Barton, A. (2007). Accrual Accounting and Budgeting Systems Issues in Australian Governments. *Australian Accounting Review*, 17(41), 38-50.
- Barton, A. (2009). The Use and Abuse of Accounting in the Public Sector Financial Management Reform Program in Australia. *Abacus*, 45(2), 221-248.
- Belkaoui, A. R. (2000). Accounting theory, 4th Edition. Thomson Learning, Berkshire House, London, UK. <http://www.thomsonlearning.co.uk>.
- Beschel Jr, Robert P, & Ahern, Mark. (2012). *Public Financial Management Reform in the Middle East and North Africa: An Overview of Regional Experience*. World Bank: Washington, D.C. <https://openknowledge.worldbank.org/handle/10986/9368> License.
- Bill, A., & Hashim, A. (2001). Treasury Reference Model. *World Bank Technical Paper*.
- Borgonovi, E., & Anessi-Pessina, E. (2000). Accounting and accountability in Local Government: A Framework. In E. Caperchione & R. Mussari (Eds.), *Comparative issues in local government accounting*. Kluwer Academic Publishers: Boston.
- Bradbury, S. (1998). Going public (public sector accounting standards). *Accountancy*, 122(1263), 163.
- Bretschneider, S. (1990). Management information systems in public and private organizations: An empirical test. *Public Administration Review*, 536-545.
- Broadbent, J., & Guthrie, J. (2008). Public sector to public services: 20 years of “contextual” accounting research. *Accounting, Auditing & Accountability Journal*, 21(2), 129-169.
- Brown, D. (2005). Electronic government and public administration. *International Review of Administrative Sciences*, 71(2), 241-254.

- Brunsson, N., Jacobsson, B. and Associates. (2000). *A World of Standards*. Oxford: Oxford University Press.
- Bryman, A., & Bell, E. (2007). *Business research methods*: Oxford University Press, USA.
- Buckley, J. W., Lightner, K. M., & Buckley, M. L. (1973). *Accounting: an information systems approach*: Dickenson.
- Burns, A. C., & Bush, R. F. (2000). *Marketing research, 3rd edn*, : Prentice Hall Education, Upper Saddle River, NJ, USA.
- Burrell, G., & Morgan, G. (1979). *Social paradigms and organizational analysis: Elements of the sociology of corporate life*: London: Heinemann Educational.
- Byrd, T. A., & Turner, D. E. (2000). Measuring the flexibility of information technology infrastructure: Exploratory analysis of a construct. *Journal of Management Information Systems*, 17(1), 167-208.
- Cavana, R., Delahaye, B.L., & Sekaran, U. (2008). *Applied business research*. New York: John Wiley & Sons
- Caperchione, E. (1995). Governmental Accounting Changes and Italian Public Administration Renewal in the Nineties In V. M. J. M. Vela (Ed.), *International Research in Public Sector Accounting, Reporting and Auditing* (pp. p. 61-80.). Valencia: Instituto Valenciano de Investigaciones Economicas.
- Carlin, T. M. (2005). Debating the impact of accrual accounting and reporting in the public sector. *Financial Accountability & Management*, 21(3), 309-336.
- Carnegie, G. D., & West, B. P. (2005). Making accounting accountable in the public sector. *Critical Perspectives on Accounting*, 16(7), 905-928.
- Carter, L., & Belanger, F. (2004). The influence of perceived characteristics of innovating on e-government adoption. *Electronic Journal of E-government*, 2(1), 11-20.
- Carter, L., & Bélanger, F. (2005). The utilization of e-government services: citizen trust, innovation and acceptance factors*. *Information Systems Journal*, 15(1), 5-25.
- Cegarra Navarro, J. G., Dewhurst, F. W., & Briones Peñalver, A. J. (2007). Factors affecting the use of e-government in the telecommunications industry of Spain. *Technovation*, 27(10), 595-604.
- Chan, J., Jones, R., & Lüder, K. (1996). "Modeling Governmental Accounting Innovations". *Research in governmental and nonprofit accounting*, 11, 1-19.
- Chan, J. L. (1994). Accounting and financial management reform in the United States government: an application of professor Lüder's Contingency Model. *Perspectives on performance measurement and public sector accounting*, 17-41.

- Chan, J. L. (2000). Professor Lüder's CIGAR Contribution and Critique: Building a Discipline'. In D. Budäus, W. Küpper & L. Streitferdt (Eds.), *Neues Öffentliches Rechnungswesen*. Wiesbaden: Sonderdruck, pp. 5-18.
- Chan, J. L. (2001). '*CIGAR Methodology: Issues and Strategies*'. Paper presented at the 7th CIGAR Conference, Valencia.
- Chan, J. L. (2002). Comparative international government accounting research (CIGAR) methodology: issues and strategies. *Innovations in Governmental Accounting*, 23.
- Chan, J. L. (2003). "Government Accounting: An Assessment of Theory, Purposes and Standards". *Public Money & Management*, 23(1), 13 - 20.
- Chang, H.J. (1998). Korea: the misunderstood crisis. *World Development*, 26(8), 1555-1561.
- Chemingui, M. A., & Institute, I. F. P. R. (2007). *Public spending and poverty reduction in an oil-based economy: The case of Yemen*: Citeseer.
- Chen, W.S., & Hirschheim, R. (2004). A paradigmatic and methodological examination of information systems research from 1991 to 2001. *Information Systems Journal*, 14(3), 197-235.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. Marcoulides (Ed.), *Modern methods for business research* (pp. 295-336). Lawrence Erlbaum Associates: Mahwah, NJ.
- Chin, W. W. (1998b). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *In Modern Methods for Business Research* (pp. 1295–1336). Lawrence Erlbaum Associates: Mahwah, NJ.
- Chin, W. W., Marcolin, B. L., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189-217.
- Chin, W. W., & Newsted, P. R. (1999). Structural equation modeling analysis with small samples using partial least squares. *Statistical strategies for small sample research*, 2, 307-342.
- Chong, A. Y. L., Ooi, K. B., Tak, Y. K., & ShuYang, Z. (2009). Factors Affecting the Adoption of E-commerce: A Study of the Textile Industry in Wujin, China. *International Journal of Business and Management Science*, 2(2), 117.
- Christensen, M. (2001). *Public Sector Accrual Accounting: who made the emperor's clothes*. Paper presented at the 4th Asian Public Interdisciplinary Research in Accounting Conference (APIRA), Adelaide, Australia.[Links].
- Christensen, M. (2003). Without 'Reinventing the Wheel': Business Accounting Applied to the Public Sector. *Australian Accounting Review*, 13(31), 22-27.

- Christensen, M. (2005). The 'third hand': Private sector consultants in public sector accounting change. *European Accounting Review*, 14(3), 447-474.
- Christensen, M. (2006). On public sector accounting change: Epistemic communities, consultants, naive officials and a reply to humphrey. *European Accounting Review*, 15(2), 289-296.
- Christiaens, J. (2003). Accrual accounting reforms in Belgian local governments: a comparative examination. *Journal of Public Budgeting Accounting and Financial Management*, 15, 92-109.
- Christiaens, J., & Rommel, J. (2008). Accrual accounting reforms: only for businesslike (parts of) governments. *Financial Accountability & Management*, 24(1), 59-75.
- Christiaens, J., & Van Peteghem, V. (2007). Governmental accounting reform: evolution of the implementation in Flemish municipalities. *Financial Accountability & Management*, 23(4), 375-399.
- Christiaens, J., & Vanhee, C. (2002). Innovations in governmental accounting systems: the concept of a 'mega general ledger'. *Belgian provinces*, in: V. Montesinos and JM Vela (Eds) *Innovations in Governmental Accounting*, 191-202.
- Chua, W.F. (1986). Radical developments in accounting thought. *Accounting Review*, LXI 61(4), 601-632.
- Chwelos, P., Benbasat, I., & Dexter, A. S. (2001). Research report: Empirical test of an EDI adoption model. *Information Systems Research*, 12(3), 304-321.
- CIA, (2008). The World Fact Book", country Yemen Online access, <https://www.cia.gov/library/publications/the-world-factbook/geos/ym.html>.
- CICA, (2003). 20 questions about government financial reporting : federal, provincial and territorial governments, . *The Canadian Institute of Chartered Accountants, Public Sector Accounting Board*, 277 Wellington Street West Toronto, Ontario, M5V 3Hca2. www.cica/PublicSector.
- Cohen, S., Kaimenaki, E., & Zorgios, Y. (2007). Assessing it as a key success factor for accrual accounting implementation in greek municipalities. *Financial Accountability & Management*, 23(1), 91-111.
- Comiskey, E.E., & Groves, REV. (1971). The adoption and diffusion of an accounting innovation. *Accounting and Business Research*, 2(5), 67-77.
- Compeau, D., Higgins, C. A., & Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: A longitudinal study. *MIS quarterly*, 145-158.
- Connolly, C., & Hyndman, N. (2006). The actual implementation of accruals accounting: Caveats from a case within the UK public sector. *Accounting, Auditing & Accountability Journal*, 19(2), 272-290.

- Cooper Donald, R., & Schindler Pamela, S. (2003). *Business Research Methods*: McGraw–Hill Co. Ltd., New York.
- Copley, P. A., Cheng, R. H., Harris, J. E., Icerman, R. C., Johnson, W. L., Smith, G. R., . . . Yahr, R. (1997). The New Government Reporting Model: Is it a "Field of Dreams"? *Accounting Horizons*, 11, 91-101.
- Cordella, A. (2007). E-government: towards the e-bureaucratic form? *Journal of information technology*, 22(3), 265-274.
- Cortes, J. L. (2006). The International Situation VIS-À-VIS the Adoption of Accrual Budgeting. *Journal of Public Budgeting, Accounting & Financial Management*, 18(1), 1-26.
- Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research 3rd ed.*: Pearson Education.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research 4th ed.*: Pearson Education.
- Creswell, J. W., & V. L. Plano Clark. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage Publications.
- CSO, (2007). "The 17th Statistical Year-book for 2006", Republic of Yemen official releases. Online accessed at:
<http://www.cso-yemen.org/content.php?lng=english&id=365>.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 13(3), 319-340.
- Davis, F. D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *Int. J'. Man—Machine Studies*, 38, 475-487.
- Davison, R. M., Wagner, C., & Ma, L. C. K. (2005). From government to e-government: a transition model. *Information Technology & People*, 18(3), 280-299.
- Denzin, N. K. (1978). The research act New York. *McGraw-Hill. Institutional Theory & Administrative Reform*, 353, 41-62.
- Dias, GP, & Rafael, JA. (2006). *Proposal for a platform for the integration into public administration*. Paper presented at the Proceedigs of the 1st Iberian Conference on Information Systems and Technologies.
- DiMaggio, P.J., & Powell, W.W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American sociological review*, 147-160.
- Domínguez, L. R., Sánchez, I. M. G., & Álvarez, I. G. (2011). Determining Factors of E-government Development: A Worldwide National Approach. *International Public Management Journal*, 14(2), 218-248.

- Duncan, N. B. (1995). Capturing flexibility of information technology infrastructure: A study of resource characteristics and their measure. *Journal of Management Information Systems*, 37-57.
- Dunham, R. B., Grube, J.A., Gardner, D.G., Cummings, L.L. and Pierce, J.L (1989). The Development of an Attitude Toward Change Instrument, . *Paper presented at the Academy of Management Science, Washington, D. C.*
- Dutta, S., & Reichelstein, S. (2005). Accrual accounting for performance evaluation. *Review of Accounting Studies*, 10(4), 527-552.
- Ebrahim, Z., & Irani, Z. (2005). E-government adoption: architecture and barriers. *Business Process Management Journal*, 11(5), 589-611.
- Egol, M. . (1987). Can accrual accounting work in Government? Can Accrual Accounting work in Government, video, Australian Society of Accountants, Sydney, Canberra, Melbourne.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of applied psychology*, 71(3), 500-507.
- Elias, S. M. (2009). Employee Commitment in Times of Change: Assessing the Importance of Attitudes Toward Organizational Change†. *Journal of Management*, 35(1), 37-55.
- Ellwood, S., & Newberry, S. (2007). Public sector accrual accounting: institutionalising neo-liberal principles? *Accounting, Auditing & Accountability Journal*, 20(4), 549-573.
- Enders, K. (2002). *Yemen in the 1990s: from unification to economic reform*. International Monetary Fund (IMF): Washington, D.C. 20431, U.S.A.
- Engstrom, J. H. C., P. A. (2001). *Essentials of Accounting for Governmental and Not-for-profit Organizations*. 6th edition, McGraw-Hill International Edition, Accounting Series, Singapore. www.mhhe.com
- Falkman, P., & Tagesson, T. (2008). Accrual accounting does not necessarily mean accrual accounting: Factors that counteract compliance with accounting standards in Swedish municipal accounting. *Scandinavian Journal of Management*, 24(3), 271-283.
- Fang, Z. (2002). E-government in digital era: concept, practice, and development. *International Journal of The Computer, The Internet and Management*, 10(2), 1-22.
- Fisher, D. R. (1998). Rumoring Theory and the Internet A Framework for Analyzing the Grass Roots. *Social Science Computer Review*, 16(2), 158-168.

- Fletcher, P. D. (1999). Strategic planning for information technology management In G. D. Garson in state governments. In I. G. D. Garson (Ed.), *Information Technology and Computer Applications in Public Administration: Issues and Trends*. (pp. 81-97). Idea Group: Hershey, PA
- Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing research*, 440-452.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing research*, 39-50.
- Freeman, R. J. S., C. D. . (2000). Governmental and nonprofit accounting : theory and practice (6th , rev. ed.). Upper Saddle River, N.J.: Prentice Hall. Freeman
- García-Sánchez, I. M., Cuadrado-Ballesteros, B., & Frías-Aceituno, J. V. (2012). Determinants of E-Government Development: Some Methodological Issues. *Journal of Management and Strategy*, 3(3), p11.
- Garson, G. D. (1999). Information systems, politics, and government: Leading theoretical perspectives. In I. G. D. Garson (Ed.), *Handbook of Public Information Systems* (pp. 591-605). New York: Marcel Dekker.
- Gefen, D., Straub, D. W., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the AIS*.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference, 11.0 update*: Allyn & Bacon.
- Gerbing, David W., & Anderson, James C. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Marketing Research*, 25(May), 186-192.
- Gilbert, D., Balestrini, P., & Littleboy, D. (2004). "Barriers and benefits in the adoption of e-government" *The International Journal of Public Sector Management*. Bradford, 17(4/5), ABI/INFORM Global pg. 286-301.
- Gil-Garcia, J. R., Chun, S. A., & Janssen, M. (2009). Government information sharing and integration: Combining the social and the technical. *Info. Pol.*, 14(1,2), 1-10.
- Ginzberg, M. J. (1981). Key recurrent issues in the MIS implementation process. *MIS quarterly*, 47-59.
- Godfrey, A.D., Devlin, P.J., & Merrouche, C. (1996). Governmental Accounting in Kenya, Tanzania, and Uganda. *Research in governmental and nonprofit accounting*, 193-208.
- Godfrey, A.D., Devlin, P.J., & Merrouche, M.C. (2000). Government accounting development within a transitional economy-Albania a case study. *Journal of Applied Accounting Research*, 5(3), 53-86.

- Godfrey, A. D., Devlin, P. J., & Merrouche, M. C. (2001). A Diffusion-Contingency Model for Government Accounting Innovations *International Comparative Issues in Government Accounting (Hardback): The Similarities and Differences between Central Government Accounting and Local Government Accounting within or between Countries* (pp. 279-296). BAC, A.D: Kluwer Academic Publishers.
- Grant, G. & Chua, D. (2005). "Developing a Generic Framework for E-Government". *Journal of Global Information Management*, 13(1), ABI/INFORM Global pg.1.
- Greene, J. C. (2007). *Mixed Methods in Social Inquiry*. San Francisco, CA: John Wiley & Sons.
- Groot, T., & Budding, T. (2008). New Public Management's current issues and future prospects. *Financial Accountability & Management*, 24(1), 1-13.
- Guba, E.G., & Lincoln, Y.S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, 2, 163-194.
- Guthrie, J. (1998). Application of accrual accounting in the Australian public sector—rhetoric or reality. *Financial Accountability & Management*, 14(1), 1-19.
- Haag, S., Cummings, M., & Mccubbrey, D. (2005). *Management Information Systems for the Information Age*: McGraw-Hill/Irwin Companies, New York, NY.
- Hair, J., Anderson, R., Tatham, R., & Black, W. (1998). *Multivariate data analysis* (5 ed.). Upper Saddle River, NJ, USA: Prentice Hall International.
- Hair, J. F. J., Black, William C., Babin, Barry J., and Anderson, Rolph E. (2010). *Multivariate Data Analysis (7th Edition)*. New Jersey: Pearson education.
- Harris, J. (2005). The Discourse of Governmental Accounting and Auditing. *Public Budgeting & Finance*, 25(4s), 154-179.
- Harun, H. (2007). Obstacles to Puplic Sector Accounting Reform in Indonesia. [Journal Article]. *Bulletin of Indonesian Economic Studies*, 43(3), 363-376.
- Harun, H., & Robinson, P. (2010). The adoption of accrual accounting in the Indonesian public sector. *Research in Accounting in Emerging Economies*, 10, 233-250.
- Hashim, A., & Allan, B. (2001). *Treasury reference model*: World Bank Publications.
- Heeks, R. (1999). *Reinventing government in the information age: International practice in IT-enabled public sector reform*: Psychology Press.
- Heeks, R., & Bailur, S. (2007). Analyzing e-government research: Perspectives, philosophies, theories, methods, and practice. *Government information quarterly*, 24(2), 243-265.
- Henry, L.J., & Attavitkamtorn, P. (1999). Governmental accounting and auditing in Thailand: an overview and some suggestions for improvement. *The International Journal of Accounting*, 34(3), 439-454.

- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. *Structural Equation Modeling*, 17(1), 82-109.
- Hepworth, N. (2003). Preconditions for successful implementation of accrual accounting in central government. *Public Money & Management*, 23(1), 37-44.
- Hines, R.D. (1989). The sociopolitical paradigm in financial accounting research. *Accounting, Auditing & Accountability Journal*, 2(1), 52-76.
- Ho, T. K. (2002). Reinventing Local Governments and the E Government Initiative. *Public Administration Review*, 62(4), 434-444.
- Hodges, R., & Mellett, H. (2003). Reporting public sector financial results. *Public Management Review*, 5(1), 99-113.
- Holt, D. T., Armenakis, A. A., Feild, H. S., & Harris, S. G. (2007). Readiness for organizational change. *The Journal of applied behavioral science*, 43(2), 232-255.
- Hopper, T., & Powell, N. (1985). Making Sense of Research Into the Organizational and Social Aspects of Management Accounting: A review of its underlying assumptions. *Journal of Management Studies*, 22(5), 429-465.
- Homburg, V. (2004). *E-government and NPM: a perfect marriage?* Paper presented at the 6th International Conference on Electronic Commerce 'ICEC'.
- Huang, L. S., & Lai, C. P. (2012). An investigation on critical success factors for knowledge management using structural equation modeling. *Procedia-Social and Behavioral Sciences*, 40, 24-30.
- Humphrey, C. (2005). The questionable nature of 'third hand' public sector accounting solutions: A case for change? *European Accounting Review*, 14(3), 475-485.
- Hussein, M. E. (1981). The innovative process in financial accounting standards setting. *Accounting, Organizations and Society*, 6(1), 27-37.
- IFAC. (2003). Study 14 - Transition to the Accrual Basis of Accounting: Guidance for Governments and Government Entities (Third Edition).
- Igbaria, M. (1990). End-user computing effectiveness: A structural equation model. *Omega*, 18(6), 637-652.
- Igbaria, M., & Parasuraman, S. (1991). Attitudes toward microcomputers: development and construct validation of a measure. *International Journal of Man-Machine Studies*, 35(4), 553-573.
- Ingram, R. W. (1984). Economic incentives and the choice of state government accounting practices. *Journal of Accounting Research*, 22(1), 126-144.

- Jaruga, A., Nowak, W. A., & Lisiecka Zajac, B. (1998). Polish Public Sector Accounting in Transition: Evidence From the Mid 1990s. *Financial Accountability & Management*, 14(2), 105-122.
- Jones, R. (1995). Accounts of Government of the U.K., International Research in Public Sector Accounting, Reporting and Auditing, ed. V. Montesinos & J.M. Vela., p. 25-44.
- Jones, R., & Pendlebury, M. (2000). *Public sector accounting*: Pearson Education.
- Jöreskog, K. G. (1973). A general method for estimating a linear structural equation system', In Structural Equation Models in the Social Sciences, Goldberger, A.S. and O.D. Duncan (eds.), Academic Press, New York 85-112.
- Jorge, S. M., Carvalho, J. B. C., & Fernandes, M. J. (2007). Governmental Accounting in Portugal: Why Accrual Basis Is A Problem. *Journal of Public Budgeting Accounting and Financial Management*, 19(4), 411.
- Justice, J. B., Melitski, J., & Smith, D. L. (2006). E-government as an instrument of fiscal accountability and responsiveness. *The American Review of Public Administration*, 36(3), 301-322.
- Kamal, M. M. (2006). IT innovation adoption in the government sector: identifying the critical success factors. *Journal of Enterprise Information Management*, 19(2), 192-222.
- Keesling, J. W. (1972). *Maximum Likelihood Approaches to Causal Analysis*, Chicago: University of Chicago Press.
- Kluvers, R. (1999). To PPB or not PPB—budgeting in Victorian local government. *Australian Journal of Public Administration*, 58(4), 68-77.
- Kober, R., Lee, J., & Ng, J. (2010). Mind Your Accruals: Perceived Usefulness of Financial Information in the Australian Public Sector Under Different Accounting Systems. *Financial Accountability & Management*, 26(3), 267-298.
- Koh, C.E., Ryan, S., & Prybutok, VR. (2005). “Creating Value Through Managing Knowledge in an E-Government to Constituency (G2C) Environment” *The Journal of Computer Information Systems*, 45(4), 32.
- Kraemer, K., & King, J.L. (2006). Information technology and administrative reform: will e-government be different? *International Journal of Electronic Government Research (IJEGR)*, 2(1), 1-20.
- Kudo, H. (2004). Reform of Public Management through ICT: Interface, Accountability and Transparency. *Strategies for Public Management Reform (Research in Public Policy Analysis and Management, Volume 13)*, Emerald Group Publishing Limited, 13, 153-174.
- Kudo, H. (2008). Does E-government Guarantee Accountability in Public Sector?: Experiences in Italy and Japan. *Public Administration Quarterly*, 32(1), 93.

- Kumar, R. L. (2004). A framework for assessing the business value of information technology infrastructures. *Journal of Management Information Systems*, 21(2), 11-32.
- Kuntz, J. R. C., & Gomes, J. F. S. (2012). Transformational change in organisations: a self-regulation approach. *Journal of Organizational Change Management*, 25(1), 143-162.
- Lam, W. (2005). Barriers to e-government integration. *Journal of Enterprise Information Management*, 18(5), 511-530.
- Landry, M., & Banville, C. (1992). A disciplined methodological pluralism for MIS research. *Accounting, Management and Information Technologies*, 2(2), 77-97.
- Lapsley, I. (1986). Capital Asset Accounting in UK non Trading Organisations. *Financial Accountability & Management*, 2(4), 273-294.
- Lapsley, I., Mussari, R., & Paulsson, G. (2009). On the Adoption of Accrual Accounting in the Public Sector: A Self-Evident and Problematic Reform. *European Accounting Review*, 18(4), 719-723.
- Lapsley, I., & Oldfield, R. (2001). Transforming the public sector: management consultants as agents of change. *European Accounting Review*, 10(3), 523-543.
- Laudon, K., & Laudon, J. (2010). *Management Information Systems, Management the Digital firm* (Vol. 11th ed.): Pearson Prentice Hall.
- Laughlin, R. C. (1995). Empirical research in accounting: alternative approaches and a case for “middle-range” thinking. *Accounting, Auditing & Accountability Journal*, 8(1), 63-87.
- Laughlin, R. C. (1977). Accounting Objectives and the Corporate Report. *Journal of Business Finance & Accounting*, 4(1), 115-129.
- Layne, K., & Lee, J. (2001). Developing fully functional E-government: A four stage model. *Government information quarterly*, 18(2), 122-136.
- Lazarsfeld, P. F. (1955). Interpretation of Statistical Relations as a Research Operation. In P. F. L. a. M. Rosen-berg (Ed.), *The Language of Social Research*. Glencoe, Illinois: The Free Press.
- Levinson, H. (1965). Reciprocation: The relationship between man and organization. *Administrative Science Quarterly*, 370-390.
- Lewis, B. R., & Byrd, T. A. (2003). Development of a measure for the information technology infrastructure construct. *European Journal of Information Systems*, 12(2), 93-109.
- Lohmöller, J. B. (1989). *Latent variable path modeling with partial least squares*: Physica-Verlag Heidelberg.

- Lüder, K.G. (1989). Comparative Government Accounting Study: Interim Summary Report. Revised Edition (Vol. 76). Speyer: Speyer Forschungsberichte.
- Lüder, K.G. (1992). A contingency model of governmental accounting innovations in the political administrative environment. In J. L. Chan & J. M. Patton (Eds.), *Research in Governmental and Nonprofit Accounting* (Vol. 7, pp. 29): Jai Press.
- Lüder, K.G. (1994). The “Contingency Model. *Reconsidered: Experiences from Italy, Japan and Spain*’, *Research in Governmental and Nonprofit Accounting*, 8, 1–15.
- Lüder, K.G. (2000). National accounting, governmental accounting and cross-country comparisons of government financial condition. *Financial Accountability and Management*, 16(2), 117-128.
- Lüder, K.G. (2001). *Research in Comparative Governmental Accounting Over the Last Decade: Achievements and Problems*. Paper presented at the 7th CIGAR Conference, Valencia.
- Lye, J., Perera, H., & Rahman, A. (2005). The evolution of accruals-based Crown (government) financial statements in New Zealand. *Accounting, Auditing & Accountability Journal*, 18(6), 784-815.
- Malhotra, N. (2004). Marketing Research: An Applied Orientation, 4th ed. Pearson Prentice Hall - Hopper Saddle River. NJ 07458. , .
- Marche, S., & McNiven, J.D. (2003). E-Government and E-Governance: The Future Isn't What It Used To Be. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 20(1), 74-86.
- McCrum, P. a. F., B. . (2004). “Country Profile, Yemen”, the Economist Intelligence Unit Limited, www.eiu.com document accessed online at <http://www.yemenembassy.org/economic/Reports/EIU/Country%20Profile%20Yemen%202004%20Main%20Report.pdf>.
- McKendrick, J. (2007). Modernization of the public accounting systems in central and eastern European countries: The case of Romania. *International Public Management Review*, 8 (1), 168-185.
- Mellemvik, F., Monsen, N. (1995). Local Governmental Accounting in Denmark, Norway and Sweden: a Comparative Study of Consolidation Issues, *International Research in Public Sector Accounting, Reporting and Auditing*, ed. V. Montesinos & J.M. Vela,. p. 185- 206.
- Mellet, H., Marriott, N., & Macniven, L. (2009). Diffusion of an Accounting Innovation: Fixed Asset Accounting in the NHS in Wales. *European Accounting Review*, 18 (4), 745-764.
- Milward, H. B., & Snyder, L. O. (1996). Electronic government: Linking citizens to public organizations through technology. *Journal of Public Administration Research and Theory*, 6 (2), 261-276.

- Mintzberg, H. (1996). Managing government, governing management. *Harvard Business Review*, 74, 75-85.
- Mir, M. Z., & Rahaman, A. S. (2006). Leadership, Accounting, and the Reform Process of a Public Sector Agency: A Narrative Analysis. *Financial Accountability & Management*, 22 (2), 157-178.
- MOF. (2006). *Yemen Government Accounting System Manual*. MOF Press (In Arabic).
- Monsen, N., Näsi, S. (2000). Is accrual accounting appropriate for governmental organizations?, working paper EIASM Conference, Zaragoza.
- Monsen, N., & Nasi, S. (1998). The contingency model of governmental accounting innovations: a discussion. *European Accounting Review*, 7(2), 275-288.
- Montesinos, V., Pina, V., Vela J.M. (1995). Comparative Analysis of Governmental Accounting Systems in OECD Countries: An Empirical Approach, International Research in Public Sector Accounting, Reporting and Auditing, ed. V. Montesinos & J.M. Vela., p. 161-184.
- Montesinos, V., & Vela, J. M. (2000). Governmental accounting in Spain and the European Monetary Union: a critical perspective. *Financial Accountability & Management*, 16(2), 129-150.
- Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research*, 2(3), 192-222.
- Morphett, S. (1998). Public Sector Accounting: developing new standards. *Australian CPA*, 68, 22-23.
- Mosleh Aldhmour, F., & Bakhit Eleyan, M. (2012). Factors Influencing the Successful Adoption of Decision Support Systems: The Context of Aqaba Special Economic Zone Authority. *International Journal of Business and Management*, 7(2), p163.
- Mosso, D. (2005). "Accrual accounting and Social Security" *The Journal of Government Financial Management*, Alexandria, 54(3).
- Newberry, S., & Pallot, J. (2005). A wolf in sheep's clothing? Wider consequences of the financial management system of the New Zealand central government. *Financial Accountability & Management*, 21(3), 263-277.
- Norris, D. F. (1999). Leading edge information technologies and their adoption: Lessons from US cities. In I. G. D. Garson (Ed.), *Information Technology and Computer Applications in Public Administration: Issues and Trends*. (pp. pp. 137-156). Hershey, PA: Idea Group.

- Norris, D. F., Fletcher, P. D., & Holden, S. H. (2001). Is Your Local Government Plugged In? Highlights of the 2000 Electronic Government Survey. Prepared for the International City/County Management Association and Public Technology. *Inc.*
- Norris, D. F., & Moon, M. J. (2005). Advancing E-Government at the Grassroots: Tortoise or Hare? . *Public Administration Review*, 65(1), ABI/INFORM Global
- Novotny, P. (1998). The World Wide Web and multimedia in the 1996 presidential election. *Social Science Computer Review*, 16(2), 169-184.
- Nowak, J. A. (1995). Governmental Accounting in Transition: The Polish Experience, In V. Montesinos & J. M. Vela (Eds.), *International Research in Public Sector Accounting, Reporting and Auditing*. (pp. 81-116).
- Nunnally, J. (1978). *Psychometric theory*. : McGraw-Hill, New York, NY.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory*. : New York, NY: McCraw-Hill
- Nunnally, J. C., & Bernstein, I. H. (2004). *Psychometric theory* New York. *Chayaput P. Development and psychometric evaluation of the Thai version of the coping and adaptation processing scale.[Tesis Doctoral]. Massachusetts.*
- Nunnally, J. C., Bernstein, I. H., & Berge, J. M. F. (1967). *Psychometric theory*: McGraw-Hill New York.
- OECD (2005). "Middle East and North Africa Initiative Launched" *OECD Observer*. Paris(248), 34.
- Oliver, A.L. (2001). Strategic alliances and the learning life-cycle of biotechnology firms. *Organization Studies*, 22(3), 467-489.
- Olson, O., Humphrey, C., & Guthrie, J. (2001). Caught in an evaluatory trap: a dilemma for public services under NPFM. *European Accounting Review*, 10(3), 505-522.
- Orlikowski, W.J , & Baroudi, J.J. (1991). Studying IT in Organizations: Research Approaches and Assumptions. *Information Systems Research*, 2(1), 1-28.
- Osborne, D. E., & Gaebler, T. A. (1992). *Reinventing Government: How the Entrepreneurial is Transforming the Public Sector*. Reading, MA Addison-Wesley Publishing Company.
- Ouda, H. (2010). A Prescriptive Model of the Transition to Accrual Accounting in Central Government. *International Journal of Government Financial Management*, 10(1), 63.
- Pallot, J. (1997). Infrastructure accounting for local authorities: technical management and political context. *Financial Accountability & Management*, 13(3), 225-242.

- Paulsson, G. (2006). Accrual accounting in the public sector: Experiences from the central Government in Sweden. *Financial Accountability & Management*, 22(1), 47-62.
- Pérez, C. C., Bolivar, M. P. R., & Hernández, A. M. L. (2008). e-Government process and incentives for online public financial information. *Online Information Review*, 32(3), 379-400.
- Republic, Philippines. (2007). 40th Congress, Senate Bill No.: 40.
- Pina, V., & Torres, L. (2003). Reshaping public sector accounting: an international comparative view. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 20(4), 334-350.
- Pina, V., Torres, L., & Royo, S. (2010). Is E-Government Promoting Convergence Towards More Accountable Local Governments? *International Public Management Journal*, 13(4), 350-380.
- Pina, V., Torres, L., & Yetano, A. (2009). Accrual accounting in EU local governments: One method, several approaches. *European Accounting Review*, 18(4), 765-807.
- Pons, A. (2004). "E-Government for Arab Counties". *Journal of Global Information Technology Management, Maritetta*, 7(1), ABI/INFORM Global pg.30.
- Potter, B. N. (2005). Accounting as a social and institutional practice: perspectives to enrich our understanding of accounting change. *Abacus*, 41(3), 265-289.
- Power, M. (1994). *"The Audit Society"*, In Hopwood, A.G. Miller, P., (eds) *Accounting as social and institutional practice*: Cambridge Univ Pr.
- Premkumar, G., & Ramamurthy, K. (1995). The Role of Interorganizational and Organizational Factors on the Decision Mode for Adoption of Interorganizational Systems. *Decision Sciences*, 26(3), 303-336.
- Ramadhan, S. (2009). Budgetary accounting and reporting practices in Bahraini governmental units: An empirical study. *International Business Review*, 18(2), 168-183.
- Rehman, M., Esichaikul, V., & Kamal, M. (2012). Factors influencing e-government adoption in Pakistan. *Transforming Government: People, Process and Policy*, 6(3), 258-282.
- Reschenthaler, G., & Thompson, F. (1996). The information revolution and the new public management. *Journal of Public Administration Research and Theory*, 6(1), 125-143.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of applied psychology*, 87(4), 698.
- Ridder, H. G., Bruns, H. J., & Spier, F. (2005). Analysis of public management change processes: the case of local government accounting reforms in Germany. *Public Administration*, 83(2), 443-471.

- Ringle, C. M., Wende, S., & Will, S. (2005). SmartPLS 2.0 (M3) Beta, Hamburg 2005.
- Robinson, M. (1998). Accrual accounting and the efficiency of the core public sector. *Financial Accountability & Management*, 14(1), 21-37.
- Rogers, E. (2003). Diffusion of innovations (5th ed.): New York: Free Press.
- Rogers, E. M. (1995). Diffusion of innovations (Vol. 4): New York: Free Press.
- Rosenberg, M. (1968). *The logic of survey analysis*: Basic Books New York.
- Rötter, A. (2003). Einführung in das Thema E-Government. Retrieved, from the World Wide Web: www.webagency.de/infopool/e-commerce-knowhow/e-govenment.htm.
- Ryan, B., Scapens, R.W., & Theobald, M. (2002) *Research method and methodology in finance and accounting* (2nd ed.). Cengage Learning-Thomson: London UK.
- Ryan, C. (1998). The introduction of accrual reporting policy in the Australian public sector: an agenda setting explanation. *Accounting, Auditing & Accountability Journal*, 11(5), 518-539.
- Saint-Martin, D. (2000). Building the New Managerialist State: Consultants and the Politics of Bureaucratic Reform in Britain, Canada, and France: Oxford University Press.
- Saleh, Z. (2007). Malaysian governmental accounting: national context and user orientation. *International Review of Business Research Papers*, 3(2), 376-384.
- Saleh, Z., & Pendlebury, M. W. (2006). Accruals Accounting in Government-Developments in Malaysia. *Asia Pacific Business Review*, 12(4), 421-435.
- Scavo, C., & Shi, Y. (1999). World Wide Web site design and use in public management. In G. D. In Garson (Ed.), *Information Technology and Computer Applications in Public Administration: Issues and Trends*. (pp. 246-266). Hershey, PA: Idea Group Publishing.
- Scheers, B. e. a. (2005). From cash to accrual budgeting and accounting in the public sector: The Dutch experience. *OECD*, 5(2), 133-162.
- Scott, G. (1995). Financial Management for Improved Public Management and Development, 12th meeting of experts on the United Nations programme in public administration and finance - NY 31 July – 11 August 1995, UN, Doc. ST/SG/AC.6/1995/L.3.
- Scott, J. E. M., McKinnon, J. L., & Harrison, G. L. (2003). Cash to accrual and cash to accrual: A case study of financial reporting in two NSW hospitals 1857 to post-1975. *Accounting, Auditing & Accountability Journal*, 16(1), 104-140.
- Sekaran, U. (2003). Research Method for Business, A Skill Building Approach, New York, John Wiley and Sons: Inc.

- Siau, K., & Long, Y. (2005). Synthesizing e-government stage models—a meta-synthesis based on meta-ethnography approach. *Industrial Management & Data Systems*, 105(4), 443-458.
- Slevin, J. (2000). *The Internet and society* (Vol. 131): Polity Press Cambridge.
- Smith, H. W. (1975). *Strategies of social research: The methodological imagination*: Prentice-Hall.
- Stalebrink, O. J., & Sacco, J. F. (2003). An 'Austrian' perspective on commercial accounting practices in the public sector, *Accounting Forum*, Vol. 27, No. 3, pp. 339–58.
- Stanton, P., & Stanton, J. (1998). The questionable economics of governmental accounting. *Accounting, Auditing & Accountability Journal*, 11(2), 191-203.
- Swartz, N. (2004). "E-Government around the World". *Information Management Journal. Lenexa*, 38(1), ABI/INFORM Global pg.12
- Symonds, R.D., Singer, I., George, P.S., & Gill, R.B. (2000). Financial transaction processing system and method: Google Patents.
- Tabachnick, B., & Fidell, L. (2007). Using multivariate statistics *New York: Allyn and Rose*.
- Tambouris, E., Boukis, G., Vassilakis, C., Lepouras, G., Rouvas, S., Canadas, R., . . . Usero, J.C.L. (2002). *SMARTGOV: a governmental knowledge-based platform for public sector online services*. Paper presented at the Proceedings of the KMGov2002 Workshop, Copenhagen, Denmark.
- Tan, C., Pan, S., & Lim, E. (2005). "Managing Stakeholder Interests in e-government Implementation: Lessons Learned from a Singapore e-government project" *Journal of Global Information Management, Hershey*, 13(1), ABI/INFORM Global p. 31-53.
- Tapscott, D. (1996). *The digital economy: Promise and peril in the age of networked intelligence* (Vol. 1): McGraw-Hill New York.
- Tashakkori, Abbas, & Teddlie, Charles. (2003). *Handbook of mixed methods in social & behavioral research*: Sage Publications.
- Tat-Kei Ho, A. (2002). Reinventing Local Governments and the E-Government Initiative. *Public administration review*, 62(4), 434-444.
- Taylor, S., & Todd, P. (1995). Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International journal of research in marketing*, 12(2), 137-155.
- Teddlie, C. & A. Tashakkori (2009). *Foundations of Mixed Methods Research*. Thousand Oaks, CA: Sage Publications.

- Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis*, 48(1), 159-205.
- Thai, K.V., & Grimm, R. (2000). Government procurement: Past and current developments. *Journal of Public Budgeting Accounting and Financial Management*, 12, 231-247.
- Tickell, G. (2010). Cash To Accrual Accounting: One Nation's Dilemma. *International Business & Economics Research Journal (IBER)*, 9(11).
- Tikk, J. (2010). Accounting Changes in the Public Sector in Estonia. *Verslas: teorija ir praktika*(1), 77.
- Tiron Tudor, A., & Blidisel, R. (2007). Accrual Accounting Experience In The Romanian Public Higher Education Sector. *MPRA Paper*.
- Tornatzky, L. G., & Klein, K. J. (1982). Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on engineering management*, 29(1), 28-45.
- Torres, L. (2004). Accounting and accountability: recent developments in government financial information systems. *Public Administration and Development*, 24(5), 447-456.
- Torres, L., Pina, V., & Royo, S. (2005). E-government and the transformation of public administrations in EU countries: Beyond NPM or just a second wave of reforms? *Online Information Review*, 29(5), 531-553.
- Tsai, M. C., Lee, W., & Wu, H. C. (2010). Determinants of RFID adoption intention: Evidence from Taiwanese retail chains. *Information & management*, 47(5), 255-261.
- Tung, L. L., & Rieck, O. (2005). Adoption of electronic government services among business organizations in Singapore. *The Journal of Strategic Information Systems*, 14(4), 417-440.
- UNPAN (2004). "Republic of Yemen Public Administration Country Profile." Division for Public Administration and Development Management (DPADM); Department of Economic and Social Affairs (DESA); United Nations.
- Van de Ven, A. H., & Poole, M. S. (1995). Explaining development and change in organizations. *Academy of management review*, 20(3), 510-540.
- Van der Hoek, P. (2005). From cash to accrual budgeting and accounting in the public sector: The Dutch experience. *Public Budgeting & Finance*, 25(1), 32-45.
- van Helden, G. J., Aardema, H., ter Bogt, H. J., & Groot, T. L. C. M. (2010). Knowledge creation for practice in public sector management accounting by consultants and academics: Preliminary findings and directions for future research. *Management Accounting Research*, 21(2), 83-94.

- Vickland, S., & Nieuwenhuijs, I. (2005). Critical success factors for modernising public financial management information systems in Bosnia and Herzegovina. *Public Administration and Development*, 25(2), 95-103.
- Vinnari, E. M., & Näsi, S. (2008). Creative accrual accounting in the public sector: 'milking' water utilities to balance municipal budgets and accounts. *Financial Accountability & Management*, 24(2), 97-116.
- Wallace, W. A. (2004). "Inter-Country Public Sector Comparisons and Harmonization of International Accounting, Auditing, and Regulation". *The Journal of Government Financial Management, Alexandria*, 53(3), ABI/INFORM Global pg.10.
- Walter, A., Auer, M., & Ritter, T. (2006). The impact of network capabilities and entrepreneurial orientation on university spin-off performance. *Journal of Business Venturing*, 21(4), 541-567.
- Walsham, G. (1995). Interpretive case studies in IS research: nature and method. *European Journal of information systems*, 4(2), 74-81.
- WB. (2010). Yemen Public Finance Modernization Project, from <http://www.worldbank.org/projects/P117363/yemen-public-finance-modernization-project?lang=en> accessed on June,2012.
- West, B., & Carnegie, G. D. (2010). Accounting's chaotic margins: Financial reporting of the library collections of Australia's public universities, 2002-2006. *Accounting, Auditing & Accountability Journal*, 23(2), 201-228.
- West, D.M. (2000). Assessing e-government: The Internet, democracy and service delivery by state and federal governments: Brown University Providence.
- Wiley, D. E. (1973). The identification problem for structural equation models with unmeasured variables," In Structural Equation Models in the Social Sciences, Goldberger, A.S. (ed.), Academic Press, New York., pp. 169–183.
- Wilson, G. (2002). Yemen kicks off US\$ 60 million e-government Initiative. *Arabian Business.com*, <http://www.arabianbusiness.com/yemen-kicks-off-us-60-million-e-government-initiative-139451.html>
- Wold, H. (1975). Path models with latent variables: The NIPALS approach. In H. M. Blalock, A. Aganbegian, F. M. Borodkin, R. Boudon & V. Cappecchi (Eds.), *Quantitative Sociology: International Perspectives on Mathematical and Statistical Modeling* (pp. 307-357). Academic Press: N.Y - U.S.A
- Wold, H. (1985). Partial Least Squares. *Encyclopedia of Statistical Sciences*, Vol. 6, pp. 581–591.
- Wynne, A. (2004). "Is the Move to Accrual basis of accounting A Real Priority for Public Sector Accounting". *The Association of Chartered Certified Accountants – ACCA -*, 29 Lincoln's Inn Fields London WC2A 3EE UK. , http://www.accaglobal.com/doc/publicsector/ps_doc_008.pdf.

- Wynne, A. (2007). Is the move to accrual basis of accounting a real priority for public sector accounting? *Public Fund Digest*, 6(1), 25-39.
- Yamamoto, K. (1999). Accounting system reform in Japanese local governments. *Financial Accountability & Management*, 15(3-4), 291-307.
- Yapa, P., & Guah, M. W. (2012). Public-Sector Accounting and E-Governance in Developing Countries: Case of Sri Lanka. *Journal of Asia-Pacific Business*, 13(1), 37-58.
- Yemen., R. o. (1994). "Republic of Yemen Constitution for 1990 and its amendments" www.al-bab.com.
- Zan, L., & Xue, Q. (2010). Budgeting China: Macro-Policies and Micro-Practices in Public Sector Changes. [research paper]. Available at SSRN: <http://ssrn.com/abstract=1617584>.
- Zaltman, G., Duncan, R., & Holbek, J. (1973). *Innovations and organizations*: Wiley New York.
- Zikmund, W. (2003). *Business Research: Methods* (7th ed.) USA: Thomson Learning, South-Western.

APPENDICES

APPENDIX (A): Results of Data Analysis

A.1 Descriptive Statistics

CONSTRUCT (to what extent)	Mean	S.D	Median	One-Sample T-Test*		Range	
				<i>t</i> **	Sig.	Min	Max
Government Accounting Institutional Framework:							
1. Professionalism & Independence	3.35	0.564	3.33	8.96	0.00	1	5
a. The accounting system is controlled by the administrative	4.28	0.870	4.00	20.97	0.00	1	5
b. The chief accounting officer is required to be a public finance professional	1.76	1.016	2.00	-17.33	0.00	1	5
c. The auditor is independent of the government unit being audited	4.02	1.239	4.00	11.73	0.00	1	5
2. Private-sector Influence	3.32	0.747	3.50	6.16	0.00	1	5
a. Accounting and financial reporting standards are based on legal required requirements	4.26	0.854	4.00	21.05	0.00	1	5
b. The private-sector accounting profession participate in setting governmental accounting policy	2.38	1.148	2.00	-7.65	0.00	1	5
3. Functional Integration	2.96	0.558	3.00	-1.03	0.30	1	5
a. Accounting policies & procedures influenced by budget laws or norms	3.93	0.780	4.00	17.00	0.00	1	5
b. Accounting concepts –e.g. accrual) influenced public budgeting	3.71	1.056	4.00	9.63	0.00	1	5
c. Accounting & financial reports are subject to external (parliamentary or legislative) audit.	3.64	1.200	4.00	7.61	0.00	1	5
d. The accounting system is computerised	3.24	1.329	4.00	2.54	0.01	1	5
e. The accounting system between central government and other branches integrated with Government-to-Government (G2G) by the internet/ intranet.	1.96	1.026	2.00	-14.50	0.00	1	5
f. The accounting system interfaces with citizens through the internet in performing government services including financial transactions Government-to-Citizen (G2C).	1.83	1.051	1.00	-15.90	0.00	1	5
g. The accounting system interfaces with business through the internet to perform transactional transactions Government-to-Business (G2B).	1.87	0.999	2.00	-16.17	0.00	1	5
h. The accounting system facilitates the employee's interaction with the government to perform informational and financial transaction Government-to-Employee (G2E).	2.18	1.199	2.00	-9.72	0.000	1	5
i. The accounting system is regarded as a part of the overall management information system	4.28	0.817	4.00	22.32	0.00	1	5
4. Centralisation	4.42	0.628	4.50	32.23	0.00	1	5
a. The central government dictates the accounting practices of governorates, local authorities, and other governmental units.	4.48	0.733	5.00	28.71	0.00	1	5
b. The accounting function performed by operating agencies within the government subject only to the coordination of a central office.	4.36	0.721	4.00	26.96	0.00	1	5
Total**	3.262	0.402	3.31	9.27	0.00	2.06	4.50

* Test Value (the neutral value) = 3, with *df* (202) ** *t* ≥ 1.96 (*p* ≤ 0.05) (Sig. at .05). (2-tailed)

** Skewness -.046 & Kurtosis .773 indicating construct normal distribution

Government Accounting Financial Reporting Policy:							
1. Objectives	3.23	0.611	3.25	5.29	0.00	2	5
a. The accounting system designed to facilitate the budgetary control.	4.27	0.732	4.00	24.75	0.00	1	5
b. The accounting system designed to facilitate the legislative oversight.	4.00	0.962	4.00	14.88	0.00	1	5
c. The accounting system designed to facilitate monitoring by creditors and other resource providers	2.53	1.216	2.00	-5.49	0.00	1	5
d. The accounting system also designed to facilitate monitoring by the general-public.	2.10	1.139	2.00	-11.28	0.00	1	5
2. Accounting Recognition & Measurement	2.58	0.494	2.55	-12.04	0.00	1	4
a. The double-entry book keeping is used.	3.99	1.196	4.00	11.74	0.00	1	5
b. The accounting system is designed based on individual funds	2.72	1.082	3.00	-3.63	0.00	1	5
c. The accrual basis of accounting practiced.	1.88	0.995	2.00	-16.09	0.00	1	5
d. Government enterprises follow commercial accounting principles.	1.91	0.942	2.00	-16.54	0.00	1	5
e. Other bases of evaluation than the historical cost basis are used.	1.53	0.779	1.00	-26.94	0.00	1	5
f. The government's capital assets recognised.	1.71	1.047	1.00	-17.50	0.00	1	5
g. The government's long-term long term liabilities recognised	3.08	1.408	3.00	0.80	0.43	1	5
h. The annual deficit measured based on accruals.	2.39	1.195	2.00	-7.22	0.00	1	5
i. Government revenues recognised based on cash receipts.	4.29	0.796	4.00	23.11	0.00	1	5
j. Depreciation expense is recognised.	1.74	1.096	2.00	-16.33	0.00	1	5
k. Obligations considered as expenditures.	3.16	1.353	4.00	1.71	0.09	1	5
3. Financial Reporting	3.52	0.678	3.67	10.87	0.00	1	5
a. The accounting books closed promptly after the end of the fiscal year.	4.27	0.969	4.00	-18.62	0.00	1	5
b. Government managers supplied with interim financial reports.	4.09	0.921	4.00	16.92	0.00	1	5
c. The government periodically issue financial reports to the general-public.	2.19	1.266	2.00	-9.10	0.00	1	5
4. Content of Financial Reports	3.20	0.572	3.33	4.93	0.00	1	5
a. The reporting entity encompasses other associated governmental units.	4.06	0.879	4.00	17.24	0.00	1	5
b. The financial data aggregated in external reporting.	2.86	1.135	3.00	-1.73	0.09	1	5
c. The government's financial reports include such basic financial statements as a balance sheet, statement of operations, and cash flow statement.	1.83	1.069	1.00	-15.62	0.00	1	5
d. The government actual financial results compared with revenue projections and appropriations.	4.22	0.818	4.00	21.29	0.00	1	5
e. The government economic forecasts or analysis included financial reports.	3.33	1.237	4.00	3.80	0.00	1	5
f. The government non-financial data n service efforts and accomplishments included in financial reports.	2.83	1.225	3.00	-2.01	0.05	1	5
g. Internal transactions (transfers) disclosed in the external financial reports.	3.25	1.178	4.00	-16.58	0.00	1	5
5. Information Dissemination	2.76	0.574	2.78	-6.04	0.00	1	5
a. Government general-purpose financial statements used in external reporting, in contrast to issuing reports tailored to meet the needs of specific user group.	3.25	1.108	3.00	3.04	0.00	1	5
b. Financial reports formally presented to the legislatures.	4.41	0.714	5.00	3.23	0.00	1	5
c. Government financial reports disseminated within the government.	4.19	0.756	4.00	28.10	0.00	1	5

d. Government financial reports disseminated to the general-public.	3.22	1.326	3.00	22.46	0.02	1	5
e. Capital market participants use government financial reports.	1.77	1.058	1.00	-2.38	0.00	1	5
f. The government through its web site provides financial information to citizens, employees, businesses, and government including legislative bodies, such as periodical reporting and end of final accounts.	2.07	1.145	2.00	-16.58	0.00	1	5
g. The government through its web sites delivers financial information to suppliers on bids and financial conditions.	2.02	1.123	2.00	-12.37	0.000	1	5
h. The government facilitates financial information to suppliers regarding their financial transactions and due amounts.	2.07	1.126	2.00	-11.72	0.000	1	5
i. The government delivers financial information to its suppliers notifying them through automatic SMS or email on procedural and financial transactions and on the collection of their due amounts.	1.80	0.946	2.00	-18.11	0.000	1	5
Total '**	2.913	0.401	2.91	-3.077	0.002	1.85	4.09

* Test Value (the neutral value) = 3, with $df(202)$ ** $t \geq 1.96$ ($p \leq 0.05$) (Sig. at .05). (2-tailed)

.** Skewness .424 & Kurtosis .941 indicating construct normal distribution

A.2 Statistical Analysis - Exploratory Phase

Whole Data (203 Respondents) Reliability Test Results:

Scale: Knowledge Level in English & Computer

Case Processing Summary

		N	%
Cases	Valid	203	100.0
	Excluded ^a	0	.0
	Total	203	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.850	5

Item Statistics

	Mean	Std. Dev.	N
1. Eng.Proficiency	2.57	.703	203
2. Computer.Usage	2.77	.666	203
3. Software.G.Application	2.64	.847	203
4. SW.Acct.Bdgt	2.32	.857	203
5. Internet.Useage	2.18	.929	203

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Eng.Proficiency	9.92	7.919	.442	.869
2. Computer.Usage	9.71	6.979	.778	.797
3. Software.G.Application	9.84	6.203	.769	.789
4. SW.Acct.Bdgt	10.16	6.622	.637	.827
5. Internet.Useage	10.30	6.013	.721	.804

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
12.48	10.162	3.188	5

Scale: Training

Case Processing Summary

		N	%
Cases	Valid	203	100.0
	Excluded ^a	0	.0
	Total	203	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.711	4

Item Statistics

Item Descriptive	Mean	Std. Dev.	N
1. General courses in accounting and budgeting at a specialized institution, collage, or university	3.89	1.104	203
2. Training provided by the vendors or external consultants.	3.26	1.444	203
3. Training provided by the government financial institution or by the government National Institute of Administrative Science (NIAS), or by other institutions.	4.06	1.211	203
4. Training through self study - through (specialized friend, online resources, books and other material)	3.52	1.118	203

Item-Total Statistics

Item Descriptive	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
5. General courses in accounting and budgeting at a specialized institution, collage, or university	10.85	8.486	.498	.651
6. Training provided by the vendors or external consultants.	11.47	7.013	.498	.658
7. Training provided by the government financial institution or by the government National Institute of Administrative Science (NIAS), or by other institutions.	10.67	7.707	.556	.613
8. Training through self study - through (specialized friend, online resources, books and other material)	11.21	8.633	.460	.671

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
14.73	12.909	3.593	4

Scale: Stimuli

Case Processing Summary

		N	%
Cases	Valid	203	100.0
	Excluded ^a	0	.0
	Total	203	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.811	12

Item Statistics

Item Descriptive	Mean	Std. Deviation	N
9. Political competition	2.48	1.318	203
10. Political majority support	2.71	1.356	203
11. Financial crisis	4.07	1.175	203
12. Technology and modernization	3.96	1.118	203
13. Technical and professional needs	3.72	1.203	203
14. International donor and creditor agencies	4.39	.961	203
15. Pressures from the general public	2.05	1.302	203
16. Pressures related to other reforms.	3.13	1.197	203
17. Forces of globalization	3.40	1.244	203
18. Population size	2.88	1.371	203
19. Diversification of government resources	2.85	1.335	203
20. To curb corruption	3.22	1.523	203

Item-Total Statistics

Item Descriptive	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
21. Political competition	36.38	63.990	.441	.799
22. Political majority support	36.15	64.021	.422	.801
23. Financial crisis	34.80	64.251	.498	.794
24. Technology and modernization	34.91	64.893	.493	.795
25. Technical and professional needs	35.14	65.994	.387	.803
26. International donor and creditor agencies	34.47	69.409	.293	.810
27. Pressures from the general public	36.81	65.351	.379	.805
28. Pressures related to other reforms.	35.73	64.563	.469	.797
29. Forces of globalization	35.47	63.448	.506	.793
30. Population size	35.99	60.802	.577	.786
31. Diversification of government resources	36.02	60.802	.597	.784
32. To curb corruption	35.65	61.882	.451	.799

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
38.87	75.017	8.661	12

Scale: Governmental Accounting Institutional Framework

Case Processing Summary

		N	%
Cases	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.638	16

Item Statistics

Item Descriptive	Mean	Std. Dev.	N
- The accounting system controlled by the administration (executive branch of government).	4.28	.870	203
- The chief accounting officer is required to be a public accounting or finance professional.	1.76	1.016	203
- The auditor is independent of the government unit under auditing.	4.02	1.239	203
- Accounting and financial reporting standards based on legal requirements.	4.26	.854	203
- The private-sector accounting profession participates in setting governmental accounting policies.	2.38	1.148	203
- Accounting policies and procedures (e.g. ,the chart of accounts, measurement rules) are influenced by budget laws or norms.	3.93	.780	203
- Accounting concepts (e.g., accrual basis) has influenced public budgeting.	3.71	1.056	203
- Accounting and financial reports are subject to external (parliamentary or legislative) audit.	3.64	1.200	203
- The accounting system is computerized.	3.24	1.329	203
- The accounting system between central government and other branches integrated with Government-to-Government (G2G) by the internet/ intranet.	1.96	1.026	203
- The accounting system interfaces with citizens through the internet in performing government services including financial transactions. Government-to-Citizen (G2C)	1.83	1.051	203
- The accounting system interfaces with businesses through the internet to perform transactional transactions. Government-to-Business (G2B)	1.87	.999	203
- The accounting system facilitates the employee's interaction within the government to perform informational and financial transactions. Government-to-Employee (G2E)	2.18	1.199	203
- The accounting system regarded as a part of the overall management information system.	4.28	.817	203
- The central government dictates the accounting practices of governorates and local authorities governmental units.	4.48	.733	203
- The accounting function performed by operating agencies within the government subject only to the coordination of a central office.	4.36	.721	203

Item-Total Statistics

Item Descriptive	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
- The accounting system controlled by the administration (executive branch of government).	47.91	39.719	.082	.644
- The chief accounting officer is required to be a public accounting or finance professional.	50.42	39.404	.074	.648
- The auditor is independent of the government unit under auditing.	48.17	36.170	.247	.625
- Accounting and financial reporting standards based on legal requirements.	47.93	36.950	.357	.611
- The private-sector accounting profession participates in setting governmental accounting policies.	49.80	37.713	.167	.637
- Accounting policies and procedures (e.g., the chart of accounts, measurement rules) are influenced by budget laws or norms.	48.26	38.815	.201	.630
- Accounting concepts (e.g., accrual basis) has influenced public budgeting.	48.47	35.894	.345	.609
- Accounting and financial reports are subject to external (parliamentary or legislative) audit.	48.55	36.903	.208	.631
- The accounting system is computerized.	48.95	34.651	.317	.612
- The accounting system between central government and other branches integrated with Government-to-Government (G2G) by the internet/ intranet.	50.23	35.911	.359	.607
- The accounting system interfaces with citizens through the internet in performing government services including financial transactions. Government-to-Citizen (G2C)	50.36	34.004	.512	.583
- The accounting system interfaces with businesses through the internet to perform transactional transactions. Government-to-Business (G2B)	50.32	34.347	.516	.584
- The accounting system facilitates the employee's interaction within the government to perform informational and financial transactions. Government-to-Employee (G2E)	50.00	35.510	.310	.613
- The accounting system regarded as a part of the overall management information system.	47.91	37.749	.295	.619
- The central government dictates the accounting practices of governorates and local authorities governmental units.	47.71	41.247	-.043	.654
- The accounting function performed by operating agencies within the government subject only to the coordination of a central office.	47.82	40.958	-.011	.650

Scale Statistics

Mean	Variance	Std. Dev.	N of Items
52.19	41.381	6.433	16

Scale: Accounting & Financial Reporting Policies

Case Processing Summary

	N	%
Cases		
Valid	203	100.0
Excluded ^a	0	.0
Total	203	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.814	34

Item Statistics

Item Descriptive	Mean	Std. Dev.	N
- The accounting system designed to facilitate budgetary control.	4.27	.732	203
- The accounting system designed to facilitate legislative oversight.	4.00	.962	203
- The accounting system designed to facilitate monitoring by creditors and other resource providers (e.g., bondholders, grantors, and donors).	2.53	1.216	203
- The accounting system is also designed to facilitate monitoring by the general public.	2.10	1.139	203
- The double-entry bookkeeping system is used.	3.99	1.196	203
- The accounting system organized based on individual funds.	2.72	1.082	203
- The accrual basis of accounting practiced.	1.88	.995	203
- Government enterprises follow commercial accounting principles.	1.91	.942	203
- Other bases of valuation than the historical cost basis (e.g., replacement cost) are used.	1.53	.779	203
- The government's capital assets are recognized.	1.71	1.047	203
- The government's long-term liabilities are recognized.	3.08	1.408	203
- The annual deficit measured based on accruals.	2.39	1.195	203
- Government revenue recognized based on cash receipts.	4.29	.796	203
- Depreciation expense is recognized.	1.74	1.096	203
- Obligations considered as expenditures.	3.16	1.353	203
- The books closed promptly after the end of the fiscal year.	4.27	.969	203
- Government managers supplied with interim (e.g., monthly, quarterly) financial reports.	4.09	.921	203
- The government periodically issue financial reports to the general public.	2.19	1.266	203
- The reporting entity encompasses other associated governmental units.	4.06	.879	203
- Financial data aggregated (e.g., in terms of types of funds) in external reporting.	2.86	1.135	203
- The government's financial report includes such basic financial statements as a balance sheet, statement of operations, and cash flow statement.	1.83	1.069	203
- The government actual financial results compared with revenue projections and appropriations.	4.22	.818	203
- The government economic forecasts or analyses are included in financial.	3.33	1.237	203
- The government non-financial data on service efforts and accomplishment are included in financial reports.	2.83	1.225	203
- The government internal transactions (e.g., transfers) disclosed in the external financial reports.	3.25	1.178	203
- Government general-purpose financial statements used in external reporting, in contrast to issuing reports tailored to meet the needs of specific user groups.	3.25	1.108	203
- Financial reports formally presented to the legislature.	4.41	.714	203
- Government financial reports disseminated within the government.	4.19	.756	203
- Government financial reports disseminated to the general public.	3.22	1.326	203
- Capital market participants use government financial reports.	1.77	1.058	203
- The government through its web site provides financial information to citizens, employees, businesses, and government including legislative bodies. That includes periodical reporting and end of year final accounts.	2.07	1.145	203
- The government through its web sites delivers information to suppliers on bids and financial conditions in regard.	2.02	1.123	203
- The government facilitates financial information to suppliers regarding their financial transactions and due amounts.	2.07	1.126	203
- The government delivers financial information to its suppliers notifying them through automatic SMS or e-mail on procedural and financial transactions and on the collection of their due amounts.	1.80	.946	203

Item-Total Statistics

Item Descriptive	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
- The accounting system designed to facilitate budgetary control.	94.78	182.230	.165	.813
- The accounting system designed to facilitate legislative oversight.	95.05	181.384	.143	.814
- The accounting system designed to facilitate monitoring by creditors and other resource providers (e.g., bondholders, grantors, and donors).	96.52	173.043	.360	.807
- The accounting system is also designed to facilitate monitoring by the general public.	96.96	173.350	.379	.806
- The double-entry bookkeeping system is used.	95.07	175.659	.282	.810
- The accounting system organized based on individual funds.	96.33	180.608	.146	.815
- The accrual basis of accounting practiced.	97.18	172.760	.469	.804
- Government enterprises follow commercial accounting principles.	97.15	178.919	.247	.811
- Other bases of valuation than the historical cost basis (e.g., replacement cost) are used.	97.53	182.280	.149	.814
- The government's capital assets are recognized.	97.34	179.820	.182	.813
- The government's long-term liabilities are recognized.	95.98	172.895	.301	.810
- The annual deficit measured based on accruals.	96.66	172.216	.395	.806
- Government revenue recognized based on cash receipts.	94.76	186.251	-.040	.818
- Depreciation expense is recognized.	97.31	177.185	.262	.811
- Obligations considered as expenditures.	95.89	173.067	.313	.809
- The books closed promptly after the end of the fiscal year.	94.79	181.782	.126	.815
- Government managers supplied with interim (e.g., monthly, quarterly) financial reports.	94.96	178.909	.254	.811
- The government periodically issue financial reports to the general public.	96.86	168.476	.485	.802
- The reporting entity encompasses other associated governmental units.	94.99	179.802	.231	.811
- Financial data aggregated (e.g., in terms of types of funds) in external reporting.	96.19	171.839	.433	.804
- The government's financial report includes such basic financial statements as a balance sheet, statement of operations, and cash flow statement.	97.23	178.434	.226	.812
- The government actual financial results compared with revenue projections and appropriations.	94.83	183.962	.063	.816
- The government economic forecasts or analyses are included in financial.	95.72	169.122	.478	.802
- The government non-financial data on service efforts and accomplishment are included in financial reports.	96.23	170.929	.424	.804
- The government internal transactions (e.g., transfers) disclosed in the external financial reports.	95.80	171.397	.429	.804
- Government general-purpose financial statements used in external reporting, in contrast to issuing reports tailored to meet the needs of specific user groups.	95.80	176.199	.292	.810
- Financial reports formally presented to the legislature.	94.65	183.923	.082	.815
- Government financial reports disseminated within the government.	94.86	178.426	.348	.809
- Government financial reports disseminated to the general public.	95.83	175.903	.238	.812
- Capital market participants use government financial reports.	97.29	174.967	.355	.807
- The government through its web site provides financial information to citizens, employees, businesses, and government including legislative bodies. That includes periodical reporting and end of year final accounts.	96.99	169.559	.508	.801
- The government through its web sites delivers information to suppliers on bids and financial conditions in regard.	97.03	170.583	.483	.803
- The government facilitates financial information to suppliers regarding their financial transactions and due amounts.	96.98	170.188	.496	.802
- The government delivers financial information to its suppliers notifying them through automatic SMS or e-mail on procedural and financial transactions and on the collection of their due amounts.	97.26	175.726	.375	.807

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
99.05	186.022	13.639	34

Scale: ABA - Relative Advantage

Case Processing Summary

		N	%
Cases:	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.880	12

Item Statistics

Item Descriptive		Mean	Std. Dev.	N
1.	(ABA) is a system that provides more accurate and relevant information on outputs results to mach stated objectives.	4.30	.713	203
2.	(ABA) system provides better-informed decisions on the balance between current and capital expenditure, taking into account the opportunity cost of capital and its consumption over time.	4.21	.731	203
3.	(ABA) system provides a better basis for the treatment of capital assets.	4.26	.747	203
4.	(ABA) system is useful to compare costs and benefit of each potential department, unit, or activity across time.	3.94	.918	203
5.	(ABA) system improves internal monitoring procedures and control.	4.18	.745	203
6.	(ABA) system provides a financial framework for managing resources more economically and efficiently.	4.25	.709	203
7.	(ABA) system able to capture the cost of each transaction through better cost allocation in ledger accounts.	4.05	.785	203
8.	(ABA) system provides a more reliable assessment on the government financial health and financial position and the sustainability of the government policy.	4.26	.735	203
9.	(ABA) system provides information that improves the country government rating by international agencies, which results in reducing the cost of borrowing and or financing.	4.16	.754	203
10.	(ABA) system is good measure of operating performance.	4.18	.801	203
11.	(ABA) system provides information that facilitates and eases the job of management.	4.25	.620	203
12.	(ABA) system provides information that helps management decision making and that improve the quality of the government services.	4.11	.822	203

Item-Total Statistics

Item Descriptive	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
1. (ABA) is a system that provides more accurate and relevant information on outputs results to mach stated objectives.	45.84	30.559	.601	.869
2. (ABA) system provides better-informed decisions on the balance between current and capital expenditure, taking into account the opportunity cost of capital and its consumption over time.	45.93	30.282	.620	.868
3. (ABA) system provides a better basis for the treatment of capital assets.	45.89	30.220	.612	.868
4. (ABA) system is useful to compare costs and benefit of each potential department, unit, or activity across time.	46.21	29.155	.586	.870
5. (ABA) system improves internal monitoring procedures and control.	45.96	30.365	.595	.869
6. (ABA) system provides a financial framework for managing resources more economically and efficiently.	45.90	30.697	.586	.870
7. (ABA) system able to capture the cost of each transaction through better cost allocation in ledger accounts.	46.09	31.022	.477	.876
8. (ABA) system provides a more reliable assessment on the government financial health and financial position and the sustainability of the government policy.	45.88	30.372	.604	.869
9. (ABA) system provides information that improves the country government rating by international agencies, which results in reducing the cost of borrowing and or financing.	45.99	31.282	.469	.876
10. (ABA) system is good measure of operating performance.	45.97	30.043	.583	.870
11. (ABA) system provides information that facilitates and eases the job of management.	45.90	30.994	.641	.868
12. (ABA) system provides information that helps management decision making and that improve the quality of the government services.	46.03	29.999	.570	.871

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
50.14	35.806	5.984	12

Scale: ABA -Compatibility

Case Processing Summary

		N	%
Cases	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.703	4

Item Statistics

Item Descriptive	Mean	Std. Dev.	N
1. (ABA) system is compatible with government existing business processes and practices.	3.99	1.076	203
2. (ABA) system has minor implications for the other process performed within the government contest.	3.94	1.005	203
3. (ABA) system is compatible with the government culture.	3.25	1.103	203
4. Overall, (ABA) system will fit into the government work.	4.13	.871	203

Item-Total Statistics

(ABA) system:	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Is compatible with government existing business processes and practices.	11.32	4.712	.620	.549
2. Has minor implications for the other process performed within the government contest.	11.37	5.115	.581	.581
3. Is compatible with the government culture.	12.06	6.115	.263	.782
4. Overall, (ABA) system will fit into the government work.	11.17	5.737	.544	.615

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.31	8.768	2.961	4

Scale: ABA - Complexity

Case Processing Summary

		N	%
Cases	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.832	6

Item Statistics

Item Descriptive	Mean	Std. Deviation	N
1. - (ABA) system can be demonstrated and learned quickly and easily.	4.07	.887	203
2. - (ABA) system can be implemented smoothly and easily.	3.99	.909	203
3. - (ABA) system found to be flexible to interact with.	4.02	.790	203
4. - Using (ABA) system will enable me to become skillful at it.	4.20	.692	203
5. - The interaction with (ABA) system is clear and understandable.	4.06	.845	203
6. - (ABA) system found to be easy to get and to do what I want it to do.	3.88	.848	203

Item-Total Statistics

Item Descriptive	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. (ABA) system can bedemonstrated and learned quickly and easily.	20.15	9.526	.589	.809
2. (ABA) system can be implemented smoothly and easily.	20.24	8.954	.691	.786
3. (ABA) system found to be flexible to interact with.	20.20	9.479	.707	.785
4. Using (ABA) system will enable me to become skillful at it.	20.02	10.237	.638	.802
5. The interaction with (ABA) system is clear and understandable.	20.16	9.609	.614	.803
6. (ABA) system found to be easy to get and to do what I want it to do.	20.34	10.503	.422	.842

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
24.22	13.540	3.680	6

Scale: ABA - Organizational Support

Case Processing Summary

	N	%
Cases Valid	203	100.0
Excluded ^a	0	.0
Total	203	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.844	8

Item Statistics

Item Descriptive	Mean	Std. Dev.	N
1. I am convinced that the government leadership is sure as to what benefits can be achieved with the use of (ABA) system	3.44	1.086	203
2. There will be a person in organization that we can turn to for help in solving problems with (ABA) system.	3.82	.927	203
3. A central technical support will be available to help us deal with problems that may rise from the application of (ABA) system.	4.01	.859	203
4. Training courses and workshops will be ready and available for us to improve ourselves in the use of (ABA) system.	4.25	.732	203
5. I am always encouraged and supported by me boss in using modern technologies including the use of (ABA) system that will improve the performance of my job.	3.50	1.119	203
6. Our leadership in the government will provide most of the necessary help and resources to get us used to the (ABA) system quickly.	4.04	.969	203
7. We will be constantly updated with the standards on (ABA) system and related techniques that can help us be more effective in using the system.	4.03	.909	203
8. Our leadership in the government is really keen to see that we are capable of and happy with using the (ABA) system and related technologies.	3.28	1.091	203

Item-Total Statistics

Item Descriptive	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. I am convinced that the government leadership is sure as to what benefits can be achieved with the use of (ABA) system.	26.94	22.749	.469	.842
2. There will be a person in organization that we can turn to for help in solving problems with (ABA) system.	26.56	22.643	.598	.824
3. A central technical support will be available to help us deal with problems that may rise from the application of (ABA) system.	26.37	22.838	.634	.820
4. Training courses and workshops will be ready and available for us to improve ourselves in the use of (ABA) system.	26.13	24.215	.560	.830
5. I am always encouraged and supported by me boss in using modern technologies including the use of (ABA) system that will improve the performance of my job.	26.88	21.501	.581	.827
6. Our leadership in the government will provide most of the necessary help and resources to get us used to the (ABA) system quickly.	26.34	21.791	.669	.814
7. We will be constantly updated with the standards on (ABA) system and related techniques that can help us be more effective in using the system.	26.35	22.545	.627	.820
8. Our leadership in the government is really keen to see that we are capable of and happy with using the (ABA) system and related technologies.	27.11	21.929	.554	.830

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
30.38	28.782	5.365	8

Scale: ABA - Attitudes Toward Change

Case Processing Summary

	N	%
Cases Valid	203	100
Excluded ^a	0	0
Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.635	24

Item Statistics				Item-Total Statistics			
Item Descriptive	Mean	Std. Dev.	N	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
- I look forward to changes of this kind, transforming the accounting system from cash basis to accrual basis.	4.37	.694	203	70.93	43.104	.276	.619
- I generally resist the introduction of new reform, such as (ABA), ideas.	1.70	.892	203	73.60	43.231	.177	.628
- I am inclined to try new reform ideas.	4.31	.756	203	70.99	43.267	.228	.623
- Reform (change) to (ABA) system usually benefits the government.	4.23	.743	203	71.07	41.980	.371	.609
- I usually support the introduction of new reform ideas such as the (ABA) system.	4.29	.710	203	71.01	42.594	.324	.614
- Most of my co-workers benefit from such reform change.	3.60	.847	203	71.70	41.279	.377	.606
- I do not like reform change such as (ABA) system.	1.55	.752	203	73.75	46.545	-.098	.652
- Reform change such as (ABA) system frustrates me.	1.52	.733	203	73.78	46.253	-.069	.649
- Such change to (ABA) system tends to stimulates me.	4.10	.799	203	71.20	42.644	.270	.618
- Most reform changes at work - in the government - are irritating.	1.66	.825	203	73.64	46.647	-.109	.656
- I often, in my work, suggest new approaches to things.	4.01	.844	203	71.29	43.088	.208	.624
- Reform change helps me to perform better.	4.36	.609	203	70.94	42.932	.351	.614
- I intended to do whatever possible to support such – (ABS) system – reform change.	4.23	.651	203	71.07	43.069	.306	.617
- Other people think that I support such reform change.	3.41	.973	203	71.89	42.952	.173	.629
- I usually hesitate to try new ideas, especially when it comes to such reform change.	1.98	1.015	203	73.32	45.516	-.032	.654
- Reform change – such as (ABA) system –usually helps improve unsatisfactory situations at work.	3.91	.851	203	71.39	41.724	.332	.611
- I find that most reform changes – such as (ABA) system – to be pleasing.	3.82	.905	203	71.48	41.924	.286	.615
- I usually benefit from such reform change.	3.97	.855	203	71.33	41.767	.326	.611
- Reform change – such as (ABA) system – creates more problems at work than it solves.	2.20	1.034	203	73.10	42.856	.161	.631
- Reform change often creates problems for me.	2.09	.937	203	73.21	41.660	.295	.614
- Reform changes often create problems for my co-workers.	2.43	.949	203	72.87	40.967	.349	.607
- In general, reform change often creates problems for my organization.	2.47	1.082	203	72.83	41.140	.273	.616
- Trying new ideas such as this reform change – (ABA) system – is risky.	2.80	1.050	203	72.50	42.934	.150	.632
- Such reform change – (ABA) system – is associated with a lot of uncertainty.	2.28	1.069	203	73.02	42.247	.195	.627

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
75.30	46.102	6.790	24

Scale: - Readiness for Organizational Change

Case Processing Summary

		N	%
Cases	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.733	25

Item Statistics				Item-Total Statistics			
Item Descriptive	Mean	Std. Dev.	N	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. I think the government will benefit from this (ABA) system change.	4.21	.800	203	78.19	61.232	.380	.718
2. It does not make much sense to initiate such (ABA) system change.	1.69	.729	203	80.70	68.566	-.204	.751
3. There are legitimate reasons to go ahead with this (ABA) system change.	4.09	.749	203	78.30	61.578	.383	.719
4. This (ABA) system change, will improve our government overall efficiency.	4.25	.752	203	78.14	61.539	.384	.718
5. There are a number of rational reasons for this (ABA) system change to happen.	4.25	.638	203	78.14	61.410	.482	.715
6. In the long run, I feel it will be worthwhile for me if the government adopt (ABA) system change.	4.24	.694	203	78.15	61.447	.433	.717
7. This (ABA) system change is going to make job easier.	3.77	.964	203	78.62	59.643	.407	.714
8. There is nothing for me to gain from the implementation of this (ABA) system change.	1.87	.843	203	80.53	67.607	-.121	.750
9. The time that spent (will be spent) on this (ABA) system, change should be spent on something else.	1.84	.906	203	80.56	68.347	-.169	.755
10. This (ABA) system change matches the priorities of our government.	4.01	.799	203	78.38	60.623	.432	.715
11. Our government leadership encourages all of us to embrace this (ABA) system change.	3.58	1.103	203	78.82	57.298	.487	.706
12. The government leadership will put all their support behind this (ABA) system change.	3.75	1.039	203	78.65	57.725	.496	.706
13. Every leader in the government stressed the importance of this (ABA) system change.	3.00	1.012	203	79.39	59.585	.386	.716
14. This government senior leader is committed to this (ABA) system change.	3.85	1.001	203	78.55	59.150	.421	.713
15. So far, I think so much time spent on this (ABA) system change when the senior leaders don not even want it implemented.	2.67	1.106	203	79.73	65.010	.023	.746
16. The administration has sent a clear signal that this (ABA) system change is going to happen.	3.75	1.080	203	78.64	59.103	.383	.716
17. I do not anticipate any problem adjusting to the work I will have when adopting and implementing this (ABA) system change.	3.56	.990	203	78.83	61.625	.259	.726
18. There are some tasks that will be required because of this (ABA) system change, I do not think that I can do well.	2.36	1.065	203	80.03	64.029	.086	.740
19. When the time comes to implement this (ABA) system change, I feel that I can handle it easily.	3.90	.815	203	78.49	61.113	.382	.718
20. I have the skills needed to make this (ABA) system change work.	3.93	.757	203	78.47	60.815	.444	.715
21. When I set my mind to it, I can learn everything that will be required when this (ABA) system change adopted.	4.20	.697	203	78.20	61.030	.470	.714
22. My experiences make me confident that I will be able to perform successfully after this (ABA) system changes made.	4.09	.759	203	78.31	60.580	.464	.713
23. I am worried that I will lose some of my status in the government when this (ABA) system changes implemented.	1.89	.953	203	80.50	62.677	.202	.730
24. This (ABA) system change is going to disrupt many of the personal relationships I have developed over time.	1.88	.882	203	80.51	64.707	.081	.738

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
82.39	66.636	8.163	25

Scale: Change Agent Role

Case Processing Summary

		N	%
Cases	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.873	7

Item Statistics

Item-Total Statistics

Item Descriptive	Mean	Std. Dev.	N	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. The cash basis accounting system has so many deficiencies. The change agent clarifies that and helped on gaining knowledge on alternatives accounting systems including the introduction of (ABA) system as it is related to the need of using modern IT techno	4.16	.702	203	21.68	18.912	.421	.881
2. The change agent developed strong relationship with this organization based on his credible, competent, trustworthy, and tend to emphasize the government needs to come over these deficiencies by adopting (ABA) system.	3.87	.894	203	21.98	16.351	.667	.853
3. The change agent who clearly defined the government accounting and financial management problems has performed empirical studies, workshops, and deep evaluations.	3.79	.912	203	22.05	16.141	.683	.851
4. It is the change agent, who motivates us and creates among us strong intention to go forward with this IT based (ABA) system reform.	3.63	.900	203	22.22	16.082	.704	.848
5. Based on the change agent efforts and scientific empirical findings, serious dialogs took place within and across government departments. Our leadership shares common ground with the change agent regarding (ABA) system change.	3.60	.997	203	22.24	15.560	.689	.850
6. The change agent in many occasions has given many assurances that will eventually to the go ahead with this (ABA) system reform.	3.40	.864	203	22.44	16.426	.686	.851
7. With the aid of the change agent, a strong confidence is been built among us on how to perform and implement the change to (ABA) system.	3.40	.925	203	22.44	15.931	.703	.848

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
25.84	21.975	4.688	7

Scale: Org. Change Barriers

Case Processing Summary

		N	%
Cases	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.845	12

Item Statistics

Item-Total Statistics

Item Descriptive	Mean	Std. Dev.	N	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. The country constitution, legal framework, law, bylaws, and ministerial decrees do, not support (ABA) system reform change.	2.33	1.140	203	34.31	63.698	.478	.836
2. Government staff is not qualified to meet such reform change to (ABA) system.	2.86	1.200	203	33.77	61.552	.569	.829
3. International donor and aid agencies support conditions distorts reform change progress.	2.58	1.103	203	34.05	65.180	.410	.841
4. The size of the jurisdiction – Government	3.13	1.102	203	33.50	64.588	.446	.838
5. The culture and tribal effect inherited in the government system.	3.44	1.286	203	33.19	60.787	.561	.830
6. The content of accountability	3.37	1.222	203	33.26	62.894	.481	.836
7. Expected high cost of staffing that may be in conflict with whole government hiring policy.	2.84	1.162	203	33.79	62.623	.529	.832
8. Future uncertainty with such new system reform might create political challenge.	2.90	1.096	203	33.73	63.988	.485	.836
9. Lack of IT staff and professionals	3.08	1.228	203	33.55	61.338	.564	.830
10. Lack of an efficient IT infrastructure	3.31	1.197	203	33.32	61.486	.574	.829
11. Lack of political commitment and support	3.32	1.231	203	33.31	63.245	.456	.838
12. The government organizational and functional structure	3.47	1.123	203	33.16	62.203	.578	.829

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
36.63	73.699	8.585	12

Scale: ABA - Adoption Feasibility

Case Processing Summary

		N	%
Cases	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.911	14

Item Statistics

Item-Total Statistics

Item Descriptive	Mean	Std. Dev.	N	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. (ABA) system provides enough financial information to present accurate financial position of the government.	4.33	.648	203	54.50	38.598	.708	.902
2. (ABA) system provides enough financial information to prepare to the general budget.	4.23	.645	203	54.60	39.371	.609	.905
3. (ABA) system provides enough financial information for future planning.	4.29	.627	203	54.54	38.834	.703	.902
4. (ABA) system provides enough financial information to facilitate the control process.	4.20	.663	203	54.63	39.047	.632	.905
5. (ABA) system facilitates the follow up of the cost of long-term projects.	4.21	.682	203	54.62	39.406	.566	.907
6. (ABA) system has clear objectives.	4.18	.723	203	54.65	37.922	.704	.902
7. (ABA) system provides better control over inputs and outputs.	4.27	.688	203	54.56	38.554	.666	.903
8. (ABA) system in general provides better reporting.	4.31	.687	203	54.52	38.053	.730	.901
9. (ABA) system provides more focused information for decision-makers.	4.32	.696	203	54.51	37.845	.746	.900
10. (ABA) system is widely, used and supported by the international communities.	3.98	.890	203	54.85	38.457	.496	.912
11. (ABA) system has been used by other governments and proven to be applicable	3.90	.827	203	54.93	38.742	.514	.910
12. (ABA) system claimed to have benefits.	4.06	.690	203	54.76	39.498	.547	.908
13. (ABA) system – built in - provide systematic control on procedural system of financial transactions and recording and on control and monitoring of all assets.	4.29	.635	203	54.54	39.853	.557	.907
14. (ABA) system provides more realistic information on the economic condition of the whole government	4.27	.666	203	54.56	39.317	.593	.906

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
58.83	44.718	6.687	14

Scale: IT (Information Technology) Infrastructure

Case Processing Summary

		N	%
Cases	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.978	43

Item Descriptive	Mean	Std. Dev.	N	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
- Chief Information Officer -CIO- is responsible for government-wide information systems and technology policy.	3.05	1.116	203	131.93	970.24	.516	.978
- CIO is involved in the government planning process.	3.37	.969	203	131.60	977.87	.471	.978
- CIO approves government-wide information systems and technology acquisitions.	3.39	.976	203	131.59	977.91	.467	.978
- CIO is responsible for distributed information systems and technology.	3.56	.912	203	131.41	980.91	.448	.978
- Plan for government-wide information systems and technology	3.28	1.040	203	131.70	962.49	.678	.977
- Information systems/technology plan incorporates central, distributed and desktop.	3.24	.956	203	131.74	969.28	.624	.977
- Information systems/technology plan reflects Government-wide business objectives.	3.20	1.007	203	131.77	963.92	.678	.977
- Planning process for information systems and technology incorporates end users.	3.15	.958	203	131.83	968.51	.635	.977
- Assessment of potential for new technologies	3.04	.999	203	131.94	962.45	.708	.977
- Formal support for end-user computing	3.30	1.016	203	131.67	964.34	.665	.977
- Training programs for end users.	3.40	.951	203	131.57	968.39	.642	.977
- Users support distributed IT facilities.	3.28	1.002	203	131.69	963.17	.694	.977
- Support for management decision making (DSS, EIS).	2.99	.965	203	131.99	965.68	.679	.977
- Information technology (IT) integration (tps, MIS, computing, OA, telecom)	3.13	.979	203	131.84	966.05	.663	.977
- Network integration (local area networks, corporate-wide networks, wide area networks)	3.00	1.169	203	131.98	955.27	.702	.977
- Communications integration (voice, data, text, image, video)	2.76	1.093	203	132.22	963.45	.629	.977
- Office automation capabilities (text processing, e-mail, calendaring, directories, etc.)	3.17	1.017	203	131.80	965.19	.650	.977
- Application systems integration	3.01	.990	203	131.97	963.38	.699	.977
- Information technology architecture	2.99	1.022	203	131.99	956.00	.796	.977
- Distributed facilities (microcomputers, workstations, network servers).	3.17	1.092	203	131.80	956.65	.732	.977
- Cooperative processing and client/server applications.	3.13	1.056	203	131.84	955.21	.781	.977
- Data communications between central and distributed facilities.	3.14	1.064	203	131.83	953.62	.800	.977
- Information systems and technology advisory/oversight committee(s).	3.13	1.013	203	131.84	960.05	.737	.977
- Senior management participates in advisory committees.	3.19	.979	203	131.78	964.36	.691	.977
- Users participate in advisory committees.	2.97	.995	203	132.00	962.23	.715	.977
- Documentation for government-wide information flow.	3.37	1.023	203	131.61	959.68	.736	.977
- Inventory of government data and information.	3.42	1.009	203	131.55	959.16	.755	.977
- Inventory of government IT facilities.	3.34	1.038	203	131.64	957.03	.767	.977
- Government continuity/disaster recovery plan.	3.10	1.117	203	131.88	953.25	.766	.977
- Formal methodology for systems development.	3.16	.997	203	131.82	961.97	.717	.977
- Use of automated development tools (CASE, code generators).	2.99	.995	203	131.99	958.93	.769	.977
- Standards for distributed information systems and technology.	3.03	.997	203	131.94	960.80	.737	.977
- Corporate-wide adherence to information systems and technology standards.	2.90	1.034	203	132.07	956.25	.782	.977
- Quality assurance program for systems and facilities.	2.92	1.038	203	132.06	959.62	.725	.977
- Government data administration (policies, standards, government oversight).	3.12	1.034	203	131.85	958.24	.750	.977
- Government data architecture (structure, framework, philosophy).	2.93	.993	203	132.04	957.73	.791	.977
- Government legal policy and control on data ownership and distribution..	3.05	1.042	203	131.93	958.81	.735	.977
- Government data dictionary.	3.01	1.005	203	131.97	958.55	.768	.977
- Government data integration between applications.	3.02	1.078	203	131.95	952.71	.803	.977
- Government data shared between users and departments.	3.03	1.076	203	131.95	953.82	.788	.977
- Government data security	3.14	1.105	203	131.83	952.60	.784	.977
- Government access control security.	3.30	1.073	203	131.67	956.12	.754	.977
- Government security awareness program.	3.08	1.136	203	131.90	954.13	.740	.977

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
134.98	1007.331	31.738	43

Scale: E-Government**Case Processing Summary**

		N	%
Cases	Valid	203	100
	Excluded ^a	0	0
	Total	203	100

a. Listwise deletion based on all variables in the procedure.

eliability Statistics

Cronbach's Alpha	N of Items
.965	27

Item Statistics				Item-Total Statistics			
Item Descriptive	Mean	Std. Dev.	N	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
- Paper reduction.	4.22	.779	203	107.16	210.41	.614	.964
- Government success compared to that in other government agency and in the business sector.	3.97	.760	203	107.41	214.40	.445	.966
- Reduction in communication cost	3.86	.912	203	107.52	212.34	.440	.966
- Improvement in government work accuracy	4.26	.618	203	107.12	214.13	.573	.965
- Enhance competing ability of government	3.98	.823	203	107.40	212.24	.499	.965
- Availability of forms online	4.04	.846	203	107.33	205.59	.766	.963
- Filing applications online	4.05	.810	203	107.33	206.68	.754	.963
- Tendering/bidding projects/jobs online	4.10	.784	203	107.28	207.30	.752	.963
- Availability of answers to queries online	4.05	.846	203	107.33	205.99	.749	.963
- Faster approval of applications online	3.97	.889	203	107.41	204.94	.752	.963
- Reduced errors in filling application forms	3.96	.820	203	107.42	207.38	.713	.964
- Interconnectivity and delivery of accounting and financial data and integration between government agencies, branches, departments, and units and across the level of government	4.23	.730	203	107.15	207.56	.799	.963
- Consolidated accounting and budgeting data between and across government agencies, branches, departments, and units	4.22	.677	203	107.16	210.43	.713	.964
- Availability of whole of government and cross government accounting and financial information on spot 24/7/365, for managerial decision making.	4.26	.657	203	107.12	210.68	.722	.964
- Availability of the periodical financial reporting online	4.19	.688	203	107.19	210.00	.723	.964
- Availability of whole of government financial statements online	4.17	.739	203	107.21	208.59	.737	.963
- Availability of functions for cross-sectional comparative financial statements and performance reporting	4.20	.704	203	107.18	208.68	.772	.963
- Facilitates financial electronic data Filing, storage, management, and retrieval between and across government	4.22	.691	203	107.16	209.21	.760	.963
- Facilitate faster government transactional delivery to beneficiaries	4.09	.791	203	107.29	208.00	.712	.964
- Provide better image of government performance and efficiency on national and international levels	4.28	.691	203	107.10	210.15	.711	.964
- Enables governmental accounting and financial management reforms	4.21	.687	203	107.17	209.69	.740	.963
- Connecting and optimizing government units, branches, agencies effectiveness in terms of management utility and delivery of information and services	4.14	.771	203	107.24	206.956	.781	.963
- Enables government administration of gaining more insights over government assets and liabilities, as a result of cross-government data availability.	4.16	.793	203	107.22	206.04	.800	.963
- Facilitate whole government internal and external auditing.	4.15	.746	203	107.23	207.92	.763	.963
- Promote whole government efficiency, transparency, and effectiveness that meet the needs of a democratic society.	4.19	.763	203	107.19	206.994	.788	.963
- Promote and encourage stakeholders, citizens, and businesses participation and involvement for better government and better governance.	4.04	.838	203	107.34	208.04	.668	.964
- Promote whole government administration modernization by reducing its operation costs which will be redirected to social investment development programs and poverty reduction.	4.19	.786	203	107.19	207.57	.737	.963

Scale Statistics			
Mean	Variance	Std. Dev.	N of Items
111.38	224.880	14.996	27

EXPLORATORY FACTOR ANALYSIS (EFA):

1. Reform Stimuli

Stimuli for reform loaded into 5 factors have been grouped into one total factor.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.760
Bartlett's Test of Sphericity	Approx. Chi-Square	614.67
	df	55
	Sig.	.000

Communalities

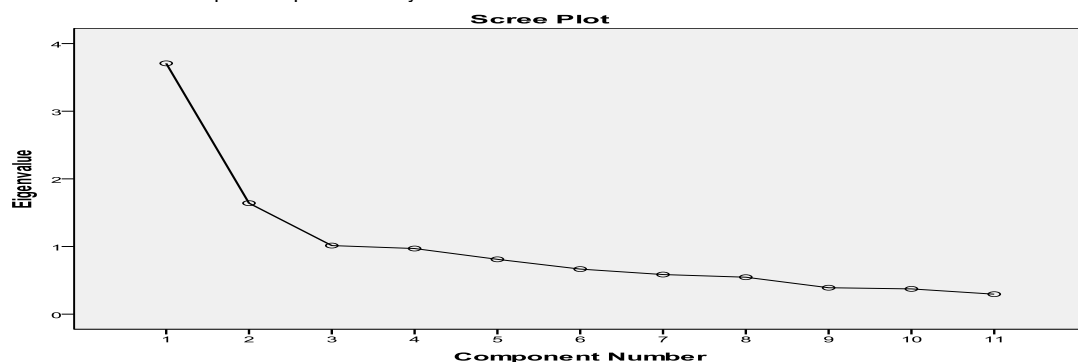
	Initial	Extraction
Stm.1	1.000	.778
Stm.2	1.000	.647
Stm.3	1.000	.680
Stm.4	1.000	.716
Stm.5	1.000	.794
Stm.6	1.000	.741
Stm.7	1.000	.806
Stm.8	1.000	.716
Stm.9	1.000	.725
Stm.10	1.000	.769
Stm.11	1.000	.770

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.707	33.703	33.703	3.707	33.703	33.703	1.923	17.479	17.479
2	1.641	14.917	48.620	1.641	14.917	48.620	1.692	15.379	32.858
3	1.014	9.217	57.837	1.014	9.217	57.837	1.672	15.196	48.054
4	.970	8.820	66.657	.970	8.820	66.657	1.545	14.047	62.101
5	.810	7.368	74.025	.810	7.368	74.025	1.312	11.924	74.025
6	.666	6.056	80.081						
7	.586	5.323	85.404						
8	.546	4.966	90.370						
9	.391	3.551	93.922						
10	.373	3.395	97.316						
11	.295	2.684	100.000						

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component				
	1	2	3	4	5
Stm.1	.560	-.543			
Stm.2	.570				
Stm.3	.636				
Stm.4	.570	.548			
Stm.5		.587			
Stm.6					
Stm.7					
Stm.8	.585				
Stm.9	.649				
Stm.10	.724				
Stm.11	.679				

Extraction Method: Principal Component Analysis. - a. 5 components extracted.

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
Stm.1	.834				
Stm.2	.714				
Stm.3					.641
Stm.4		.765			
Stm.5		.879			
Stm.6					.776
Stm.7	.697				
Stm.8			.807		
Stm.9			.799		
Stm.10				.714	
Stm.11				.764	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Component Transformation Matrix

Component	1	2	3	4	5
1	.501	.405	.497	.497	.300
2	-.663	.645	.063	-.131	.351
3	.250	.032	-.755	.119	.593
4	.202	.615	-.400	.084	-.644
5	.453	.204	.136	-.845	.142

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

2. All IV & the Moderating Variable

Readiness for organizational change factors have been grouped into one total factor.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.834
Bartlett's Test of Sphericity	<i>Approx. Chi-Square</i>	19,209.73
	<i>df</i>	5,886
	<i>Sig.</i>	.000

Communalities

	Initial	Extraction
C.Ag.2	1.000	.656
C.Ag.3	1.000	.620
C.Ag.4	1.000	.733
C.Ag.5	1.000	.646
C.Ag.6	1.000	.710
C.Ag.7	1.000	.741
R.Adv.1	1.000	.603
R.Adv.2	1.000	.658
R.Adv.3	1.000	.603
R.Adv.4	1.000	.575
R.Adv.5	1.000	.568
R.Adv.6	1.000	.535
R.Adv.7	1.000	.477
R.Adv.8	1.000	.573
R.Adv.10	1.000	.518
R.Adv.11	1.000	.617
R.Adv.12	1.000	.575
Compt.1	1.000	.741
Compt.2	1.000	.640
Compt.4	1.000	.586
Cmplx.1	1.000	.666
Cmplx.2	1.000	.699
Cmplx.3	1.000	.667
Cmplx.4	1.000	.654
Cmplx.5	1.000	.622
Org.S.2	1.000	.541
Org.S.3	1.000	.617
Org.S.4	1.000	.558
Org.S.5	1.000	.642
Org.S.6	1.000	.733
Org.S.7	1.000	.663
Org.S.8	1.000	.590
Rdns.3	1.000	.615
Rdns.5	1.000	.684
Rdns.6	1.000	.699
Rdns.11	1.000	.723
Rdns.12	1.000	.752
Rdns.14	1.000	.687
Rdns.16	1.000	.729
Rdns.19	1.000	.633
Rdns.20	1.000	.600
Rdns.22	1.000	.625
Rdns.23	1.000	.605
Rdns.24	1.000	.774
Rdns.25	1.000	.716

Barri.2	1.000	.536
Barri.5	1.000	.613
Barri.6	1.000	.492
Barri.7	1.000	.569
Barri.8	1.000	.620
Barri.9	1.000	.601
Barri.10	1.000	.580
Barri.11	1.000	.511
Barri.12	1.000	.509
ITl.1	1.000	.692
ITl.2	1.000	.694
ITl.3	1.000	.673
ITl.4	1.000	.638
ITl.5	1.000	.678
ITl.7	1.000	.706
ITl.9	1.000	.740
ITl.14	1.000	.568
ITl.15	1.000	.646
ITl.17	1.000	.597
ITl.22	1.000	.703
ITl.23	1.000	.675
ITl.24	1.000	.656
ITl.25	1.000	.679
ITl.26	1.000	.672
ITl.27	1.000	.782
ITl.28	1.000	.761
ITl.30	1.000	.656
ITl.31	1.000	.717
ITl.32	1.000	.757
ITl.33	1.000	.771
ITl.34	1.000	.738
ITl.35	1.000	.751
ITl.36	1.000	.749
ITl.37	1.000	.740
ITl.38	1.000	.776
ITl.39	1.000	.798
ITl.40	1.000	.771
ITl.41	1.000	.765
ITl.42	1.000	.781
ITl.43	1.000	.722
E.Gov1	1.000	.592
E.Gov4	1.000	.471
E.Gov6	1.000	.753
E.Gov7	1.000	.702
E.Gov8	1.000	.649
E.Gov9	1.000	.781
E.Gov10	1.000	.773
E.Gov11	1.000	.696
E.Gov12	1.000	.799
E.Gov13	1.000	.728
E.Gov14	1.000	.776
E.Gov15	1.000	.753
E.Gov16	1.000	.790
E.Gov17	1.000	.751
E.Gov18	1.000	.690
E.Gov19	1.000	.661
E.Gov20	1.000	.672
E.Gov21	1.000	.752
E.Gov22	1.000	.724
E.Gov23	1.000	.726
E.Gov24	1.000	.664
E.Gov25	1.000	.724
E.Gov26	1.000	.678
E.Gov27	1.000	.646

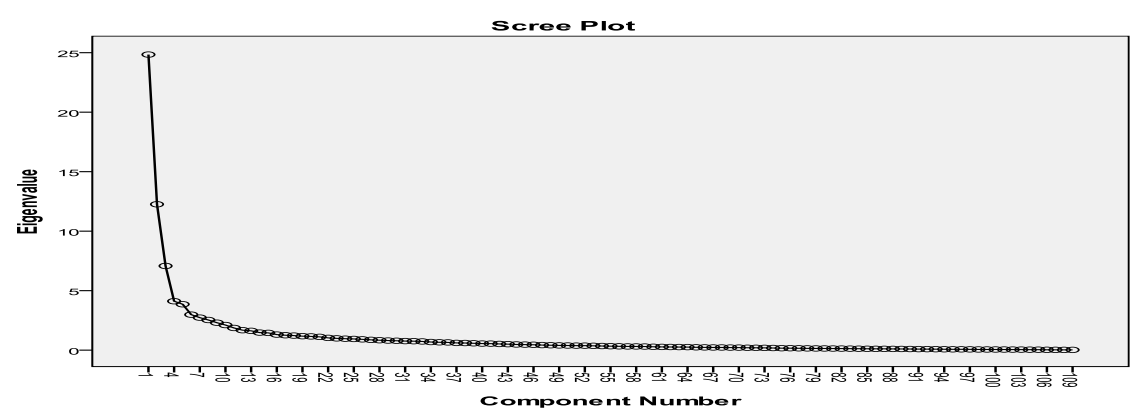
Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	24.842	22.791	22.791	24.842	22.791	22.791	16.238	14.897	14.897
2	12.258	11.246	34.037	12.258	11.246	34.037	14.910	13.679	28.576
3	7.076	6.492	40.529	7.076	6.492	40.529	5.564	5.104	33.681
4	4.112	3.773	44.302	4.112	3.773	44.302	4.143	3.801	37.482
5	3.857	3.538	47.840	3.857	3.538	47.840	4.117	3.777	41.259
6	2.983	2.737	50.576	2.983	2.737	50.576	3.852	3.534	44.792
7	2.733	2.507	53.084	2.733	2.507	53.084	3.180	2.917	47.709
8	2.534	2.325	55.409	2.534	2.325	55.409	3.111	2.854	50.564
9	2.307	2.117	57.525	2.307	2.117	57.525	3.033	2.782	53.346
10	2.110	1.936	59.461	2.110	1.936	59.461	2.858	2.622	55.968
11	1.864	1.710	61.171	1.864	1.710	61.171	2.771	2.542	58.510
12	1.677	1.539	62.710	1.677	1.539	62.710	2.521	2.313	60.822
13	1.622	1.488	64.199	1.622	1.488	64.199	2.510	2.303	63.125
14	1.475	1.353	65.551	1.475	1.353	65.551	2.350	2.156	65.281
15	1.451	1.331	66.883	1.451	1.331	66.883	1.745	1.601	66.883
16	1.308	1.200	68.083						
17	1.254	1.150	69.233						
18	1.223	1.122	70.355						
19	1.174	1.077	71.432						
20	1.153	1.058	72.490						
21	1.117	1.025	73.515						
22	1.031	.946	74.461						
23	.990	.908	75.369						
24	.962	.883	76.252						
25	.941	.863	77.115						
26	.907	.832	77.947						
27	.865	.794	78.740						
28	.834	.765	79.506						
29	.807	.740	80.246						
30	.788	.723	80.969						
31	.761	.698	81.667						
32	.752	.690	82.357						
33	.730	.670	83.027						
34	.683	.626	83.654						
35	.659	.605	84.259						
36	.649	.595	84.854						
37	.608	.558	85.412						
38	.599	.549	85.961						
39	.576	.529	86.490						
40	.553	.507	86.997						
41	.548	.502	87.499						

42	.521	.478	87.978						
43	.503	.462	88.439						
44	.477	.438	88.877						
45	.466	.428	89.304						
46	.453	.416	89.720						
47	.426	.390	90.111						
48	.412	.378	90.488						
49	.397	.364	90.853						
50	.390	.357	91.210						
51	.380	.348	91.558						
52	.377	.346	91.904						
53	.364	.334	92.238						
54	.346	.318	92.556						
55	.332	.305	92.861						
56	.321	.295	93.155						
57	.311	.285	93.441						
58	.310	.285	93.725						
59	.302	.277	94.003						
60	.283	.260	94.262						
61	.272	.250	94.512						
62	.265	.243	94.755						
63	.259	.238	94.993						
64	.256	.235	95.227						
65	.239	.219	95.446						
66	.231	.212	95.658						
67	.224	.206	95.864						
68	.224	.205	96.069						
69	.216	.198	96.267						
70	.213	.196	96.463						
71	.201	.184	96.647						
72	.198	.181	96.829						
73	.192	.176	97.005						
74	.179	.165	97.170						
75	.164	.150	97.320						
76	.163	.149	97.469						
77	.155	.142	97.612						
78	.148	.136	97.748						
79	.143	.131	97.879						
80	.141	.129	98.008						
81	.135	.124	98.132						
82	.132	.121	98.253						
83	.126	.116	98.369						

84	.121	.111	98.480						
85	.115	.105	98.585						
86	.111	.102	98.687						
87	.110	.101	98.788						
88	.105	.096	98.884						
89	.100	.091	98.975						
90	.094	.086	99.062						
91	.087	.080	99.142						
92	.085	.078	99.219						
93	.081	.074	99.294						
94	.074	.068	99.361						
95	.070	.064	99.425						
96	.069	.063	99.488						
97	.065	.060	99.548						
98	.057	.053	99.601						
99	.056	.051	99.652						
100	.055	.050	99.702						
101	.052	.047	99.750						
102	.048	.044	99.794						
103	.045	.041	99.835						
104	.040	.037	99.872						
105	.039	.036	99.908						
106	.030	.027	99.935						
107	.026	.024	99.959						
108	.023	.021	99.980						
109	.022	.020	100.000						
109	.022	.020	100.000						
109	.022	.020	100.000						
109	.022	.020	100.000						



Rotated Component Matrix^a

	Components													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
C.Ag.2					.662									
C.Ag.3					.666									
C.Ag.4					.788									
C.Ag.5					.671									
C.Ag.6					.697									
C.Ag.7					.760									
R.Adv.1			.610											
R.Adv.2			.637											
R.Adv.3			.690											
R.Adv.4			.681											
R.Adv.5			.609											
R.Adv.6			.630											
R.Adv.7			.638											
R.Adv.8			.605											
R.Adv.10			.575											
R.Adv.11			.589											
R.Adv.12			.684											
Compt.1							.777							
Compt.2							.745							
Compt.4							.688							
Cmplx.1							.685							
Cmplx.2							.690							
Cmplx.3							.618							
Cmplx.4							.615							
Cmplx.5							.580							
Org.S.2						.530								
Org.S.3						.546								
Org.S.4						.578								
Org.S.5						.665								
Org.S.6						.639								
Org.S.7						.631								
Org.S.8						.583								
Rdns.3													.571	
Rdns.5													.613	
Rdns.6													.570	
Rdns.11									.632					
Rdns.12									.685					
Rdns.14									.670					
Rdns.16									.750					
Rdns.19										.694				
Rdns.20										.692				
Rdns.22										.724				
Rdns.23											.717			
Rdns.24											.799			
Rdns.25											-			
Barri.2				.620							.762			
Barri.5				.648										
Barri.6				.599										
Barri.7				.644										
Barri.8				.600										
Barri.9				.676										
Barri.10				.681										
Barri.11				.539										
Barri.12				.659										

ITl.1								.676						
ITl.2								.699						
ITl.3								.731						
ITl.4								.663						
ITl.5	.515													
ITl.7	.519													
ITl.9	.553													
ITl.14	.558													
ITl.15	.574													
ITl.17	.575													
ITl.22	.786													
ITl.23	.730													
ITl.24	.685													
ITl.25	.702													
ITl.26	.713													
ITl.27	.772													
ITl.28	.781													
ITl.30	.772													
ITl.31	.816													
ITl.32	.807													
ITl.33	.824													
ITl.34	.770													
ITl.35	.776													
ITl.36	.851													
ITl.37	.835													
ITl.38	.837													
ITl.39	.855													
ITl.40	.841													
ITl.41	.831													
ITl.42	.821													
ITl.43	.777													
E.Gov1		.606												
E.Gov4		.551												
E.Gov6		.727												
E.Gov7		.729												
E.Gov8		.764												
E.Gov9		.713												
E.Gov10		.713												
E.Gov11		.660												
E.Gov12		.828												
E.Gov13		.788												
E.Gov14		.800												
E.Gov15		.794												
E.Gov16		.774												
E.Gov17		.781												
E.Gov18		.769												
E.Gov19		.706												
E.Gov20		.713												
E.Gov21		.745												
E.Gov22		.762												
E.Gov23		.782												
E.Gov24		.745												
E.Gov25		.797												
E.Gov26		.632												
E.Gov27		.690												
Eigenvalue	24.842	12.258	7.076	4.112	3.857	2.983	4.597	2.534	2.307	2.110	1.677	1.622	1.475	1.451
% Variance	22.791	11.246	6.492	3.773	3.538	2.737	4.217	2.325	2.117	1.936	1.539	1.488	1.353	1.331

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 13 iterations.

3. Attitude Toward Change – the Mediating Variable – Dependent.

The 3 factors are combined into one total factor.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.868
Bartlett's Test of Sphericity	Approx. Chi-Square	1,683.48
	df	210
	Sig.	.000

Communalities

	Initial	Extraction
Attit.1	1.000	.552
Attit.2	1.000	.535
Attit.3	1.000	.411
Attit.4	1.000	.676
Attit.5	1.000	.641
Attit.6	1.000	.416
Attit.7	1.000	.532
Attit.8	1.000	.462
Attit.9	1.000	.552
Attit.10	1.000	.545
Attit.12	1.000	.489
Attit.13	1.000	.558
Attit.14	1.000	.353
Attit.16	1.000	.373
Attit.17	1.000	.383
Attit.18	1.000	.510
Attit.19	1.000	.384
Attit.20	1.000	.578
Attit.21	1.000	.658
Attit.22	1.000	.612
Attit.24	1.000	.306

Extraction Method: Principal Component Analysis.

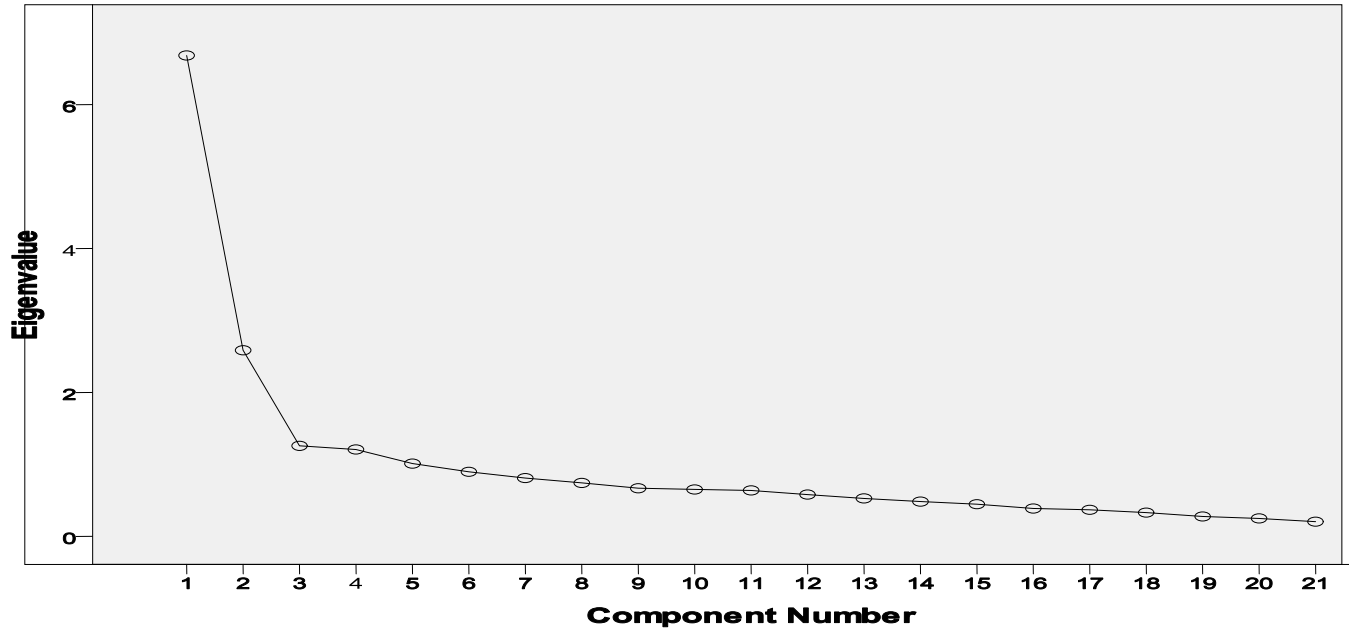
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.682	31.820	31.820	6.682	31.820	31.820	5.168	24.610	24.610
2	2.587	12.320	44.140	2.587	12.320	44.140	2.867	13.652	38.262
3	1.258	5.991	50.131	1.258	5.991	50.131	2.492	11.869	50.131
4	1.207	5.747	55.878						
5	1.011	4.812	60.690						
6	.896	4.268	64.959						
7	.810	3.859	68.818						
8	.742	3.532	72.350						
9	.668	3.179	75.529						
10	.651	3.100	78.629						
11	.638	3.037	81.665						
12	.581	2.765	84.430						
13	.526	2.507	86.937						
14	.483	2.302	89.239						

15	.447	2.128	91.366						
16	.387	1.841	93.208						
17	.368	1.753	94.961						
18	.330	1.570	96.531						
19	.276	1.314	97.846						
20	.249	1.186	99.032						
21	.203	.968	100.000						

Extraction Method: Principal Component Analysis.

Scree Plot



Component Matrix^a

	Component		
	1	2	3
Attit.1	.735		
Attit.2			
Attit.3	.624		
Attit.4	.795		
Attit.5	.781		
Attit.6	.553		
Attit.7	.622		
Attit.8	.501		
Attit.9	.729		
Attit.10	.546		
Attit.12	.642		
Attit.13	.730		
Attit.14			
Attit.16			
Attit.17	.551		
Attit.18	.644		
Attit.19			
Attit.20			.678
Attit.21			.707
Attit.22			.672
Attit.24			

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component		
	1	2	3
Attit.1	.735		
Attit.2			
Attit.3	.624		
Attit.4	.795		
Attit.5	.781		
Attit.6	.553		
Attit.7	.622		
Attit.8	.501		
Attit.9	.729		
Attit.10	.546		
Attit.12	.642		
Attit.13	.730		
Attit.14			
Attit.16			
Attit.17	.551		
Attit.18	.644		
Attit.19			
Attit.20		.678	
Attit.21		.707	
Attit.22		.672	
Attit.24			

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Rotated Component Matrix^a

	Component		
	1	2	3
Attit.1	.661		
Attit.2			.593
Attit.3	.596		
Attit.4	.771		
Attit.5	.742		
Attit.6	.638		
Attit.7			.617
Attit.8			.640
Attit.9	.644		
Attit.10			.691
Attit.12	.669		
Attit.13	.681		
Attit.14			.535
Attit.16	.608		
Attit.17	.611		
Attit.18	.702		
Attit.19		.600	
Attit.20		.744	
Attit.21		.809	
Attit.22		.766	
Attit.24		.534	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Component Transformation Matrix

Component	1	2	3
1	.821	.321	.471
2	-.433	.889	.150
3	.371	.327	-.869

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Table (5.11): Pearson Correlations' Matrix with Alpha Reliability, Mean, and Standard Deviation

V. No.	Construct Type & Name		Mean	S.D	1	2	3	4	5	6	7	8	9	10
1	DV	ADPTN.F	4.19	.492	(91)									
2	MED	T.ATTIT	4.04	.438	.563**	(87)								
3	IV	STIM.C.AGNT	3.37	.568	.334**	.338**	(81)							
4	IV	R.ADV	4.19	.487	.451**	.611**	.274**	(87)						
5	IV	COMPT.COMPLX	4.04	.621	.309**	.463**	.132	.303**	(83)					
6	IV	ORG.S	3.85	.681	.363**	.548**	.256**	.356**	.482**	(84)				
7	IV	T.RDNS	3.81	.423	.588**	.607**	.215**	.394**	.424**	.594**	(74)			
8	IV	BARRIs	3.18	.772	.008	-.225**	-.008	-.136	-.135**	.244**	.164**	(83)		
9	IV	T.IT.INFRA	3.22	.647	.194**	.161*	.246**	.084	.146**	.251**	.336**	-.125**	(96)	
10	MOD	E.GOV	4.17	.497	.519**	.523**	.261**	.365**	.274**	.351**	.444**	-.034	.263**	(96)

N. of Cases = 203

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

1 – Regression results of the main independent variables and the mediating variable.

Model Summary^b

Model	R	R.Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.772 ^a	.596	.582	.28316	.596	41.129	7	195	.000

a. Predictors: (Constant), T.IT.INFRA, R.ADV, BARRIs, COMPT.COMPLX, STIM.C.AGENT, T.RDNS, ORG.S

b. Dependent Variable: T.ATTIT

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.084	7	3.298	41.129	.000 ^a
	Residual	15.635	195	.080		
	Total	38.718	202			

a. Predictors: (Constant), T.IT.INFRA, R.ADV, BARRIs, COMPT.COMPLX, STIM.C.AGENT, T.RDNS, ORG.S

b. Dependent Variable: T.ATTIT

Coefficients^a

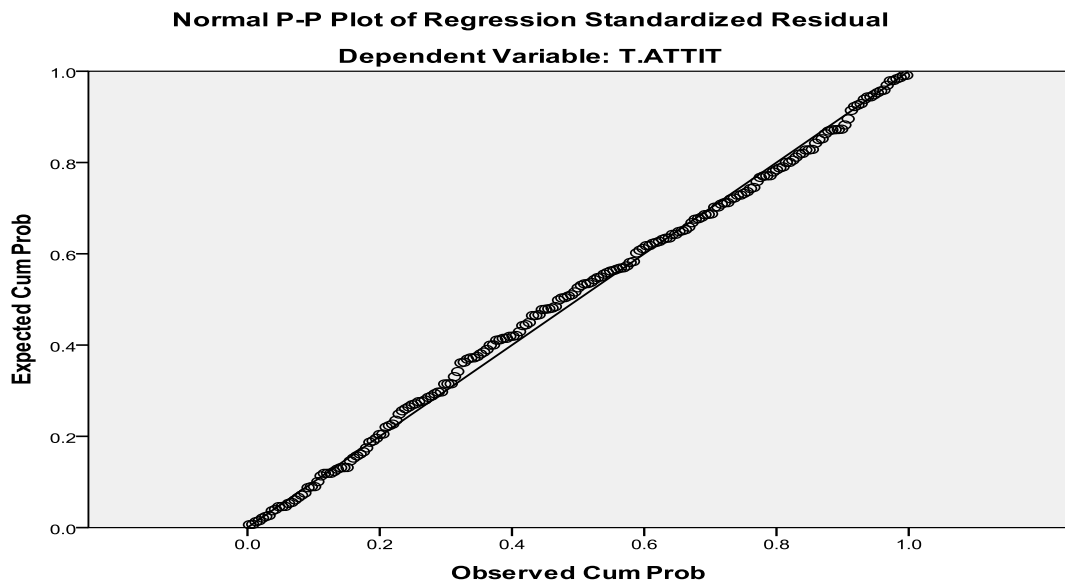
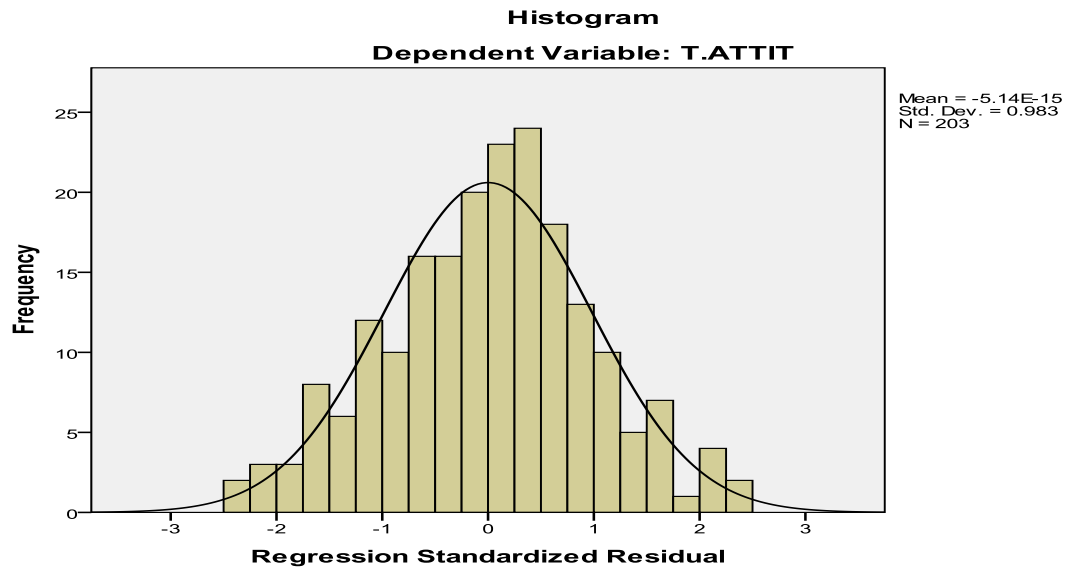
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.701	.259		2.705	.007		
STIM.C.AGENT	.107	.038	.139	2.819	.005	.853	1.172
R.ADV	.320	.047	.356	6.854	.000	.768	1.302
COMPT.COMPLX	.099	.038	.141	2.642	.009	.727	1.376
ORG.S	.085	.040	.132	2.144	.033	.546	1.831
T.RDNS	.320	.063	.309	5.062	.000	.557	1.796
BARRIs	-.047	.027	-.082	-1.744	.083	.926	1.080
T.IT.INFRA	-.048	.034	-.071	-1.425	.156	.839	1.192

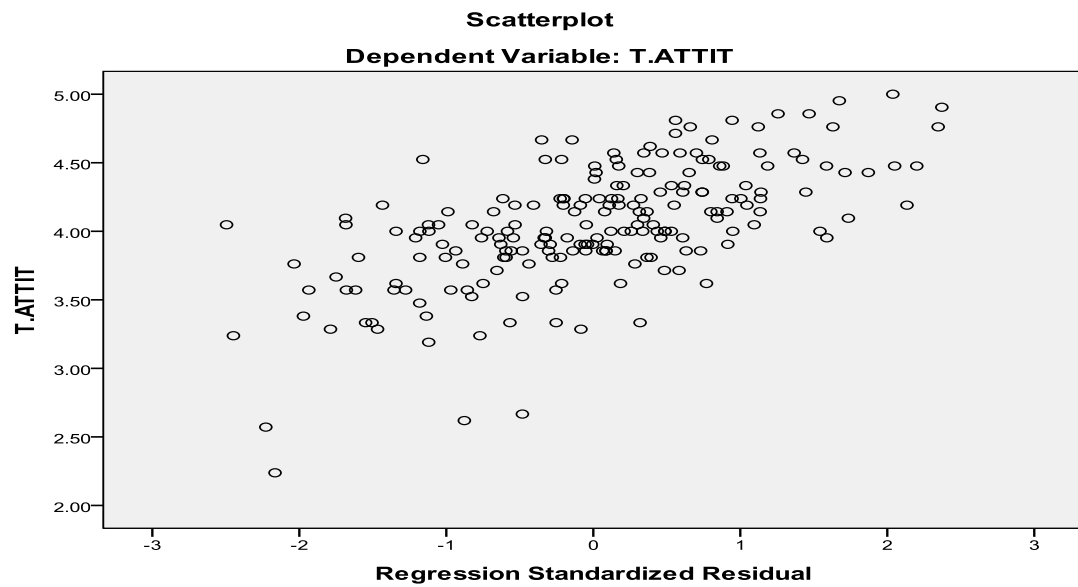
a. Dependent Variable: T.ATTIT

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.8033	4.8522	4.0427	.33805	203
Residual	-.70647	.67144	.00000	.27821	203
Std. Predicted Value	-3.666	2.395	.000	1.000	203
Std. Residual	-2.495	2.371	.000	.983	203

a. Dependent Variable: T.ATTIT





2 - Regression results after interring the moderating E-Government as an independent variable.

Model Summary^b

Model	R	R ²	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
1	.792 ^a	.628	.612	.27257	.628	40.892	8	194	.000

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGENT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Dependent Variable: T.ATTIT

ANOVA^b

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	24.305	8	3.038	40.892	.000 ^a
Residual	14.413	194	.074		
Total	38.718	202			

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGENT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Dependent Variable: T.ATTIT

Coefficients^a

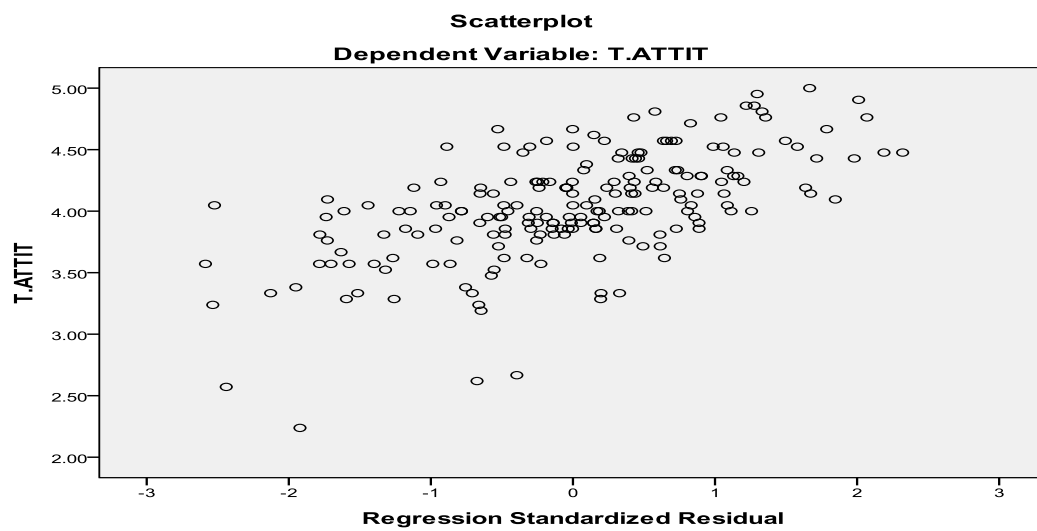
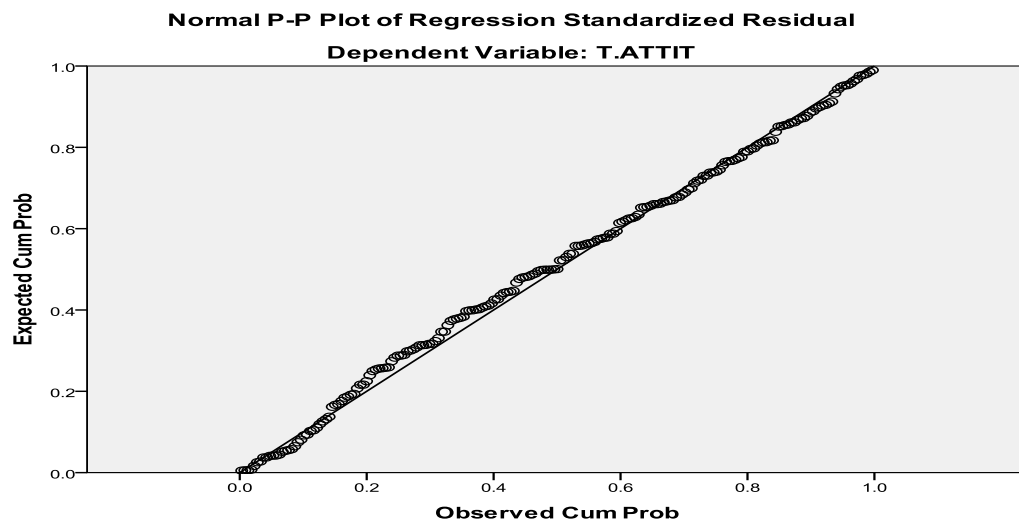
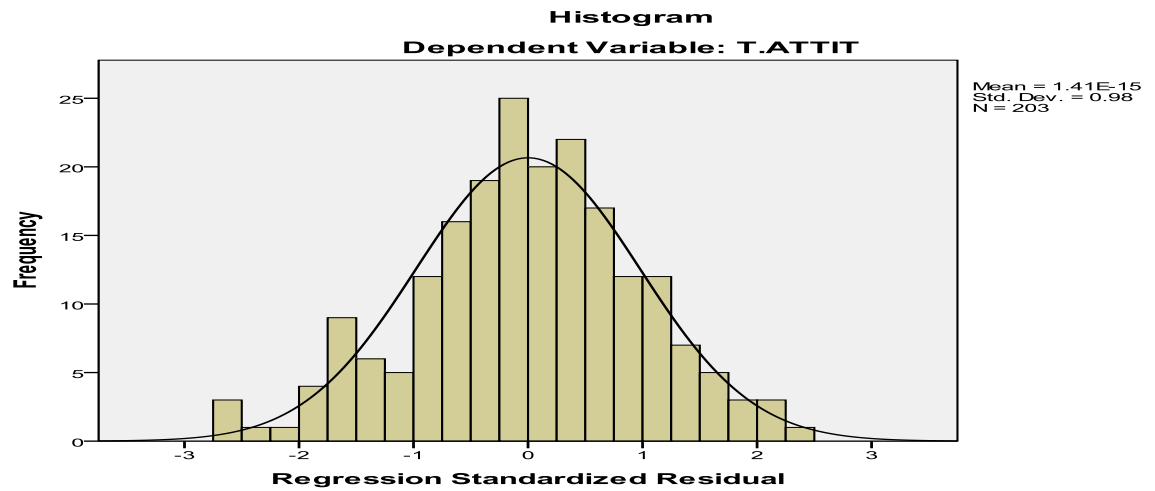
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.500	.254		1.967	.051		
STIM.C.AGENT	.091	.037	.118	2.481	.014	.844	1.185
R.ADV	.283	.046	.314	6.163	.000	.737	1.356
COMPT.COMPLX	.092	.036	.130	2.525	.012	.725	1.380
ORG.S	.076	.038	.118	1.989	.048	.544	1.837
T.RDNS	.265	.062	.256	4.249	.000	.530	1.885
BARRIs	-.056	.026	-.098	-2.146	.033	.920	1.087
T.IT.INFRA	-.065	.033	-.096	-1.996	.047	.825	1.213
E.GOV	.184	.045	.209	4.054	.000	.722	1.385

b. Dependent Variable: T.ATTIT

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.7618	4.8109	4.0427	.34687	203
Residual	-.70504	.63253	.00000	.26712	203
Std. Predicted Value	-3.693	2.215	.000	1.000	203
Std. Residual	-2.587	2.321	.000	.980	203

a. Dependent Variable: T.ATTIT



3 - Regression results of the net moderating (E-Government) Interaction.

3.1 Interaction Individual Test: E-Government × ORG.S

Model Summary^c

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R ² Change	F Change	df1	df2	Sig. F Change	
1	.792 ^a	.628	.612	.27257	.628	40.892	8	194	.000	
2	.800 ^b	.641	.624	.26852	.013	6.908	1	193	.009	1.859

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.ORG.S

c. Dependent Variable: T.ATTIT

ANOVA^c

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	24.305	8	3.038	40.892	.000 ^a
Residual	14.413	194	.074		
Total	38.718	202			
2 Regression	24.803	9	2.756	38.223	.000 ^b
Residual	13.915	193	.072		
Total	38.718	202			

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.ORG.S

c. Dependent Variable: T.ATTIT

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.500	.254		1.967	.051
STIM.C.AGNT	.091	.037	.118	2.481	.014
R.ADV	.283	.046	.314	6.163	.000
COMPT.COMPLX	.092	.036	.130	2.525	.012
ORG.S	.076	.038	.118	1.989	.048
T.RDNS	.265	.062	.256	4.249	.000
BARRIs	-.056	.026	-.098	-2.146	.033
T.IT.INFRA	-.065	.033	-.096	-1.996	.047
E.GOV	.184	.045	.209	4.054	.000
2 (Constant)	-1.432	.777		-1.844	.067
STIM.C.AGNT	.090	.036	.117	2.489	.014
R.ADV	.256	.046	.284	5.518	.000
COMPT.COMPLX	.081	.036	.115	2.248	.026
ORG.S	.592	.200	.921	2.961	.003
T.RDNS	.287	.062	.277	4.633	.000
BARRIs	-.049	.026	-.086	-1.910	.058
T.IT.INFRA	-.063	.032	-.094	-1.968	.051
E.GOV	.672	.191	.763	3.519	.001
E.GOV.ORG.S	-.126	.048	-1.123	-2.628	.009

a. Dependent Variable: T.ATTIT

Excluded Variables^c

Model	Beta In	t	Sig.	Partial Correlation
1 E.GOV.T.STIM.C.AGNT	-.271 ^a	-.573	.567	-.041
E.GOV.T.R.ADV	-.695 ^a	-1.278	.203	-.092
E.GOV.T.COMPT.COMPLX	-.609 ^a	-1.337	.183	-.096
E.GOV.T.ORG.S	-1.123^a	-2.628	.009	-.186
E.GOV.T.T.RDNS	-1.099^a	-1.889	.060	-.135
E.GOV.T.BARRIs	.326 ^a	.818	.414	.059
E.GOV.T.T.IT.INFRA	-.285 ^a	-.552	.582	-.040
2 E.GOV.T.STIM.C.AGNT	.154 ^b	.312	.755	.023
E.GOV.T.R.ADV	.063 ^b	.099	.921	.007
E.GOV.T.COMPT.COMPLX	.028 ^b	.052	.959	.004
E.GOV.T.T.RDNS	-.198 ^b	-.260	.795	-.019
E.GOV.T.BARRIs	-.150 ^b	-.342	.732	-.025
E.GOV.T.T.IT.INFRA	.016 ^b	.030	.976	.002

a. Predictors in the Model: (Constant), E.GOV.T, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

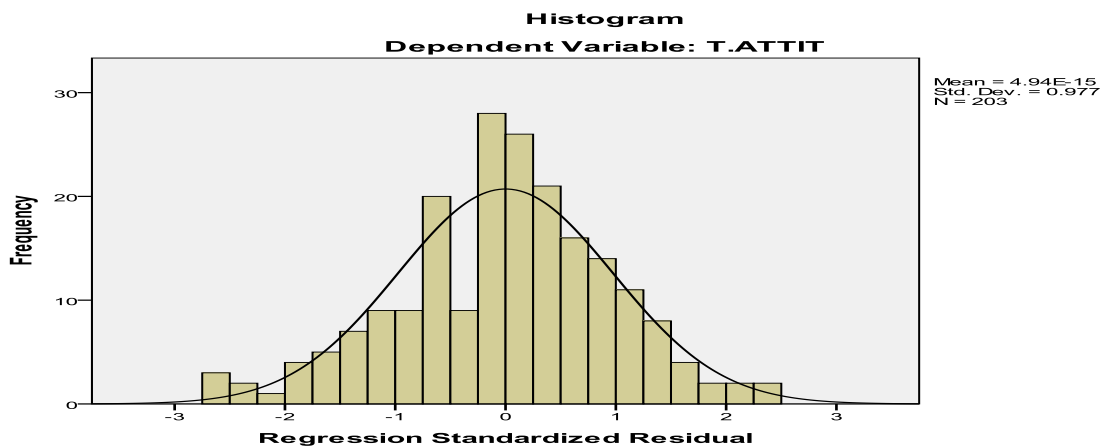
b. Predictors in the Model: (Constant), E.GOV.T, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.T.ORG.S

c. Dependent Variable: T.ATTIT

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5596	4.7431	4.0427	.35041	203
Residual	-.73135	.64508	.00000	.26247	203
Std. Predicted Value	-4.233	1.999	.000	1.000	203
Std. Residual	-2.724	2.402	.000	.977	203

a. Dependent Variable: T.ATTIT



3.2 Interaction Effect Individual Test: E-Government × T.RDNS

Model Summary^c

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R ² Change	F Change	df1	df2	Sig. F Change	
1	.792 ^a	.628	.612	.27257	.628	40.892	8	194	.000	
2	.797^b	.634	.617	.27079	.007	3.567	1	193	.060	1.888

a. Predictors: (Constant), E.GOV, BARRIs, STIM. C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOV, BARRIs, STIM. C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.T.RDNS

c. Dependent Variable: T.ATTIT

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.500	.254		1.967	.051
	STIM.C.AGNT	.091	.037	.118	2.481	.014
	R.ADV	.283	.046	.314	6.163	.000
	COMPT.COMPLX	.092	.036	.130	2.525	.012
	ORG.S	.076	.038	.118	1.989	.048
	T.RDNS	.265	.062	.256	4.249	.000
	BARRIs	-.056	.026	-.098	-2.146	.033
	T.IT.INFRA	-.065	.033	-.096	-1.996	.047
	E.GOV	.184	.045	.209	4.054	.000
2	(Constant)	-1.955	1.324		-1.476	.142
	STIM.C.AGNT	.089	.037	.115	2.436	.016
	R.ADV	.274	.046	.305	5.986	.000
	COMPT.COMPLX	.095	.036	.135	2.646	.009
	ORG.S	.075	.038	.116	1.968	.050
	T.RDNS	.915	.350	.884	2.615	.010
	BARRIs	-.047	.026	-.082	-1.778	.077
	T.IT.INFRA	-.063	.032	-.093	-1.939	.054
	E.GOV	.772	.314	.876	2.455	.015
	E.GOV.T.RDNS	-.155	.082	-1.099	-1.889	.060

a. Dependent Variable: T.ATTIT

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.305	8	3.038	40.892	.000 ^a
	Residual	14.413	194	.074		
	Total	38.718	202			
2	Regression	24.566	9	2.730	37.226	.000 ^b
	Residual	14.152	193	.073		
	Total	38.718	202			

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.T.RDNS

c. Dependent Variable: T.ATTIT

Excluded Variables^b

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
1 E.GOV.T.RDNS	-1.099 ^a	-1.889	.060	-.135	.006	178.930	.006

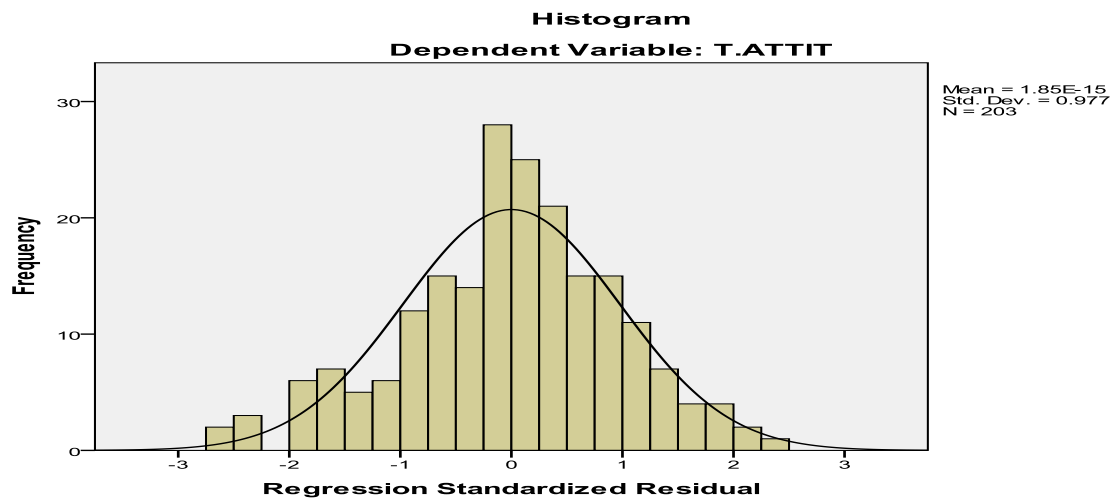
a. Predictors in the Model: (Constant), E.GOV.T, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Dependent Variable: T.ATTIT

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.6521	4.7606	4.0427	.34874	203
Residual	-.71324	.61536	.00000	.26469	203
Std. Predicted Value	-3.987	2.058	.000	1.000	203
Std. Residual	-2.634	2.272	.000	.977	203

a. Dependent Variable: T.ATTIT



3.3 Interaction Effect Collective Test: E-Government × All Independent Constructs

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.801 ^a	.641	.612	.27256	.641	22.278	15	187	.000	1.861

a. Predictors: (Constant), E.GOV.T.IT.INFRA, BARRIs, R.ADV, COMPT.COMPLX, STIM.C.AGNT, ORG.S, T.RDNS, E.GOV.T, E.GOV.BARRIs, T.IT.INFRA, E.GOV.COMPT.COMPLX, E.GOV.STIM.C.AGNT, E.GOV.ORG.S, E.GOV.R.ADV, E.GOV.T.RDNS
b. Dependent Variable: T.ATTIT

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.826	15	1.655	22.278	.000 ^a
	Residual	13.893	187	.074		
	Total	38.718	202			

a. Predictors: (Constant), E.GOV.T.IT.INFRA, BARRIs, R.ADV, COMPT.COMPLX, STIM.C.AGNT, ORG.S, T.RDNS, E.GOV.T, E.GOV.BARRIs, T.IT.INFRA, E.GOV.COMPT.COMPLX, E.GOV.STIM.C.AGNT, E.GOV.ORG.S, E.GOV.R.ADV, E.GOV.T.RDNS
b. Dependent Variable: T.ATTIT

Coefficients^a

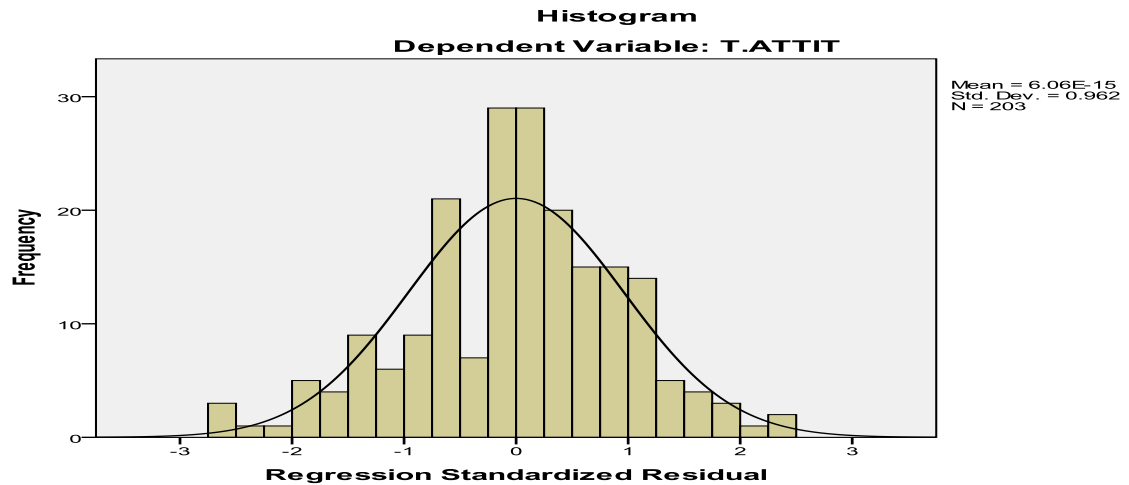
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
				Coefficients		
		B	Std. Error	Beta		
1	(Constant)	-1.919	2.327		-.825	.411
	STIM.C.AGNT	.003	.297	.004	.012	.991
	R.ADV	.261	.370	.290	.704	.483
	COMPT.COMPLX	.057	.296	.080	.192	.848
	ORG.S	.598	.312	.930	1.913	.057
	T.RDNS	.453	.478	.437	.947	.345
	BARRIs	.028	.236	.050	.120	.905
	T.IT.INFRA	-.083	.295	-.122	-.280	.780
	E.GOV.T	.785	.547	.891	1.436	.153
	E.GOV.T.STIM.C.AGNT	.021	.071	.153	.293	.770
	E.GOV.T.R.ADV	-.001	.087	-.009	-.013	.990
	E.GOV.T.COMPT.COMPLX	.007	.072	.055	.093	.926
	E.GOV.T.ORG.S	-.128	.075	-1.134	-1.704	.090
	E.GOV.T.T.RDNS	-.040	.116	-.283	-.345	.731
	E.GOV.T.BARRIs	-.018	.055	-.149	-.327	.744
	E.GOV.T.T.IT.INFRA	.004	.068	.033	.061	.951

a. Dependent Variable: T.ATTIT

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5958	4.7457	4.0427	.35057	203
Residual	-.74002	.65761	.00000	.26225	203
Std. Predicted Value	-4.127	2.005	.000	1.000	203
Std. Residual	-2.715	2.413	.000	.962	203

a. Dependent Variable: T.ATTIT



4 - Regression results of the direct relationship between the mediating and the dependent Variable

Model Summary^b

Model	R	R ²	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R ² Change	F Change	df1	df2	Sig. F Change	
1	.471 ^a	.222	.218	.36769	.222	57.289	1	201	.000	2.009

a. Predictors: (Constant), T.ATTIT, b. Dependent Variable: ADPTN.F1

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.745	1	7.745	57.289	.000 ^a
	Residual	27.174	201	.135		
	Total	34.919	202			

a. Predictors: (Constant), T.ATTIT, b. Dependent Variable: ADPTN.F1

Coefficients^a

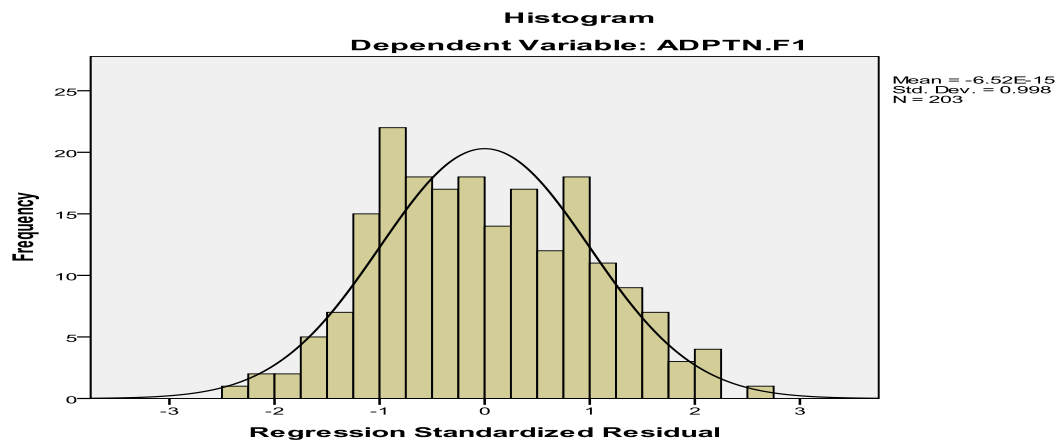
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.424	.240		10.089	.000		
T.ATTIT	.447	.059	.471	7.569	.000	1.000	1.000

a. Dependent Variable: ADPTN.F1

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.4251	4.6604	4.2322	.19581	203
Residual	-.86222	.97593	.00000	.36678	203
Std. Predicted Value	-4.122	2.187	.000	1.000	203
Std. Residual	-2.345	2.654	.000	.998	203

a. Dependent Variable: ADPTN.F1



1 – Regression results of the main independent variables and the mediating variable.

Model Summary^b

Model	R	R ²	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
– 1	.772 ^a	.596	.582	.28316	.596	41.129	7	195	.000

a. Predictors: (Constant), T.IT.INFRA, R.ADV, BARRIs, COMPT.COMPLX, STIM.C.AGENT, T.RDNS, ORG.S

b. Dependent Variable: T.ATTIT

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.084	7	3.298	41.129	.000 ^a
	Residual	15.635	195	.080		
	Total	38.718	202			

a. Predictors: (Constant), T.IT.INFRA, R.ADV, BARRIs, COMPT.COMPLX, STIM.C.AGENT, T.RDNS, ORG.S

b. Dependent Variable: T.ATTIT

Coefficients^a

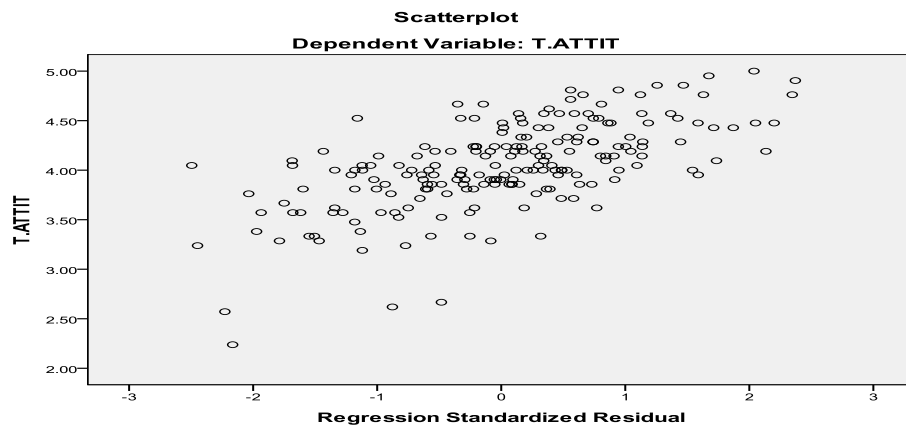
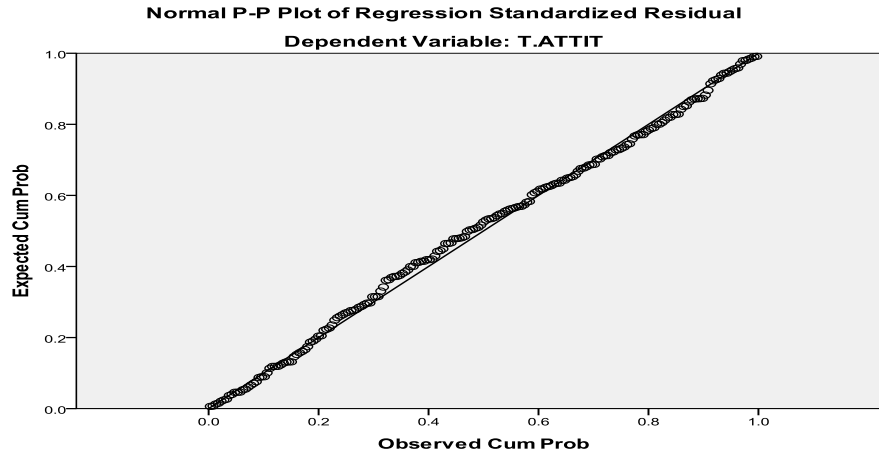
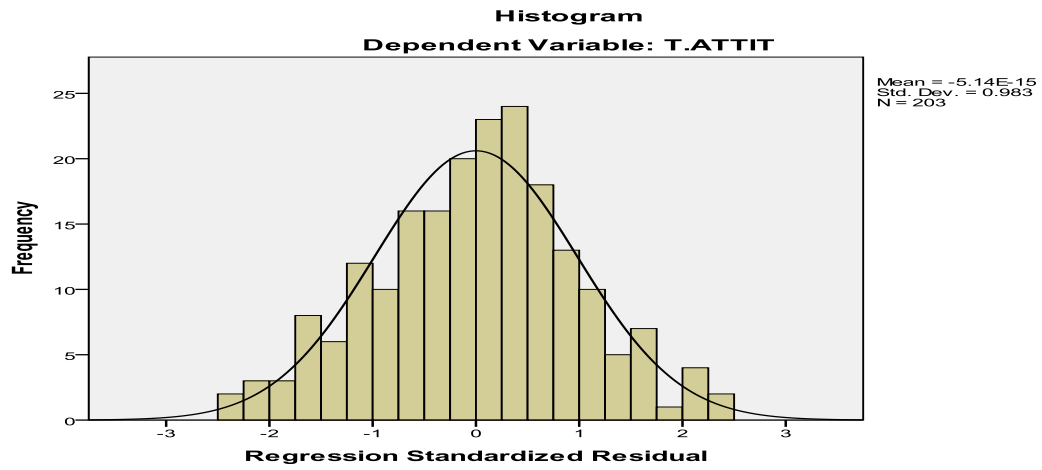
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.701	.259		2.705	.007		
STIM.C.AGENT	.107	.038	.139	2.819	.005	.853	1.172
R.ADV	.320	.047	.356	6.854	.000	.768	1.302
COMPT.COMPLX	.099	.038	.141	2.642	.009	.727	1.376
ORG.S	.085	.040	.132	2.144	.033	.546	1.831
T.RDNS	.320	.063	.309	5.062	.000	.557	1.796
BARRIs	-.047	.027	-.082	-1.744	.083	.926	1.080
T.IT.INFRA	-.048	.034	-.071	-1.425	.156	.839	1.192

a. Dependent Variable: T.ATTIT

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.8033	4.8522	4.0427	.33805	203
Residual	-.70647	.67144	.00000	.27821	203
Std. Predicted Value	-3.666	2.395	.000	1.000	203
Std. Residual	-2.495	2.371	.000	.983	203

a. Dependent Variable: T.ATTIT



2 - Regression results after interring the moderating E-Government as an independent variable.

Model Summary^b

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
1	.792 ^a	.628	.612	.27257	.628	40.892	8	194	.000

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGENT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Dependent Variable: T.ATTIT

ANOVA^b

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	24.305	8	3.038	40.892	.000 ^a
Residual	14.413	194	.074		
Total	38.718	202			

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGENT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Dependent Variable: T.ATTIT

Coefficients^a

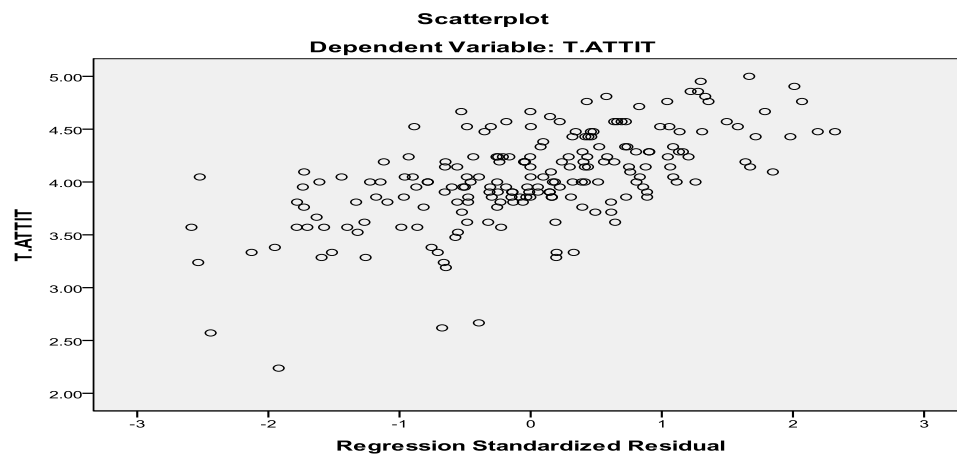
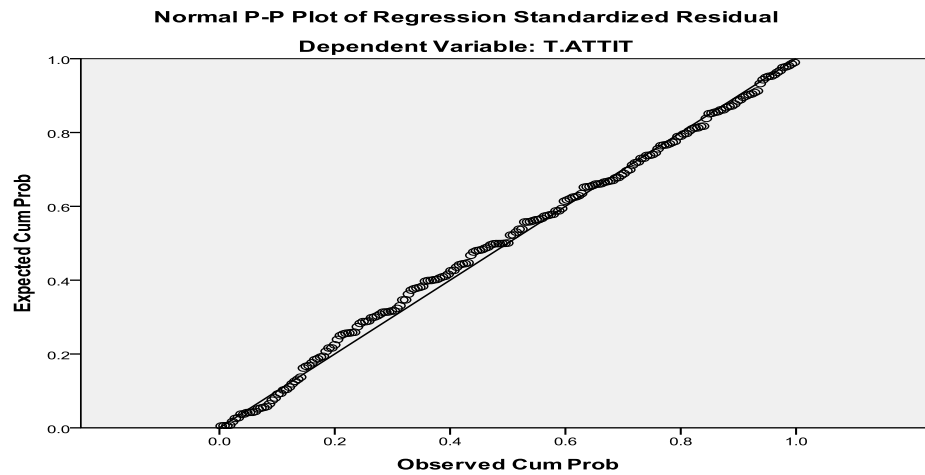
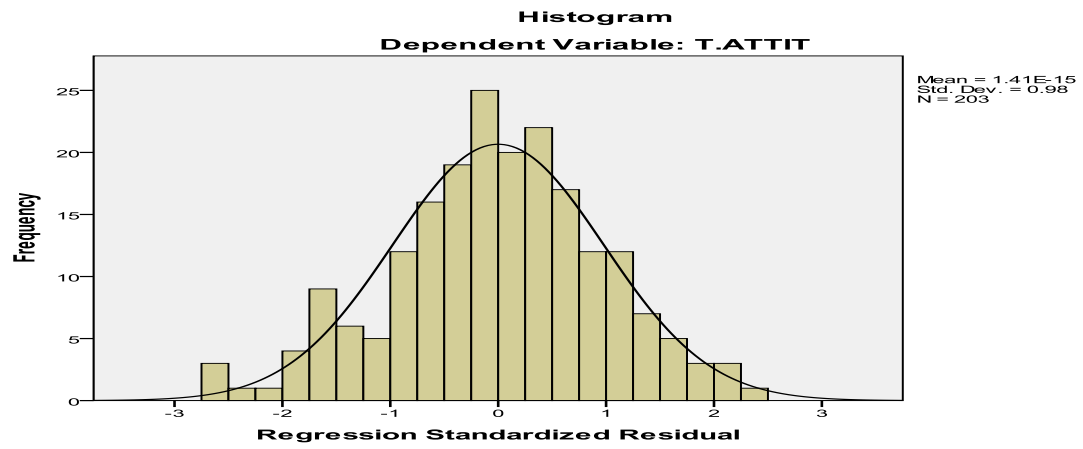
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.500	.254		1.967	.051		
STIM.C.AGENT	.091	.037	.118	2.481	.014	.844	1.185
R.ADV	.283	.046	.314	6.163	.000	.737	1.356
COMPT.COMPLX	.092	.036	.130	2.525	.012	.725	1.380
ORG.S	.076	.038	.118	1.989	.048	.544	1.837
T.RDNS	.265	.062	.256	4.249	.000	.530	1.885
BARRIs	-.056	.026	-.098	-2.146	.033	.920	1.087
T.IT.INFRA	-.065	.033	-.096	-1.996	.047	.825	1.213
E.GOV	.184	.045	.209	4.054	.000	.722	1.385

c. Dependent Variable: T.ATTIT

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.7618	4.8109	4.0427	.34687	203
Residual	-.70504	.63253	.00000	.26712	203
Std. Predicted Value	-3.693	2.215	.000	1.000	203
Std. Residual	-2.587	2.321	.000	.980	203

a. Dependent Variable: T.ATTIT



3 - Regression Results of the Net Moderating (E-Government) Interaction.

3.1 Interaction Individual Test: E-Government × ORG.S

Model Summary^c

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R ² Change	F Change	df1	df2	Sig. F Change	
1	.792 ^a	.628	.612	.27257	.628	40.892	8	194	.000	
2	.800 ^b	.641	.624	.26852	.013	6.908	1	193	.009	1.859

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.ORG.S

c. Dependent Variable: T.ATTIT

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.305	8	3.038	40.892	.000 ^a
	Residual	14.413	194	.074		
	Total	38.718	202			
2	Regression	24.803	9	2.756	38.223	.000 ^b
	Residual	13.915	193	.072		
	Total	38.718	202			

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.ORG.S

c. Dependent Variable: T.ATTIT

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.500	.254		1.967	.051
	STIM.11.C.AGNT.6	.091	.037	.118	2.481	.014
	R.ADV	.283	.046	.314	6.163	.000
	COMPT.COMPLX	.092	.036	.130	2.525	.012
	ORG.S	.076	.038	.118	1.989	.048
	T.RDNS	.265	.062	.256	4.249	.000
	BARRIs	-.056	.026	-.098	-2.146	.033
	T.IT.INFRA	-.065	.033	-.096	-1.996	.047
	E.GOV	.184	.045	.209	4.054	.000
2	(Constant)	-1.432	.777		-1.844	.067
	STIM.11.C.AGNT.6	.090	.036	.117	2.489	.014
	R.ADV	.256	.046	.284	5.518	.000
	COMPT.COMPLX	.081	.036	.115	2.248	.026
	ORG.S	.592	.200	.921	2.961	.003
	T.RDNS	.287	.062	.277	4.633	.000
	BARRIs	-.049	.026	-.086	-1.910	.058
	T.IT.INFRA	-.063	.032	-.094	-1.968	.051
	E.GOV	.672	.191	.763	3.519	.001
	E.GOV.ORG.S	-.126	.048	-1.123	-2.628	.009

a. Dependent Variable: T.ATTIT

Excluded Variables^c

Model	Beta In	t	Sig.	Partial Correlation
1 E.GOV.T.STIM.C.AGNT	-.271 ^a	-.573	.567	-.041
E.GOV.T.R.ADV	-.695 ^a	-1.278	.203	-.092
E.GOV.T.COMPT.COMPLX	-.609 ^a	-1.337	.183	-.096
E.GOV.T.ORG.S	-1.123^a	-2.628	.009	-.186
E.GOV.T.T.RDNS	-1.099^a	-1.889	.060	-.135
E.GOV.T.BARRIs	.326 ^a	.818	.414	.059
E.GOV.T.T.IT.INFRA	-.285 ^a	-.552	.582	-.040
2 E.GOV.T.STIM.C.AGNT	.154 ^b	.312	.755	.023
E.GOV.T.R.ADV	.063 ^b	.099	.921	.007
E.GOV.T.COMPT.COMPLX	.028 ^b	.052	.959	.004
E.GOV.T.T.RDNS	-.198 ^b	-.260	.795	-.019
E.GOV.T.BARRIs	-.150 ^b	-.342	.732	-.025
E.GOV.T.T.IT.INFRA	.016 ^b	.030	.976	.002

a. Predictors in the Model: (Constant), E.GOV.T, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

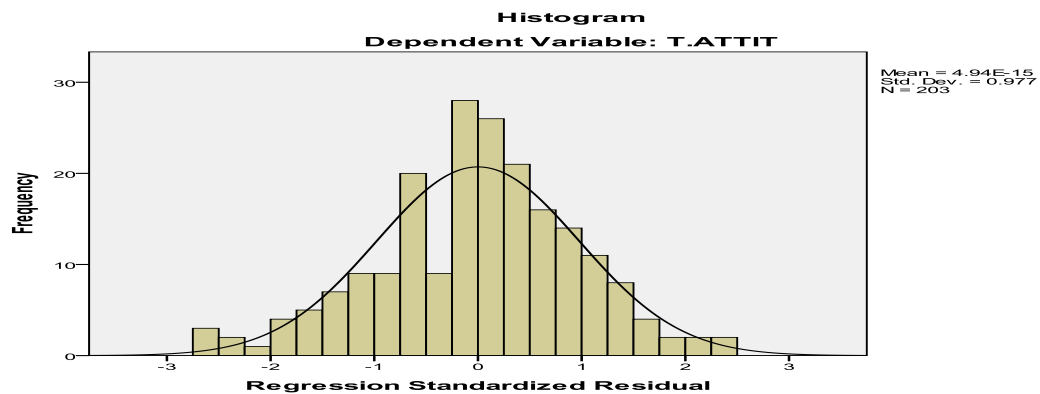
b. Predictors in the Model: (Constant), E.GOV.T, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.T.ORG.S

c. Dependent Variable: T.ATTIT

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5596	4.7431	4.0427	.35041	203
Residual	-.73135	.64508	.00000	.26247	203
Std. Predicted Value	-4.233	1.999	.000	1.000	203
Std. Residual	-2.724	2.402	.000	.977	203

a. Dependent Variable: T.ATTIT



3.2 Interaction Individual Test: E-Government × T.RDNS

Model Summary^c

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R ² Change	F Change	df1	df2	Sig. F Change	
1	.792 ^a	.628	.612	.27257	.628	40.892	8	194	.000	
2	.797 ^b	.634	.617	.27079	.007	3.567	1	193	.060	1.888

a. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOV, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.T.RDNS

c. Dependent Variable: T.ATTIT

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.500	.254		1.967	.051
	STIM.C.AGNT	.091	.037	.118	2.481	.014
	R.ADV	.283	.046	.314	6.163	.000
	COMPT.COMPLX	.092	.036	.130	2.525	.012
	ORG.S	.076	.038	.118	1.989	.048
	T.RDNS	.265	.062	.256	4.249	.000
	BARRIs	-.056	.026	-.098	-2.146	.033
	T.IT.INFRA	-.065	.033	-.096	-1.996	.047
	E.GOV	.184	.045	.209	4.054	.000
2	(Constant)	-1.955	1.324		-1.476	.142
	STIM.C.AGNT	.089	.037	.115	2.436	.016
	R.ADV	.274	.046	.305	5.986	.000
	COMPT.COMPLX	.095	.036	.135	2.646	.009
	ORG.S	.075	.038	.116	1.968	.050
	T.RDNS	.915	.350	.884	2.615	.010
	BARRIs	-.047	.026	-.082	-1.778	.077
	T.IT.INFRA	-.063	.032	-.093	-1.939	.054
	E.GOV	.772	.314	.876	2.455	.015
	E.GOV.T.RDNS	-.155	.082	-1.099	-1.889	.060

a. Dependent Variable: T.ATTIT

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.305	8	3.038	40.892	.000 ^a
	Residual	14.413	194	.074		
	Total	38.718	202			
2	Regression	24.566	9	2.730	37.226	.000 ^b
	Residual	14.152	193	.073		
	Total	38.718	202			

a. Predictors: (Constant), E.GOV, BARRIs, STIM. C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Predictors: (Constant), E.GOV, BARRIs, STIM. C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS, E.GOV.T.RDNS

c. Dependent Variable: T.ATTIT

Excluded Variables^b

Model		Extended Variables				Collinearity Statistics		
		Beta In	t	Sig.	Partial Correlation	Tolerance	VIF	Minimum Tolerance
1	E.GOV.T.RDNS	-1.099 ^a	-1.889	.060	-.135	.006	178.930	.006

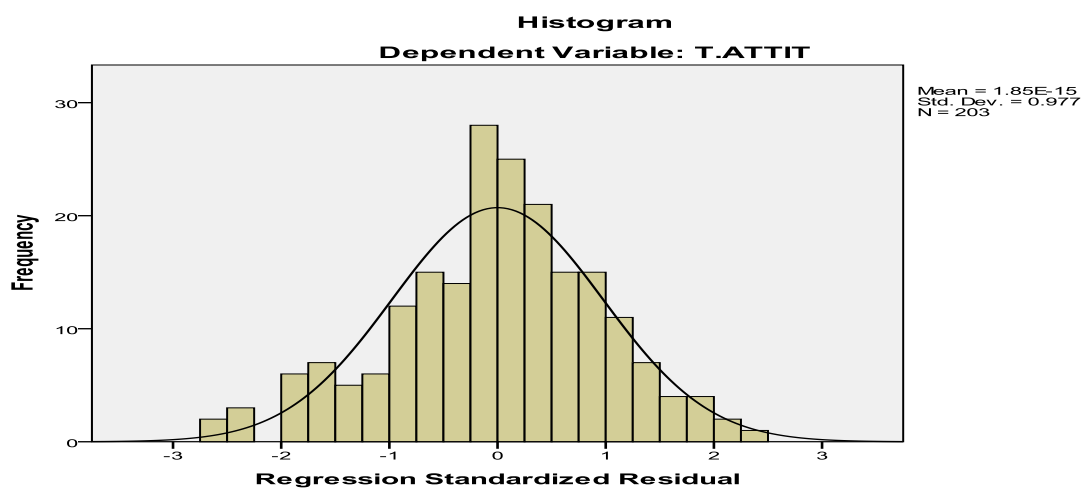
a. Predictors in the Model: (Constant), E.GOV.T, BARRIs, STIM.C.AGNT, COMPT.COMPLX, T.IT.INFRA, R.ADV, ORG.S, T.RDNS

b. Dependent Variable: T.ATTIT

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.6521	4.7606	4.0427	.34874	203
Residual	-.71324	.61536	.00000	.26469	203
Std. Predicted Value	-3.987	2.058	.000	1.000	203
Std. Residual	-2.634	2.272	.000	.977	203

a. Dependent Variable: T.ATTIT



3.3 Interaction Collective Test: E-Government × All Independent Constructs

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.801 ^a	.641	.612	.27256	.641	22.278	15	187	.000	1.861

a. Predictors: (Constant), E.GOV.T.IT.INFRA, BARRIs, R.ADV, COMPT.COMPLX, STIM.C.AGNT, ORG.S, T.RDNS, E.GOV.T.

E.GOV.T.BARRIs, T.IT.INFRA, E.GOV.T.COMPT.COMPLX, E.GOV.T.STIM.C.AGNT, E.GOV.T.ORG.S, E.GOV.T.R.ADV, E.GOV.T.T.RDNS

b. Dependent Variable: T.ATTIT

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.826	15	1.655	22.278	.000 ^a
	Residual	13.893	187	.074		
	Total	38.718	202			

a. Predictors: (Constant), E.GOV.T.IT.INFRA, BARRIs, R.ADV, COMPT.COMPLX, STIM.C.AGNT, ORG.S, T.RDNS, E.GOV.T.

E.GOV.T.BARRIs, T.IT.INFRA, E.GOV.T.COMPT.COMPLX, E.GOV.T.STIM.C.AGNT, E.GOV.T.ORG.S, E.GOV.T.R.ADV, E.GOV.T.T.RDNS

b. Dependent Variable: T.ATTIT

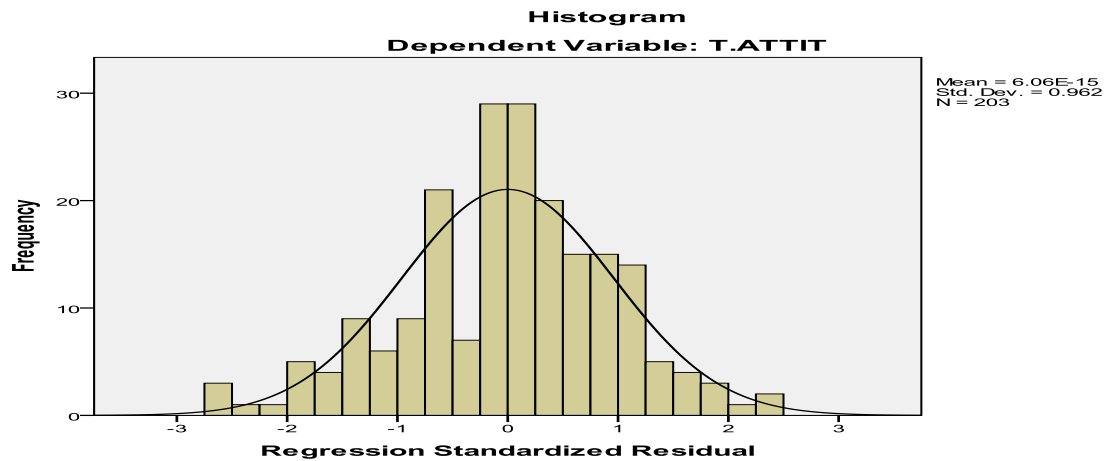
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.919	2.327		-.825	.411
	STIM.C.AGNT	.003	.297	.004	.012	.991
	R.ADV	.261	.370	.290	.704	.483
	COMPT.COMPLX	.057	.296	.080	.192	.848
	ORG.S	.598	.312	.930	1.913	.057
	T.RDNS	.453	.478	.437	.947	.345
	BARRIs	.028	.236	.050	.120	.905
	T.IT.INFRA	-.083	.295	-.122	-.280	.780
	E.GOV.T	.785	.547	.891	1.436	.153
	E.GOV.T.STIM.C.AGNT	.021	.071	.153	.293	.770
	E.GOV.T.R.ADV	-.001	.087	-.009	-.013	.990
	E.GOV.T.COMPT.COMPLX	.007	.072	.055	.093	.926
	E.GOV.T.ORG.S	-.128	.075	-1.134	-1.704	.090
	E.GOV.T.T.RDNS	-.040	.116	-.283	-.345	.731
	E.GOV.T.BARRIs	-.018	.055	-.149	-.327	.744
	E.GOV.T.IT.INFRA	.004	.068	.033	.061	.951

a. Dependent Variable: T.ATTIT

Residuals Statistics ^a					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.5958	4.7457	4.0427	.35057	203
Residual	-.74002	.65761	.00000	.26225	203
Std. Predicted Value	-4.127	2.005	.000	1.000	203
Std. Residual	-2.715	2.413	.000	.962	203

a. Dependent Variable: T.ATTIT



4 - Regression results of the direct relationship between the mediating and the dependent

Model Summary ^b										
Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R ² Change	F Change	df1	df2	Sig. F Change	
1	.471 ^a	.222	.218	.36769	.222	57.289	1	201	.000	2.009

a. Predictors: (Constant), T.ATTIT

b. Dependent Variable: ADPTN.F1

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.745	1	7.745	57.289	.000 ^a
	Residual	27.174	201	.135		
	Total	34.919	202			

a. Predictors: (Constant), T.ATTIT

b. Dependent Variable: ADPTN.F1

Coefficients^a

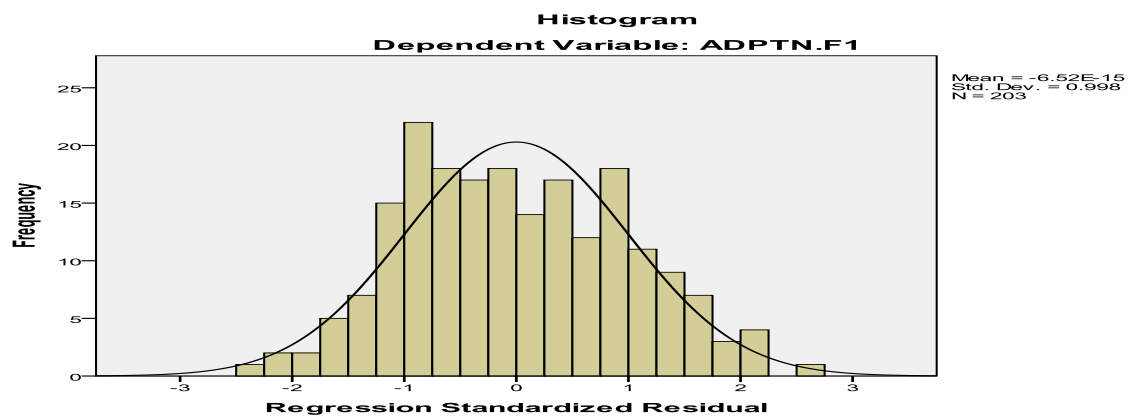
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.424	.240		10.089	.000		
T.ATTIT	.447	.059	.471	7.569	.000	1.000	1.000

a. Dependent Variable: ADPTN.F1

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.4251	4.6604	4.2322	.19581	203
Residual	-.86222	.97593	.00000	.36678	203
Std. Predicted Value	-4.122	2.187	.000	1.000	203
Std. Residual	-2.345	2.654	.000	.998	203

a. Dependent Variable: ADPTN.F1



APPENDIX (B):

B.1 Supervisor - Letter of Support



Producing Leaders Since 1905

يونيڤرسيتي مالايا

15 June 2009

To Whom It May Concern

Dear Sir/Madam

Abdulla Mohamed Hamoud Al-Tholaya is currently enrolled as a PhD student, under my supervision, at the Faculty of Business and Accountancy, University of Malaya.

The research he is undertaking for his PhD studies involves an examination of the feasibility of adopting the full accrual basis of accounting in the public sector. The results of his study will benefit the understanding of the process of accounting innovation and should also be of significant practical benefit.

I would therefore be extremely grateful if you could assist in this study by sparing a little of your time to complete the enclosed questionnaire. I can confirm that the anonymity of the respondents will be completely preserved. I very much hope that Abdulla can count on your support.

Thank you.

Yours sincerely,

(Dr. Zakiah Saleh)
Senior Lecturer
Department of Financial Accounting and Auditing



MS ISO 9001:2000 REG. NO. AR 2760

FACULTY OF BUSINESS AND ACCOUNTANCY

University Of Malaya, 50603 Kuala Lumpur, Malaysia

Tel: (603) 7967 3974 / 7967 3975 • Fax: (603) 7967 3810 • E-mail: fpp@um.edu.my

www.um.edu.my/fpp





UNIVERSITY OF MALAYA
Faculty of Business & Accountancy

Questionnaire Survey On Governmental Accounting Innovations

**The Introduction of Accrual basis of accounting in
Yemen Central Government and the Role of
E-Government
(May 2009)**

A Research Leading to PhD in Accounting Conducted by

Abdulla Mohamed H. Altholaya
FACULTY OF COMMERCE & ECONOMICS
SANA'A UNIVERSITY
REPUBLIC OF YEMEN

Under the Supervision of
Dr. Zakiah Saleh

Confidentiality:

The views expressed in the completed questionnaire will be treated in strictest confidence.
Any information identifying the respondents will not be disclosed at all.

The aim of this research instrument is to obtain the opinion and perceptions of Yemen Central Government Chief Financial Officers – this may include: General Managers, Deputies, Accounting Department Heads, and who are in similar position - on the introduction of accrual basis of accounting and reporting and the role of Electronic Government (E-Gov.) in such reform.

This *Questionnaire Survey* consists of four (4) parts. Please answer all questions in all parts and respond as soon as possible.

Dear - Respectable (sister) brother.

The objective of this survey is to examine the feasibility of adopting and implementing Full Accrual-basis of Accounting (ABA), taking into consideration the role that E-Government will play into such reform process in **the Republic of Yemen Central Government**. This survey is designed to obtain data that will be highly valued and be used in understanding the feasibility of adopting such accounting innovation. Therefore, your participation by providing your true perceptions and opinions will be of great importance to the success of this research study.

The data collected through this survey questionnaire will be analyzed and the findings of this study will provide guidance that would hopefully help the government of Yemen in the implementation process of the Accrual-basis Accounting system. Your opinions are going to be of so much value in the implementation process and the success of such important project. Your understanding and cooperation in filling this questionnaire is highly appreciated. Your responses will be kept highly confidential.

The strict ethic guidelines of the University Malaya ensure that anonymity is maintained all the time. Therefore, no names are required. The analysis of this study and the results will be aggregated and presented with no mentioning implicitly or explicitly of any individual respondent.

Thank you for the time and effort given. Your cooperation and help will promote foreword the success of this study.

Sincerely Yours,

PhD Candidate:

Abdulla Mohamed Altholaya

University of Malaya – KL, Malaysia

Faculty of Business & Accounting

Department of Financial Accounting and Auditing

E-mail: am-altholaya@perdana.um.my OR Altholaya@hotmail.com

Telephone No.: (700203305) Sana'a OR (0193290327) KL.

INTRODUCTION & INSTRUCTIONS:

Introduction:

Mostly common in accounting, there are two methods used the cash basis and the accrual basis. Governments uses the cash basis of accounting for a long time until recently (mid 80's) some of them worldwide (e.g. New Zealand, Australia, UK, Canada, USA, Spain, Sweden, Switzerland, and so on) changed from the cash basis to the accrual basis of accounting. The International Federation of Accountants (IFAC) is promoting the adoption and implementation of accruals accounting in the public sector and for that they issued over 20 international standards for governments and its agencies to follow. That is with support of the International Monetary Fund (IMF), the World Bank (WB), and other international organizations. The accrual basis of accounting on the other hand has been in practice at the private sector all along until now. Accrual accounting is the accepted method of accounting worldwide for the private sector. The dawn of the information age provided so many application that makes complex systems such that in governments easy and approachable, E-Government is one of the most encouraging technology that will enable so many reforms in governments' systems and will transform the way government work to be more effective and efficient and transparent.

What is Accrual-basis of Accounting?

Accrual basis of accounting is a method of recording financial transactions where the full characteristics of those transactions are recorded in the period to which they relate as such transactions are recognized as they are earned or incurred not as money is received or paid. The introduction of the accrual basis of accounting requires the application of the double-entry accounting. Under such method - in addition to revenues and expenses - assets, liabilities, and net assets/equity will be recognized and capitalized. Annual depreciation charges on assets' usage will be calculated and recorded as expense. Inter period dues amounts, advances, and obligations will be recognized and recorded. There will be income statement and balance sheet. Accounting objectives are for controlling and managing by inputs these objectives instead will be to controlling and managing by objectives (outputs and outcomes). The introduction of accrual basis of accounting reform in government practically will not performed by itself. It has to be within a more comprehensive reform package. That might be under Public Management Reform, Public Financial Management Reform, or under different other program names initially called Public Sector Modernization. Similar reforms experienced by other nations took longer periods of times, some of which took more than one general election period.

What is Cash- basis Accounting?

Cash accounting is where transactions are recorded when money is paid or received. Cash accounting makes little or no reference to the liabilities that an organization will be required to meet in the future, nor does it recognize the benefits that gained from purchased assets over its life time- periods. Cash accounting use the single entry methodology of recording transactions, under this basis of accounting no recognition to assets' depreciation. The control and monitoring is over the inputs specified by the budget itemization. Controlling and monitoring for outputs and outcomes (by objectives) under the cash base accounting not supported. This methodology is fit for the bureaucratic system of government (public administration) for it easy of use and understandability. It does not require sophisticated accounting methodology as that in the private sector, and accountant qualifications is limited. However, this methodology have so many limitations and does not provide wider information to help decision makers and policy makers in information age with least necessary tools to face the 21st century public governance.

What is electronic government – E-Government?

E-Government is the use of Information Communication Technology (ICT) especially the internet and the World Wide Web (WWW) to transform the government works and procedures. E-government is about delivering citizen focused service, high quality service, continuously improving service, at reduced cost. It is about delivering change, and supporting the government's strategic direction. It is not about the technology. It is about delivering high quality services. E-government is the mechanism to effect that change. E-Government service delivery is 24hours/7days all over the year. Interaction with the government electronically is cross-sectional. E-government models (are many) to some extent classifies service delivery into four types Government to Government (G2G), Government to Business (G2B), Government to Citizens (G2C), and Government to Employee (G2E). Mostly, E-government initiatives early stage start with one way interaction (Cataloging) where a government entity website becomes online present and supply information only – such as reports – and supply downloadable forms, then it develops to the second stage (Transaction) two way interaction services and forms online and working databases support online transactions. The third stage called (Vertical Integration) which link local systems to higher-level systems with similar functionalities. Finally, the fourth stage, named (Horizontal Integration) where systems of government organizations integrated across different functions, which led to real one stop shopping for citizens. It is through these stages the financial management and accounting policies and systems work. That is the back office of the government organizations (offices) G2G and most of the management information systems and information technologies. Then it is at the front line between the government and citizens G2C and the government to business G2B where most of the procedural and transactional (e.g. financial and accounting) part of e-government is recognized.

Instructions:

Hereunder provided some illustrations on how to answer this questionnaire:

- There is no need to provide a good image. Mostly the common scale used in this survey is using the scale and the numbers alongside the statements used to mean following responses:

- 1- Strongly disagree.....SDA
- 2- Disagree.....DA
- 3- Neither disagree nor agree.....NDNA
- 4- Agree.....A
- 5- Strongly agree.....SA

Many questions in this survey make use of rating scales with 5 places; you are to tick ☐ across the number that best describes your opinion. For example, if you are asked to rate the following statement “Government accountants should know the business like accounting” using such a scale, the places should be interpreted as follows:

If you think business like accounting is highly beneficial and to be known by government accountants, then you would tick ☒ alongside the number **5**, as follows:

<i>Question's statement</i>	← Level of Agreement →				
	Strongly Disagree				Strongly Agree
	SDA	DA	NDNA	A	SA
	1	2	3	4	5
Government accountants should know the business like accounting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

But if you think that “Government accountants need not to know the business like accounting”, then you would tick ☒ alongside the number **2** as follows:

<i>Question's statement</i>	← Level of Agreement →				
	Strongly Disagree				Strongly Agree
	SDA	DA	NDNA	A	SA
	1	2	3	4	5
Government accountants should know the business like accounting.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Please remember the following remarks when rating your answers:

Please answer each of the statements related to the questions hereunder, by ticking [√] into the box that correspond to the scale number which best describes your appropriate answer.

- Some of the questions may appear to be similar, but they do address somewhat different issues and specifics. Therefore, **please do read each question carefully.**
- Be sure to answer all items in this questionnaire, and try all your best to avoid not answering some or any of the questions. Please do check your answers again to make sure that all questions are answered.
- For each statement tick [√] only for once and leave the other boxes empty. **Please do not mark with [X] in the blank boxes.**
However, to those who will answer this questionnaire electronically (has been sent to them through their e-mail addresses) can click in the box for the chosen answer and the computer will mark it with [X], which is technically acceptable. The answered questionnaire then has to be sent back to researcher e-mail address specified above (electronic format).
- If there is any confusion you encounter in answering any of the statements in this questionnaire, please don't hesitate to ask for clarification. Through the e-mail address or the telephone numbers provided above.
- At the end of some questions, there is a space left for you to express your opinion on some aspects that this questionnaire might have not addressed. Please specify clearly your points followed by some explanation for each one of them in a clear and thoughtful manner.

PART (1): DEMOGRAPHICS

<p>1-What is your gender ?</p> <p><input type="checkbox"/> Male</p> <p><input type="checkbox"/> Female</p> <p>3- What is your marital Status?</p> <p><input type="checkbox"/> Single</p> <p><input type="checkbox"/> Married with children</p> <p><input type="checkbox"/> Married without children.</p>	<p>2-What is your age?</p> <p><input type="checkbox"/> Under 20 years</p> <p><input type="checkbox"/> 20-30 years</p> <p><input type="checkbox"/> 31-40 years</p> <p><input type="checkbox"/> 41-50 years</p> <p><input type="checkbox"/> 51 years and above</p>
--	---

<p>5-How many Years have been working in your organization?</p> <p><input type="checkbox"/> Under 5 years</p> <p><input type="checkbox"/> 6-10 years</p> <p><input type="checkbox"/> 11-15 years</p> <p><input type="checkbox"/> 16-20 years</p> <p><input type="checkbox"/> 21-25 years</p> <p><input type="checkbox"/> 26-30 years</p> <p><input type="checkbox"/> 31 years above</p>	<p>4- What is your level of education?</p> <p><input type="checkbox"/> Primary School</p> <p><input type="checkbox"/> High School</p> <p><input type="checkbox"/> 2-Year Diploma</p> <p><input type="checkbox"/> Bachelor Degree</p> <p><input type="checkbox"/> Master Degree</p> <p><input type="checkbox"/> Doctorate</p> <p><input type="checkbox"/> Others</p>
--	--

<p>7- What is your background:</p> <p><input type="checkbox"/> Accounting , management, and finance</p> <p><input type="checkbox"/> Law and political science</p> <p><input type="checkbox"/> Business and information technology</p> <p><input type="checkbox"/> Public administration</p> <p><input type="checkbox"/> Others - please specify:</p> <p>.....</p>	<p>6- Level of government are you working at?</p> <p><input type="checkbox"/> Higher level branch</p> <p><input type="checkbox"/> Ministry</p> <p><input type="checkbox"/> Authority</p> <p><input type="checkbox"/> Academic Institution (University, College, etc)</p> <p><input type="checkbox"/> Financial Institution</p> <p><input type="checkbox"/> Others- please specify:</p> <p>.....</p>
--	--

<p>9- What is the size of your organization?</p> <p><input type="checkbox"/> Under 100 employee</p> <p><input type="checkbox"/> 101-200 employee</p> <p><input type="checkbox"/> 201-300 employee</p> <p><input type="checkbox"/> 301-400 employee</p> <p><input type="checkbox"/> 401-500 employee</p> <p><input type="checkbox"/> 501- and above</p>	<p>8- What is your job title?</p> <p><input type="checkbox"/> General Manager</p> <p><input type="checkbox"/> Deputy General Manager</p> <p><input type="checkbox"/> Department Head</p> <p><input type="checkbox"/> Accountant Officer</p> <p><input type="checkbox"/> Auditor (internal)</p> <p><input type="checkbox"/> Others - please specify:</p> <p>.....</p>
---	---

10- What is your level of knowledge - in? *(self developed)*■ **English language proficiency.**
☐ None ☐ Entry ☐ Good ☐ Advance
■ **Computer usage in general.**
☐ None ☐ Entry ☐ Good ☐ Advance
■ **Software general application (word, excel, power point ...etc).**
☐ None ☐ Entry ☐ Good ☐ Advance
■ **Software specific application in accounting and budgeting.**
☐ None ☐ Entry ☐ Good ☐ Advance
■ **Using the World wide Web (WWW) – the Internet - and e-mailing.**
☐ None ☐ Entry ☐ Good ☐ Advance

11- Do you have (own) a personal computer?

☐ YES ☐ NO

12- Do you have personal E-mail address?

☐ YES ☐ NO

13- Do you have an E-mail address at your work?

☐ YES ☐ NO

14- Do you have access to the Internet at your work?

☐ YES ☐ NO

15- Do you have a personal computer at your work?

☐ YES ☐ NO

16- Do you have an Intranet connection at your work?

☐ YES ☐ NO

17- Does your organization have an active website?

☐ YES ☐ NO

18- Does your organization integrate online with

- Other organizations in the government?

☐ YES ☐ NO

19- Do you have a working experience in the private sector

- In accrual accounting? *If (yes) please specify:*
☐ YES ☐ NO
20. Income and Incentives. *(self developed) Incentives are financial 2&4 and non-financial the rest)*

-What is your level of total income?

- ☐ Below 30,000 Y. Rials
☐ 30,001 - 50,000 Y. Rials
☐ 50,001 - 70,000 Y. Rials
☐ 70,001 - 90,000 Y. Rials
☐ 90,001 -110,000 Y. Rials
☐ 110,001 -130,000 Y. Rials
☐ 130,001 -150,000 Y. Rials
☐ 150,001 -170,000 Y. Rials
☐ 170,001 – and above

- You are part of the accounting reform process. What kind of incentives you are expecting to gain as a result of such experience with reform? **You may tick [✓] on more than one.**

- ☐ Training and knowledge.
☐ Financial return.
☐ Higher social status.
☐ Better chance to get promoted.
☐ Support of my superiors.
☐ Higher chance to get better job.
☐ Bigger chance for higher education.
☐ Others - please specify:

21. Training.

Which of the following categories best describes the level of training you have had in the application of accrual basis of accounting?

	None.....				Extensive
1. General courses in accounting and budgeting at a specialized institution, collage, or university.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Training provided by the vendors or external consultants.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Training provided by the government financial institution or by the government National Institute of Administrative Science (NIAS), or by other institutions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Training through self study - through (specialized friend, online resources, books and other material)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Igbari, M. 1990) *End-User Computing effectiveness: A structural equation modeling. Omega, Int'l JN.*

Scale rephrased to fit the content and language of the study.

22. Stimuli.

Please state the extent to which each of the following statements has a direct or indirect influence on the leadership of the government to go forward with the development of government accounting systems, and by considering the possibility to change from the cash basis to the accrual basis of accounting.

	No Influence.....				High Influence
1. Political competition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Political majority support.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Financial crisis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Technology and modernization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Technical and professional needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. International donor and creditor agencies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Pressures from the general public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Pressures related to other reforms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Forces of globalization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Population size.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Diversification of government resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. To curb corruption.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Lüder, 92;94;2001). *The contingency model. Modified to meet the context of Yemen environment. (Kudo, H. 20 08), Does E-Government Guarantee Accountability in Public Sector.....*

Other Information:

(please feel free and write down your remarks / notes that may not have been addressed in this part)

This image shows a full page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for handwriting practice. There are no margins, text, or other markings on the page.

PART (2): CHARACTERISTICS OF GOVERNMENT ACCOUNTING

This part covers three areas of governmental accounting – a. The institutional framework, b. The accounting and financial reporting policies, c. Reform modifications. The purpose of this part is to evaluate the current status of governmental accounting system in the respected country.

1. *Institutional framework:*

Covers four main areas of concern that is the role of the profession and the level of independence, the influence of the private sector, the level of functional integration, and finally the level of centralization.

In your opinion, to what extent do you agree or disagree with each of the statements listed below on the scale from 1 to 5.

1 – Institutional Framework		← Level of Agreement → Strongly Disagree Strongly Agree				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	The accounting system is controlled by the administration (executive branch of government).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	The chief accounting officer is required to be a certified public accounting or finance professional.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	The auditor is independent of the government unit under auditing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Accounting and financial reporting standards are based on legal requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	The private-sector accounting profession participates in setting governmental accounting policies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Accounting policies and procedures (e.g., the chart of accounts, measurement rules) are influenced by budget laws or norms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Accounting concepts (e.g., accrual basis) have influenced public budgeting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Accounting and financial reports are subject to external (parliamentary or legislative) audit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	The accounting system is computerized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	The accounting system between central government and other branches of the government is integrated with Government-to-Government (G2G) by the internet/ intranet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	The accounting system interfaces with citizens through the internet in performing government services including financial transactions. Government-to-Citizen (G2C)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12.	The accounting system interfaces with businesses through the internet to perform transactional transactions. Government-to-Business (G2B)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	The accounting system facilitates the employee's interaction within the government to perform informational and financial transactions. Government-to-Employee (G2E)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	The accounting system is regarded as a part of the overall management information system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	The central government dictates the accounting practices of governorates and local authorities governmental units.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	The accounting function is performed by operating agencies within the government subject only to the coordination of a central office.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Chan, et al. 1996), "Modeling Governmental Accounting Innovations: An assessment and future research Directions." *Research in Governmental and Nonprofit Accounting*, Vol. 9, pp. 17-18. Questions (10,11,12,&13) are self developed by the researcher.

2. *Accounting & Financial Reporting Policies:*

Covers five main areas of concern that is the objectives, the accounting recognition and measurement, the financial reporting, the financial reporting contents, and financial information dissemination.

In your opinion, to what extent do you agree or disagree with each of the statements listed below on the scale from 1 to 5.

2 – Accounting & Financial Reporting Policies		Level of Agreement				
		Strongly Disagree Strongly Agree				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	The accounting system is designed to facilitate budgetary control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	The accounting system is designed to facilitate legislative oversight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	The accounting system is designed to facilitate monitoring by creditors and other resource providers (e.g., bondholders, grantors, and donors).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	The accounting system is also designed to facilitate monitoring by the general public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	The double-entry bookkeeping system is used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	The accounting system is organized based on individual funds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	The accrual basis of accounting is practiced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Government enterprises follow commercial accounting principles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Other bases of valuation than the historical cost basis (e.g., replacement cost) are used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	The government's capital assets are recognized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	The government's long-term liabilities are recognized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	The annual deficit is measured based on accruals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	Government revenue is recognized based on cash receipts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Depreciation expense is recognized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	Obligations are considered as expenditures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	The books are closed promptly after the end of the fiscal year.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	Government managers are supplied with interim (e.g., monthly, quarterly) financial reports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	The government periodically issue financial reports to the general public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	The reporting entity encompasses other associated governmental units.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20.	Financial data is aggregated (e.g., in terms of types of funds) in external reporting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	The government's financial report includes such basic financial statements as a balance sheet, statement of operations, and cash flow statement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	The government actual financial results are compared with revenue projections and appropriations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	The government economic forecasts or analyses are included in financial reports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	The government non-financial data on service efforts and accomplishment are included in financial reports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	The government internal transactions (e.g., transfers) are disclosed in the external financial reports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	Government general-purpose financial statements are used in external reporting, in contrast to issuing reports tailored to meet the needs of specific user groups.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	Financial reports are formally presented to the legislature.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	Government financial reports are disseminated within the government.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	Government financial reports are disseminated to the general public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	Capital market participants use government financial reports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.	The government through its web site provides financial information to citizens, employees, businesses, and government including legislative bodies. That includes periodical reporting and end of year final accounts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.	The government through its web sites delivers information to suppliers on bids and financial conditions in regard.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.	The government facilitates financial information to suppliers regarding their financial transactions and due amounts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.	The government delivers financial information to its suppliers notifying them through automatic SMS or e-mail on procedural and financial transactions and on the collection of their due amounts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Chan, *et al.* 1996), "Modeling Governmental Accounting Innovations: An assessment and future research Directions." *Research in Governmental and Nonprofit Accounting*, Vol. 9, pp. 17-18. Questions (31,32,33,&34) are self developed by the researcher.

3. Accounting & Financial Management Reform.

Please state, which changes have recently taken place, or at least are currently in progress, in improving governmental accounting and financial reporting in terms of any of the above aspects

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.

PART (3): INNOVATION CHARACTERISTICS

Section – A: Attributes of the accrual basis of accounting system.

This section covers three variables that to a certain degree capture the accrual basis of accounting system characteristics. The system's perceived relative advantage over the cash based accounting or modified cash based accounting system in use. The system's perceived compatibility or the extent of the new system is perceived to be consistent with the existing values, past experiences, and the potential needs of the government and its leadership. And the new system's perceived complexity to understand and use.

For each one of these variables you find statements related to its measurement. Please state the extent of your agreement or disagreement on each of the statement listed on the scale from 1-5 below, by ticking ✓ only on the one that best represent your opinion.

1 - Relative Advantage <i>of Accrual basis of accounting system (ABA)</i>		Level of Agreement Strongly Disagree Strongly Agree				
Item	Statement	<i>SDA</i> (1)	<i>DA</i> (2)	<i>NDNA</i> (3)	<i>A</i> (4)	<i>SA</i> (5)
1.	(ABA) is a system that provides more accurate and relevant information on outputs results to mach stated objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	(ABA) system provides better-informed decisions on the balance between current and capital expenditure, taking into account the opportunity cost of capital and its consumption over time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	(ABA) system provides a better basis for the treatment of capital assets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	(ABA) system is useful to compare costs and benefit of each potential department, unit, or activity across time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	(ABA) system improves internal monitoring procedures and control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	(ABA) system provides a financial framework for managing resources more economically and efficiently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	(ABA) system able to capture the cost of each transaction through better cost allocation in ledger accounts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	(ABA) system provides a more reliable assessment on the government financial health and financial position and the sustainability of the government policy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	(ABA) system provides information that improves the country government rating by international agencies, which results in reducing the cost of borrowing and or financing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	(ABA) system is good measure of operating performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	(ABA) system provides information that facilitates and eases the job of management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12.	(ABA) system provides information that helps management decision making and that improve the quality of the government services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

(Rogers, 95,2003; Moore & Benbasat, 91; Wynne, 2004; NSW, Public Accounts Committee,96,P.30)
The scale modified to capture this study.

2 – Compatibility of Accrual basis of accounting system (ABA)		← Level of Agreement → Strongly DisagreeStrongly Agree				
<i>Item</i>	<i>Statement</i>	<i>SDA (1)</i>	<i>DA (2)</i>	<i>NDNA (3)</i>	<i>A (4)</i>	<i>SA (5)</i>
1.	(ABA) system is compatible with government existing business processes and practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	(ABA) system has minor implications for the other process performed within the government contest.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	(ABA) system is compatible with the government culture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Overall, (ABA) system will fit into the government work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Rogers, 95,2003; Moore & Benbasat, 91). Statements modified to fit the context of this study.

3 – Complexity – (Ease of Use) of Accrual basis of accounting system (ABA)		← Level of Agreement → Strongly DisagreeStrongly Agree				
<i>Item</i>	<i>Statement</i>	<i>SDA (1)</i>	<i>DA (2)</i>	<i>NDNA (3)</i>	<i>A (4)</i>	<i>SA (5)</i>
1.	(ABA) system can be demonstrated and learned quickly and easily.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	ABA) system can be implemented smoothly and easily.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	(ABA) system found to be flexible to interact with.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Using (ABA) system will enable me to become skilful at it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	The interaction with (ABA) system is clear and understandable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	(ABA) system found to be easy to get and to do what I want it to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Davis, F.D. (1989), "Perceived Usefulness, Perceived Ease of use, and User Acceptance of IT". *MIS Quarterly*. Vol. 13, No. 3, pp. 319-340. And Moore & Benbasat (1991). Scale rephrased to fit the study conditions and specifications.

Section – B: Attributes of attitudes, support, and readiness that facilitate the accrual basis of accounting system change.

4 - Organizational Support is the degree of organizational encouragement and resource capability that facilitate the application and use of (ABA) system. Please state your level of agreement on each of the statements listed below.

4 – Organizational Support for Accrual basis of accounting system (ABA) reform.		← Level of Agreement → Strongly Disagree Strongly Agree				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	I am convinced that the government leadership is sure as to what benefits can be achieved with the use of (ABA) system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	There will be a person in organization that we can turn to for help in solving problems with (ABA) system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	A central technical support will be available to help us deal with problems that may arise from the application of (ABA) system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Training courses and workshops will be ready and available for us to improve ourselves in the use of (ABA) system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	I am always encouraged and supported by my boss in using modern technologies including the use of (ABA) system that will improve the performance of my job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Our leadership in the government will provide most of the necessary help and resources to get us used to the (ABA) system quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	We will be constantly updated with the standards on (ABA) system and related techniques that can help us be more effective in using the system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Our leadership in the government is really keen to see that we are capable of and happy with using the (ABA) system and related technologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Igbaria, M. (1990), "End-User Computing Effectiveness: A Structural Equation Model". Omega Int. J. Of Management Sci., Vol. 18, No. 6, pp. 637-652. Items has been modified to fit the context of this study.

5 - Attitude Toward Change is an individual's positive or negative feelings – evaluate affect –about performing the target behavior.

Please state your appropriate level of agreement on each of the statements listed below under the provided scale from 1 to 5.

5 – Attitudes Toward Change to Accrual basis of accounting system (ABA).		← Level of Agreement → Strongly Disagree Strongly Agree				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	I look forward to changes of this kind, transforming the accounting system from cash basis to accrual basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	I generally resist the introduction of new reform, such as (ABA), ideas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	I am inclined to try new reform ideas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Reform (change) to (ABA) system usually benefits the government.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	I usually support the introduction of new reform ideas such as the (ABA) system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Most of my co-workers benefit from such reform change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	I do not like reform change – such as (ABA) system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Reform change – such as (ABA) system – frustrates me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Such change to (ABA) system tends to stimulates me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Most reform changes at work - in the government - are irritating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	I often – in my work – suggest new approaches to things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	Reform change helps me to perform better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	I intended to do whatever possible to support such – (ABS) system – reform change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Other people think that I support such reform change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	I usually hesitate to try new ideas, especially when it comes to such reform change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	Reform change – such as (ABA) system – usually helps improve unsatisfactory situations at work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	I find that most reform changes – such as (ABA) system – to be pleasing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	I usually benefit from such reform change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	Reform change – such as (ABA) system – creates more problems at work than it solves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	Reform change often creates problems for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	Reform changes often create problems for my co-workers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	In general, reform change often creates problems for my organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	Trying new ideas such as this reform change – (ABA) system – is risky.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	Such reform change – (ABA) system – is associated with a lot of uncertainty.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Dunham, G. R. J. et al. (1989), "The development of an attitude toward change instrument". Paper presented at the annual meeting of the Academy of Management Science, Washington, DC.

6 - Readiness for organizational change is a comprehensive attitude that is influenced simultaneously by the content , the process, the context, and the individuals involved. **Readiness** collectively reflects the extent to which an individual or individuals are cognitively and emotionally inclined to accept, embrace, and adopt a particular plan to purposely alter the status quo.

Please state your appropriate level of agreement on each of the statements listed below under the provided scale from 1 to 5.

6 – Readiness for Organizational Change for Accrual basis of accounting system (ABA) reform.		← Level of Agreement → Strongly DisagreeStrongly Agree				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	I think the government will benefit from this (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	It does not make much sense to initiate such (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	There are legitimate reasons to go ahead with this (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	This (ABA) system change, will improve our government overall efficiency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	There are a number of rational reasons for this (ABA) system change to happen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	In the long run I feel it will be worthwhile for me if the government adopt (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	This (ABA) system change is going to make job easier.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	There is nothing for me to gain from the implementation of this (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	The time that spent (will be spent) on this (ABA) system, change should be spent on something else.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	This (ABA) system change matches the priorities of our government.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Our government leadership encourages all of us to embrace this (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	The government leadership will put all their support behind this (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	Every leader in the government stressed the importance of this (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	This government senior leader is committed to this (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	So far, I think so much time spent on this (ABA) system change when the senior leaders don not even want it implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	The administration has sent a clear signal that this (ABA) system change is going to happen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	I do not anticipate any problem adjusting to the work I will have when adopting and implementing this (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	There are some tasks that will be required because of this (ABA) system change, I do not think that I can do well.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	When the time comes to implement this (ABA) system change, I feel that I can handle it easily.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	I have the skills needed to make this (ABA) system change work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section – C: The role of the change agent in the reform process, the possible obstacles or barriers the reform might face that facilitate or hinder the accrual basis of accounting system change, and feasibility of such accounting change to happen.

7 - Change agents are professionals in specific fields of knowledge who influence clients' innovation-decision in a direction deemed desirable by the change agency.

Please state your appropriate level of agreement on each of the statements listed below under the provided scale form 1 to 5.

7 – The Role of Change Agent <i>for Accrual basis of accounting system (ABA) reform.</i>		Level of Agreement Strongly DisagreeStrongly Agree				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	The cash basis accounting system has so many deficiencies. The change agent clarifies that and helped on gaining knowledge on alternatives accounting systems including the introduction of (ABA) system as it is related to the need of using modern IT technologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	The change agent developed strong relationship with this organization based on his credible, competent, trustworthy, and tend to emphasize the government needs to come over these deficiencies by adopting (ABA) system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	The change agent who clearly defined the government accounting and financial management problems has performed empirical studies, workshops, and deep evaluations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	It is the change agent, who motivates us and creates among us strong intention to go forward with this IT based (ABA) system reform.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Based on the change agent efforts and scientific empirical findings, serious dialogs took place within and across government departments. Our leadership shares common ground with the change agent regarding (ABA) system change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	The change agent in many occasions has given many assurances that will eventually lead to the go ahead with this (ABA) system reform.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	With the aid of the change agent, a strong confidence is been built among us on how to perform and implement the change to (ABA) system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Roger, E. (1995), "The Diffusion of Innovations." pp.337. *Statements are Likert scaled from 1-5, and rephrased to meet the needs and context of this study.*

8 - Organizational Change Barriers are those elements (human, technology, knowledge, resources, organizational,.etc) that block or hinder the intended reform change progress.

Please state your appropriate level of agreement on each of the statements listed below under the provided scale form 1 to 5.

8 – Organizational Change Barriers <i>for Accrual basis of accounting system (ABA) reform.</i>		← Level of Agreement → Strongly DisagreeStrongly Agree				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	The country constitution, legal framework, law, bylaws, and ministerial decrees do, not support (ABA) system reform change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Government staff is not qualified to meet such reform change - (ABA) system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	International donor and aid agencies support conditions distorts reform change progress.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	The size of the jurisdiction - Government.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	The culture and tribal effect inherited in the government system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	The content of accountability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Expected high cost of staffing that may be in conflict with whole government hiring policy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Future uncertainty with such new system reform might create political challenge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Lack of IT staff and professionals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Lack of an efficient IT infrastructure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Lack of political commitment and support.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	The government organizational and functional structure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Luder, (1992, 1994, 1996), Ibrahim &Irani (2005), Some of the items have been reworded to fit the contest of the study.

9 – Accrual basis of accounting Adoption and Implementation.

Is intended to measure the possiblity or the technical and practical extent of the application of (ABA) by central government.

Please state turely your practical opinion on this highly importance accounting change policy development, if such change can be done or not or you don't know. Place √ on the appropriate box that fits your answer.

- ☐ - This reform change can be done.
- ☐ - This reform change is impossible to be done.
- ☐ - It is hard to confirm that this reform change neither it can be done nor it cannot be done.

10 – The Feasibility of Accrual basis of accounting Adoption and Implementation.

Is intended to measure the ground reasons that are behind the new system preference and the strong possibility or likely – suitability or capability- applicability for such system to be carried out or dealt with successfully.

Please state your appropriate level of agreement on each of the statements listed below under the provided scale form 1 to 5.

10 – Feasibility of (ABA) Adoption and Implementation		← Level of Agreement → Strongly DisagreeStrongly Agree				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	(ABA) system provides enough financial information to present accurate financial position of the government. .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	(ABA) system provides enough financial information to prepare to the general budget.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	(ABA) system provides enough financial information for future planning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	(ABA) system provides enough financial information to facilitate the control process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	(ABA) system facilitates the follow up of the cost of long-term projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	(ABA) system has clear objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	(ABA) system provides better control over inputs and outputs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	(ABA) system in general provides better reporting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	(ABA) system provides more focused information for decision-makers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	(ABA) system is widely, used and supported by the international communities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	(ABA) system has been used by other governments and proven to be applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	(ABA) system is claimed to have benefits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	(ABA) system – built in - provide systematic control on procedural system of financial transactions and recording and on control and monitoring of all assets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	(ABA) system provides more realistic information on the economic condition of the whole government.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Lapsley, I. (1986), "Capital Assets Accounting in UK non-trading Organizations." *FAM*. 2(4, pp. 273-293. For items (1 to 5) modified to fit the context of this study.

Kluvers, R. (1999), "To PPB or Not PPB — Budgeting in Victorian Local Government." *Australian Journal of Public Administration*. Vol. 58. Issue 4, p.69. For Items (6 to 10 &12). Items 11, 13, and 14 inferred from the literature of IFAC and OECD.

PART (4): INNOVATION & IT TECHNOLOGIES

This part covers the technology attributes of governmental infrastructure for Information Technology (ITI) and for E-Government, that facilitate the accrual basis of accounting system change in the information age.

Information Technology Infrastructure (ITI) is a comprehensive measure used to evaluate networks, data bases, practices, and applications – soft programs that are used in the government, financial and non-financial – and the level of management, maintenance, and development.

Please state your appropriate level of agreement on each of the statements listed below under the provided scale form 1 to 5.

1 – IT Infrastructure <i>For accrual basis of accounting system (ABA) reform.</i>		Level of Agreement ← Strongly Disagree Strongly Agree →				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	Chief Information Officer - CIO - is responsible for government-wide information systems and technology policy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	CIO is involved in the government planning process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	CIO approves government-wide information systems and technology acquisitions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	CIO is responsible for distributed information systems and technology.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Plan for government-wide information systems and technology.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Information systems/technology plan incorporates central, distributed and desktop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Information systems/technology plan reflects Government-wide business objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Planning process for information systems and technology incorporates end users.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Assessment of potential for new technologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Formal support for end-user computing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Training programs for end users.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	Users support distributed IT facilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	Support for management decision making (DSS, EIS).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Information technology (IT) integration (tps, MIS, computing, OA, telecom).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	Network integration (local area networks, corporate-wide networks, wide area networks).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	Communications integration (voice, data, text, image, video).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	Office automation capabilities (text processing, e-mail, calendaring, directories, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	Application systems integration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19.	Information technology architecture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	Distributed facilities (microcomputers, workstations, network servers).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	Cooperative processing and client/server applications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	Data communications between central and distributed facilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	Information systems and technology advisory/oversight committee(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	Senior management participates in advisory committees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	Users participate in advisory committees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	Documentation for government-wide information flow.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	Inventory of government data and information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	Inventory of government IT facilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	Government continuity/disaster recovery plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	Formal methodology for systems development.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.	Use of automated development tools (CASE, code generators).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.	Standards for distributed information systems and technology.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.	Corporate-wide adherence to information systems and technology standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.	Quality assurance program for systems and facilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.	Government data administration (policies, standards, government oversight).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.	Government data architecture (structure, framework, philosophy).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.	Government legal policy and control on data ownership and distribution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.	Government data dictionary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39.	Government data integration between applications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40.	Government data shared between users and departments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.	Government data security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42.	Government access control security.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43.	Government security awareness program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Lewis B. R. & Byrd, T. A. (2003), "Development of a measure for information technology infrastructure construct." *European Journal of Information Systems*, Vol. 12, pp. 93-109. Items wording rephrased to fit the context of this study.

E-Government Benefits is a measure that summaries the perceived expected benefits that will be gained as a result of adopting E-government by a government unit or agency.

Please state your appropriate level of agreement on each of the statements listed below under the provided scale from 1 to 5.

2 – Perceived e-Government Benefits <i>for Accrual basis of accounting system (ABA) reform.</i>		Level of Agreement ← Strongly Disagree Strongly Agree →				
Item	Statement	SDA (1)	DA (2)	NDNA (3)	A (4)	SA (5)
1.	Paper reduction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Government success compared to that in other government agency and in the business sector.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Reduction in communication cost.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Improvement in government work accuracy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Enhance competing ability of government.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Availability of forms online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Filing applications online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Tendering/biding projects/jobs online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Availability of answers to queries online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Faster approval of applications online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Reduced errors in filling application forms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	Interconnectivity and delivery of accounting and financial data and integration between government agencies, branches, departments, and units and across the level of government.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	Consolidated accounting and budgeting data between and across government agencies, branches, departments, and units.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Availability of whole of government and cross government accounting and financial information on spot 24/7/365, for managerial decision making.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	Availability of the periodical financial reporting online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	Availability of whole of government financial statements online.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	Availability of functions for cross-sectional comparative financial statements and performance reporting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18.	Facilitates financial electronic data Filing, storage, management, and retrieval between and across government.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	Facilitate faster government transactional delivery to beneficiaries.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	Provide better image of government performance and efficiency on national and international levels.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	Enables governmental accounting and financial management reforms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	Connecting and optimizing government units, branches, agencies effectiveness in terms of management utility and delivery of information and services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	Enables government administration of gaining more insights over government assets and liabilities, as a result of cross-government data availability.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	Facilitate whole government internal and external auditing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	Promote whole government efficiency, transparency, and effectiveness that meet the needs of a democratic society.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	Promote and encourage stakeholders, citizens, and businesses participation and involvement for better government and better governance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	Promote whole government administration modernization by reducing its operation costs which will be redirected to social investment development programs and poverty reduction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Tung & Rieck, (2005), "Adoption of electronic government services among business organisations in Singapore." JN of Strategic Information Systems, Vol. 14., pp. 417-440. Items 12 to 27 self developed.

(Thanks – End of Survey)

A copy of this questionnaire survey is given to respondents in Arabic Language.

APPENDIX (C):

C.1 Supervisor - Support Letter



Producing Leaders Since 1905

يونيڤرسيتي مالايا

15 June 2009

To Whom It May Concern

Dear Sir/Madam

Abdulla Mohamed Hamoud Al-Tholaya is currently enrolled as a PhD student, under my supervision, at the Faculty of Business and Accountancy, University of Malaya.

The research he is undertaking for his PhD studies involves an examination of the feasibility of adopting the full accrual basis of accounting in the public sector. The results of his study will benefit the understanding of the process of accounting innovation and should also be of significant practical benefit.

I would therefore be extremely grateful if you could assist in this study by permitting Abdulla to interview you. The interview will be conducted in the minimum time possible. I can confirm that the anonymity of the respondents will be completely preserved.

Thank you.

Yours sincerely,

(Dr. Zakiah Saleh)
Senior Lecturer
Department of Financial Accounting and Auditing



FACULTY OF BUSINESS AND ACCOUNTANCY
University Of Malaya, 50603 Kuala Lumpur, Malaysia
Tel: (603) 7967 3974 / 7967 3975 • Fax: (603) 7967 3810 • E-mail: fpp@um.edu.my
www.um.edu.my/fpp





UNIVERSITY OF MALAYA

Faculty of Business & Accountancy

INTERVIEW SURVEY On Governmental Accounting Innovations

**The Introduction of Accrual basis of accounting in
Yemen Central Government and the Role of
E-Government
(AUGUST 2009)**

A Research Leading to PhD in Accounting Conducted by

Abdulla Mohamed H. Altholaya
FACULTY OF COMMERCE & ECONOMICS
SANA'A UNIVERSITY
REPUBLIC OF YEMEN

Under the Supervision of
Dr. Zakiah Saleh

Confidentiality:

The views expressed in this interview survey will be treated in strictest confidence.
No information identifying respondents will be disclosed.

The aim of this research is to obtain the opinion and perceptions of Yemen Central Government Officials on the introduction of accrual basis of accounting and reporting and the on the expected role of Yemen Electronic Government (E-Gov.) in such reform.

This interview is directed to (may include) Former Finance Ministers; Vice Ministers; Deputy Ministers; Assistant Deputy Ministers; and Others who are knowledgeable of such - Public Management Reform – and are totally or partially involved or pioneered this innovation phenomena.

Dear highly respectable brother.

The objective of this interview survey is to examine the feasibility of adopting and implementing Full Accrual-basis Accounting (ABA), taking into consideration the role that E-Government will play into such reform process in **the Republic of Yemen Central Government**. This interview survey is semi-structured intended to obtain data that will be highly valued and be used in understanding the feasibility of adopting such accounting innovation therefore; your participation by providing your perceptions and opinions will be of great importance to the success of the research study.

The data collected through this interview will be analyzed and the findings of this study will provide guidance that would hopefully help the government of Yemen in the implementation process of the Accrual-basis Accounting system. Your support and guidance are going to be of so much value in the implementation process and the success of such important project. Your understanding and cooperation in answering the interview questions highly appreciated. Your responses will be kept very confidential.

The strict ethic guidelines of the University Malaya ensure that anonymity is maintained all the time.

Thank you for the time and effort given. Your cooperation and help will promote foreword the success of this study.

Sincerely Yours,

PhD Candidate:

Abdulla Mohamed Altholaya

University of Malaya – KL, Malaysia

Faculty of Business & Accounting

Department of Financial Accounting and Auditing

E-mail: am-altholay@perdana.um.my OR Altholaya@hotmail.com

Telephone No.: (700203305) Sana'a OR (0193290327) KL.

Short Illustrative Note:

As you know, mostly common in accounting, there are two methods used the cash basis and the accrual basis. Governments uses the cash basis of accounting for a long time until recently (mid 80's) some of them worldwide (e.g. New Zealand, Australia, UK, Canada, USA, Spain, Sweden, Switzerland, and so on) changed from the cash basis to the accrual basis of accounting. The International Federation of Accountants (IFAC) is promoting the adoption and implementation of accruals accounting in the public sector and for that they issued over 20 international standards for governments and its agencies to follow. That is with support of the International Monetary Fund (IMF), the World Bank (WB), and other international organizations. The accrual basis of accounting on the other hand has been in practice at the private sector all along until now. Accrual accounting is the accepted method of accounting worldwide for the private sector. The dawn of the information age provided so many application that makes complex systems such that in governments easy and approachable, E-Government is one of the most encouraging technology that will enable so many reforms in governments' systems and will transform the way government work to be more effective and efficient and transparent.

What is Accrual-basis Accounting?

Accrual basis of accounting is a method of recording financial transactions where the full characteristics of those transactions are recorded in the period to which they relate as such transactions are recognized as they are earned or incurred not as money is received or paid. The introduction of the accrual basis of accounting requires the application of the double-entry accounting. Under such method, in addition to revenues and expenses, assets, liabilities, and net assets/equity will be recognized. Depreciation costs will be charged, dues, advances, and obligations will be recorded. There will be income statement and balance sheet. Accounting will be shifted from controlling and managing by inputs to controlling and managing by objectives (outputs and outcomes). The introduction of accrual basis of accounting reform in government practically is not performed by itself. It has to be within a more comprehensive reform package. That might be under Public Management Reform, Public Financial Management Reform, or under different other program names initially called Public Sector Modernization. Such reform needs is experienced by other nations to take longer periods of times, some of which took more than one general election period.

What is Cash- basis Accounting?

Cash accounting is where transactions are recorded when money is paid or received. Cash accounting makes little or no reference to the liabilities that an organization will be required to meet in the future, nor does it recognize the benefits that will be obtained from purchased assets over a period of time. Cash accounting

use the single entry methodology of recording transactions, under this basis of accounting no recognition to assets' depreciation. The control and monitoring is over the inputs specified by the budget itemization, control and monitoring for output outcomes (by objectives) is not supported under this method of accounting. This methodology is fit for the bureaucratic system of government (public administration) for it easy of use and understandability. It does not require sophisticated accounting methodology as that in the private sector, and accountant qualifications is limited. However, this methodology have so many limitations and does not provide wider information to help decision makers and policy makers in information age with least necessary tools to face the 21st century public governance.

What is electronic government – E-Government?

E-Government is the use of Information Communication Technology (ICT) especially the internet and the World Wide Web (WWW) to transform the government works and procedures. E-government is about delivering citizen focused service, high quality service, continuously improving service, at reduced cost. It's about delivering change, and supporting the government's strategic direction. It isn't about the technology. It is about delivering high quality services. E-government is the mechanism to effect that change. E-Government service delivery is 24hours/7days all over the year. Interaction with the government electronically is cross-sectional. E-government models (are many) to some extent classifies service delivery into four types Government to Government (G2G), Government to Business (G2B), Government to Citizens (G2C), and Government to Employee (G2E). Mostly, E-government initiatives early stage start with one way interaction (Cataloging) where a government entity website becomes online present and supply information only – such as reports – and supply downloadable forms, then it develops to the second stage (Transaction) two way interaction services and forms online and working databases support online transactions. The third stage called (Vertical Integration) which link local systems to higher-level systems with similar functionalities. Finally, the fourth stage, named (Horizontal Integration) where systems of government organizations are integrated across different functions, which led to real one stop shopping for citizens. It is through these stages the financial management and accounting policies and systems work. That is the back office of the government organizations (offices) G2G and most of the management information systems and information technologies. Then it is at the front line between the government and citizens G2C and the government to business G2B where most of the procedural and transactional (e.g. financial and accounting) part of e-government is recognized.

Interview Schedule:

- Date : / /
- Time:
- Place:.....
-

1.BACKGROUND INFORMATION:

- Ministry of :
- Position :
- Service length:
- Academic Qualification:

.....

.....

- **Profession Affiliation:**

.....

.....

.....

.....

.....

Publications:

[illegible]

- Other activities:

[illegible]

2. Characteristics of Yemen Governmental Accounting and Information Systems – currently in place:

- The cabinet on August, 9.2005 - according to resolution No. 253 - approved the Finance Management Reform strategy, which covers four major reform areas:
1. *General budget reform – preparation, execution, and information systems.*
 2. *Enhancing control and financial accountability.*
 3. *Reform the system of bids and procurement, and*
 4. *Improving competence and skills.*

This involves the computerizing of the financial management and accounting works and integrating them across all government bodies for central and local governments using in that the Information Communication Technologies capabilities and building strong and reliable Information Technology and Information Systems – AFMIS – which go through stages and will take time to do that. The government intention is to take the steps forward and shift to full accrual basis of accounting and budgeting system gradually.

IN YOUR OPINION:

1. **What went wrong with current** existing financial and accounting system – especially the **cash basis accounting system** - of the government?
 - Does it provide enough information for government leadership for control and modern management?
 - Does it meet the requirements of the international donor and lending agencies?
 - Does it provide enough information on the government assets and liabilities?
 - Is such a system will work properly with decentralization of most of the central government works, which have been delegated to governorates and local authorities – In accordance with local authorities law?
 - Can the central government – Finance Ministry and Central Organization for Control and Audit (COCA) – monitor the work and performance of governorates and local authorities to achieve preset objectives and legally framed budget specifications?
 - Does the budget and final accounts of the government provide sufficient information?
 - Is there a need for more?
 - Some argue that government businesses more or less – in the information age – are similar to that of the business world please elaborate on this. Is it becoming so?
2. Do you think that government general financial managers, their assistants, and their departmental **staff are qualified** to work with the intended reform change of businesslike accounting and management approach?

3. **Why** such a **change** in financial and accounting policy and in government system is happening **now**?
 - **Is it worth doing** so?
 - Are the **government** – administration - leadership, directors, and **staff ready to** face such **change**?
4. Does such reform change have the **legal back up**?
 - Does this change **contradict** with **Yemen constitution**?
5. **Who initiated this reform change**?
 - How **important** is **this reform change** in general – for the country, the government administration, and the people of Yemen in the long term?
6. Are **top leadership** in the government and the other branches of the government – e.g. members of the parliament, officials, and technical and administrative staff – **aware of such change**?
 - Do they **support** such reform change?
 - Are they **willing to support** such reform change?
 - Are they going to be **able to work within the new setting** of the new system?
 - Are there **training programs** for them?
7. The **new systems** are **composed** of **many modern applications** and contain manuals that have many functions which will reduce the time and work need to generate reports and information designed to meet all levels of government administration. **Is there enough IT/IS professionals** to facilitate, run, maintain, train users, and upgrade the government Information Communications & Technology, Information Systems – in other words Information Technology Infrastructure?
 - **Is there a committee** for that?
 - Does the government have the **post of Chief Information Officer (CIO)**?
 - Does the government have a **clear short and long-term strategy** on this matter?
8. Now most of the government ministries agencies and departments have **web sites**. What level of **service delivery** they reach?
 - Are they ready to operate within the boundary of **fully functional E-Government** yet?
 - **When** do you expect this to happen? What are **expected benefits from** using **E-Government** especially by central government and agencies?
9. Does **E-government** will be **helpful in** promoting **government reform** especially the accounting and financial management one?
 - Do you think that fully functional **E-Government will promote democracy and citizen engagement** with government?
 - Is **E-Government** going to facilitate government work and **deliver it services** to all Yemen community on time at lowest possible cost – across all government agencies?
 - Is **E-Government** going to **promote transparency, efficiency, and effectiveness**?
 - Is this going to be an effective approach to **reduce or curb corruption**?

10. What are **needed steps** that Yemen government have to take **to accelerate and to put in place fully functional E-Government and sound accounting and financial management accounting system** that follow accrual basis of accounting and budgeting to achieve modern New Public Management and put Yemen foreword to meet the 21st century challenges?
11. What should the **least qualification** that government general financial managers, their deputies, department heads, and accountants have? Shall they be given special income or incentives that at least mach that given at the private sector? Could the government do that?
12. Does the government **currently** have **the capacity** to fully or partially **integrate electronically (G2G)** and carry over the entire daily work – and present a financial position at the end of the day?
 - If not so when such thing is, expect to take place?
13. Is the government **leadership fully committed to** such **reform** change?
 - How far has the **government** reached in **achieving** the millennium development goals and poverty reduction objectives?
14. Does the **reform change progress** goes in accordance with specifications and timetables set?
 - Are there any **delays** in such reform process?
 - If so, why, what is the **nature of each one**, and **why** this is **happening**?
15. Is there an argent **need to modify the current financial law No. 50** and its modifications?
 - What should be included **the new financial law**?
16. What should be the **specifications** that the **law on E-Government** has to have to achieve success?
17. Do you think that **Sana’a Technology City** is capable of providing **all support** needed in hardware, software, other technologies, **and training**?
 - Can the **Fiscal Institute (FI)** and the **National Institute of Administrative Science (NIAS)** provide the needed **training in accounting and management** that covers all aspects of reform change?
18. What **other comments and suggestions** – not addressed above - you think helpful in implementing accrual accounting system through E-Government enabling facilities?

3. Perceptions and Opinions on Governmental Accounting Innovations and Developments:

- **The Ministry of Finance initially adopted the International Monetary Fund (IMF) 2001 Government Finance Statistics (GFS) – which is an accrual-based system - under the budget reform and the time was set to present the budget under the new system starting from the fiscal year 2007.**

Then the Minister of Finance issued a decree on the adoption of the International Public Sector Accounting Standards (IPSAS) issued by the International Federation of Accountants (IFAC) Public Sector Committee. There are until now 26 standards issued under the accrual basis of accounting and only 1 standard under the cash-based accounting. IFAC support and encourage countries to adopt the accrual basis of accounting. IFAC also issues the cash basis accounting standard through which a gradual transition from cash to full accrual basis of accounting hopefully will be reached.

The adoption of accrual basis of accounting is led by New Zealand in the 80's followed by Australia, UK, ..., USA, and many other countries thereafter.

There are many studies highlighted so many factors that have to be considered when adopting and implementing accrual basis of accounting system. Some of which are concerned with environmental conditions, behavioral aspects, organizational conditions, expected barriers...etc.

Researchers and Academicians stressed the importance of meeting some conditions prior to the adoption of an accrual accounting system. This includes IT capabilities, staff training, legal support; progressives transition agenda, political understanding and administrative willingness and acceptance to carry out the reform, and other factors.

IN YOUR OPINION:

- 1. What are the conditions or factors that led the government to such accounting reform change? (i.e. Stimuli):**
 - Does this reform come out because of political competition among the Yemen political parties and pressure from the general public?
 - Does it happen because of the dominance of the General People's Congress Party?
 - Does it happen because of financial crisis?
 - Does it happen because of the government need to modernization and use of technology and technical and professional needs?
 - Does it happen because of the requirement of international donors and credit agencies as part of other reforms?
 - Does it happen because of other factors such as population size, globalization, curb of corruption, diversification of government resources, and or other factors?

2. What **influences** does each of the following have had on this accounting reform change to happen and on the development of Yemen governmental accounting?
 - Democracy requirements.
 - Politicians in the government.
 - Officials at the Ministry of Finance, Ministry of Industry & Commerce, Central Bank of Yemen, and COCA.
 - Private sector accounting profession.
 - Academicians at academic institutions and universities.
 - International organizations and agencies such as World Bank (WB), IMF, Organization for Economic Development and Co-operation (OECD), the United Nations (UN), etc.
 - The information age requirements – Technology developments, Information Communication Technology (ICT), E-Government.
 - Others please specify.

3. What **are the barriers that hinder reforming Yemen governmental accounting system** – the change from the cash basis accounting to the accrual basis of accounting? To what extent does each of the following barriers have had on this accounting reform change to not?
 - Yemen constitution and legal system.
 - The culture and tribal effects inherited of the government system.
 - Yemen government staff and parliament members' unfamiliarity with such accounting system and the use of technology tools.
 - Lack of political commitment and support.
 - Government salary and wages are low and will not support and encourage government staff to support the reform.
 - The government organizational and functional structure.
 - Government size and size of government work force.
 - Government staffs behavior.
 - Government staffs fear of accountability.
 - Government staffs are not qualified to meet the requirements of such change.
 - The expected cost of the change is comparatively high.
 - Lack of IT staff and professionals.
 - Lack of Information Technologies Infrastructures.
 - The country current ICT infrastructure and capacity.
 - Others please specify.

4. As part of the Public Financial Management Reform (PFMR) – under the Accounting and Financial Management Information System (AFMIS), project, which include the gradual transition to full accrual basis of accounting system.
 - What is **your opinion on such accounting change**?
 - Do you support of this accounting system change, If not why?
 - Do you think such a change will improve performance?
 - Is this change good for Yemen?
 - Do you think such change in accounting will improve government accountability, efficiency, and effectiveness?
 - Does this change go in line with Yemen general direction of democracy?

Does this change promote transparency in government?

Does this change lead to good governance?

Do you think the existing staff and facilities are sufficient? If not what is needed to be done?

Which system (cash basis or accrual basis) is best suited to working with E-Government environment?

- What are the **characteristics of the accrual basis of accounting system innovation**?

What are the **relative advantages** of the new accrual basis of accounting system?

- Does it provide relevant information on outputs results to match stated objectives?
- How do you see government provide balance sheet, income statement, statement of cash flow, and other statement annually? Is it better?
- Does it provide more information for better management decision making?
- Does it provide better solutions for the treatment of government capital assets?
- Does it provide useful information to compare costs and benefits across departments, units, and activities?
- Does it improve the government internal control and procedures?
- Does it provide better financial framework for managing government resources effectively and efficiently?
- Does it provide better information of transaction cost?
- Does it provide reliable information on the government financial health, financial position, and the sustainability of the government policy?
- Does it provide information that improves the credit rating by international agencies and financial institutions, which reduce the cost of borrowing?
- Does it provide good measures on operating performance?
- Does it provide useful information for better management?
- Does it provide information that improves the quality of government services?
- What other information does it provide that is mentioned above?

Is the new accounting system **compatible** with government culture, business processes and practices? Does it have any implications on the other systems of the government? Does it fit the government work?

How do you see the new approach of accrual accounting at the government is it going to be easy or **complex**? Please explain.

What is the level of **support** for this change the government leadership and management provide? Please explain.

Does the government have the **Information Technology Infrastructure** needed to facilitate the transition to accrual basis of accounting and to meet the conditions for E-Government environment?

Does the government have the human and technical capacity in accounting and Information Technology?

- Does the government have the human and technical capacity in accounting and in Information Technology to coop with such change?
- Is there clear strategy and long-term vision form IT?
- Does the government have the proper committees and task force units to carry over such change and maintain valid and reliable systems?
- Is there a posit for Chief Information Officer (CIO) at the government?

How do you describe the **government readiness for such a change** in governmental accounting and in IT and E-Government? Please explain.

How do you evaluate the role of the **change agents** and consultants in such change process? Please explain.

Can you describe the government staff reactions and **attitudes towards such accounting change**? Are they going to support the change or go against it? What are the arrangements that can be made to come over such resistance?

To what extent is the adoption and implementation of accrual basis of accounting in Yemen central government **feasible**? Please explain.

What are the expected **benefits** from **E-Government**? In addition, what do the thing the **enabling role E-Government** can play in the economic, administrative, and accounting and financial management reform process?

Do you have any comments or suggestions you see important to be mentioned that are not mentioned within this interview?

Thank you very much for your co-operation, time, help, and understanding.

A copy of this interview survey is given to respondents in Arabic Language.
