

COMPETENCIES AND PERSONAL QUALITIES REQUIRED OF  
INFORMATION PROFESSIONALS WORKING IN THE MALAYSIAN  
MULTIMEDIA SUPER CORRIDOR (MSC) STATUS COMPANIES

NORLIYA AHMAD KASSIM

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

FACULTY OF COMPUTER SCIENCE AND INFORMATION  
TECHNOLOGY  
UNIVERSITY OF MALAYA  
KUALA LUMPUR

JANUARY 2004



## ABSTRACT

This study investigates the employers' expectations of the key competencies (i.e., skills and knowledge) and personal qualities of information professionals working in the Multimedia Super Corridor (MSC) status companies in Malaysia. Fifty-seven competencies and 29 personal quality variables formed the basis of a survey instrument using a seven-point interval scale. Respondents were asked to indicate the level of importance on the required competencies and personal qualities. The instrument was mailed to the 360 MSC status companies. A total of 125 (35%) returned the questionnaire. Factor analysis, ANOVA, *t* test, Spearman's rho, mean ranking and descriptive statistics were used in the analysis of data using the SPSS version 10.0. The respondents were divided into three groups based on their core activities, namely: (a) System Integration (SI), (b) Creative Multimedia Cluster (CMC), and (c) Internet-based Business (IBB). Both the SI and the CMC group had a common agreement in rating *management skills* as the most important competency, while *works well with others in a team* was the most important personal quality. The IBB group had rated *knowledge management* as the most important competency while *responsible and reliable* was the most important personal quality. The results of the ANOVA revealed 10 of the 57 competencies showed statistically significant difference, while the *t* tests indicated four of the 57 competencies showed statistically significant difference at  $p = 0.05$  level. The results also revealed a highly significant relationship existed between the required personal qualities and competencies. The findings will be useful for curriculum planners involved in education and training of information professionals in the Faculties and Departments of Information Science and other IT-related faculties, employers of the MSC status companies, the Multimedia Development Corporation, other training companies, and students who aspire to work in the MSC organisations.

## ACKNOWLEDGEMENT

First of all, I wish to thank Allah, the Almighty, for giving me the mental, physical and spiritual strength, willpower, patient and determination to complete my studies and writing this thesis successfully.

I wish to express my greatest appreciation and sincere thanks to my supervisor, Associate Professor Dr. Diljit Singh for the supervision, guidance, encouragement and criticism throughout the course of this work.

My greatest appreciation and thanks also go to my Guru in statistics, Associate Professor Dr. Rasimah Aripin for advising me on how to handle the various parts of statistics, and my good friend Sarah Abedi Abdullah for voluntarily edited the thesis.

I am most grateful to Universiti Teknologi MARA (UiTM) for the generous financial support in awarding the scholarship, study allowances and full-pay study leave throughout the duration of my research.

I convey my deepest gratitude and love to my husband Mohd Sheriff for being my supporter, facilitator, adviser and mentor of any accomplishments I have attained, and to my adorable children, Amir Sheriff, the twins Omar Sheriff and Fatin Hani, and Aida Amirah who always make my life happy and beautiful.

My greatest gratitude also goes to my mother Zaleha, and my brothers and sisters for their endless prayers that I accomplished the study successfully.

Finally, I also wish to convey my special thanks to all my close friends and colleagues for their sincere help and endless support in achieving this accomplishment.

NORLIYA AHMAD KASSIM

DEDICATED  
TO  
The Memory of My Father

“My LORD! Increase me in knowledge”

Quran, 20: 114

## TABLE OF CONTENTS

	<b>Pages</b>
ABSTRACT	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	xi
 CHAPTER 1: INTRODUCTION	
1.1 Background	1
1.2 The Multimedia Super Corridor (MSC)	3
1.2.1 The MSC Status Companies	5
1.2.2 Shortage of Knowledge Workers	7
1.3 Education for Information Professionals	8
1.4 Statement of the Problem	11
1.5 Purpose of the Study	14
1.6 Objectives	15
1.7 Research Questions	16
1.8 Hypotheses	16
1.9 Significance of the Study	18
1.10 Rationale	20
1.11 Scope of the Study	21
1.12 Limitations of the Study	21
1.13 Assumptions of the Study	22
1.14 Outline of the Thesis	23
 CHAPTER 2: LITERATURE REVIEW	
2.1 Introduction	24
2.2 Definitions of Information Professionals	25
2.2.1 Knowledge Workers	28
2.2.2 Shortage of Knowledge Workers	30
2.2.3 Roles of Institutions of Higher Learning for the MSC	32
2.3 Employability Skills	36
2.4 Competencies for Information Professionals	40
2.4.1 Definitions of Competencies	40
2.4.2 Competencies Identification and Validation Studies	44
2.4.3 Malaysian and Asian Studies on Competencies	45
2.4.4 Information Technology-Related Competencies	48
2.4.5 Communication Skills	53
2.4.6 Management Skills	58
2.4.7 Library and Information-Related Competencies	60

2.5	Personality Traits of Information Professionals	64
2.5.1	Definition of Personality Trait	64
2.5.2	Traits of Information Professionals	68
2.6	Roles for future Information Professionals	79
2.6.1	Roles as Trainers	79
2.6.2	Roles in Internet and Information Technology	80
2.6.3	Roles in Information Management	85
2.6.4	Roles in Knowledge Management	86
2.6.5	New Titles for Information Professionals	88
2.7	Conclusion	91
CHAPTER 3: METHODOLOGY		
3.1	Introduction	97
3.2	Definitions	97
3.3	Research Design	100
3.4	Population	105
3.5	Data Collection Method	105
3.6	The Questionnaire	107
3.6.1	Questionnaire Design	108
3.6.2	Contents of the Questionnaire	111
3.6.3	Pre-test	114
3.6.4	Interview	115
3.6.5	Validation	117
3.6.6	Pilot study	118
3.6.7	Empirical Survey	119
3.6.8	Reliability Test	120
3.7	Data Analysis	122
3.7.1	Factor Analysis	123
3.7.2	Descriptive and Inferential Statistical Analysis	125
3.8	Conclusion	127
CHAPTER 4: DATA ANALYSIS		
4.1	Testing the Questionnaire for Reliability and Factor Analysis	128
4.1.1	Reliability Test	128
4.1.2	Factor Analysis	129
4.2	Profiles of Respondents	134
4.2.1	Company Information	134
4.2.2	Employee Information	137
4.3	Information Technology-Related Competencies Rating by Company Groupings	140
4.4	Multimedia-Related Competencies Ratings by Company Groupings	143
4.5	Knowledge Management Competencies Ratings by Company Groupings	145
4.6	Other Supporting Skills Ratings by Company Groupings	147

4.6.1	Required Management Skills	148
4.6.2	Required Interpersonal and Communication Skills	149
4.6.3	Required Entrepreneurial Skills	151
4.6.4	Required Research Skills	153
4.7	Overall Major Skills and Competencies Ratings by Company Groupings	154
4.8	Required Personality Traits by Company Groupings	156
4.9	Inferential Statistical Analysis	159
4.10	Testing Hypotheses	161
4.10.1	ANOVA Test on Required Information Technology- Related Competencies Ratings by Company Groupings	162
4.10.2	ANOVA Test on Required Multimedia-Related Competencies Ratings by Company Groupings	165
4.10.3	ANOVA Test on Required Knowledge Management Competencies Ratings by Company Groupings	166
4.10.4	ANOVA Test on Required Management Skills Ratings by Company Groupings	167
4.10.5	ANOVA Test on Required Interpersonal and Communication Skills Ratings by Company Groupings	168
4.10.6	ANOVA Test on Required Entrepreneurial Skills Ratings by Company Groupings	169
4.10.7	ANOVA Test on Required Research Skills Ratings by Company Groupings	170
4.10.8	ANOVA Test on Required Major Skills and Competencies Ratings by Company Groupings	171
4.11	Testing Rating Differences Between Malaysian and Foreign Shareholder Group of Companies	173
4.11.1	Perception on Required Information Technology- Related Competencies	174
4.11.2	Perception on Required Multimedia-Related Competencies	175
4.11.3	Perception on Required Knowledge Management Competencies	175
4.11.4	Perception on Required Management Skills	176
4.11.5	Perception on Required Interpersonal and Communication Skills	176
4.11.6	Perception on Required Entrepreneurial Skills	177
4.11.7	Perception on Required Research Skills	177
4.11.8	Perception on Required Major Skills and Competencies	179
4.12	Relationships Between Required Personal Qualities and Competencies	181
4.12.1	Personal Qualities and Information Technology- Related Competencies	183
4.12.2	Personal Qualities and Multimedia-Related Competencies	185
4.12.3	Personal Qualities and Knowledge Management Competencies	188

4.12.4 Personal Qualities and Management Skills	190
4.12.5 Personal Qualities and Interpersonal and Communication Skills	192
4.12.6 Personal Qualities and Entrepreneurial Skills	193
4.12.7 Personal Qualities and Research Skills	195
4.13 Conclusion	197
<b>CHAPTER 5: SUMMARY, DISCUSSIONS AND CONCLUSION</b>	
5.1 Summary	199
5.2 Key Competencies of Information Professionals	203
5.2.1 Requirements in Information Technology-Related Competencies	203
5.2.2 Requirements in Multimedia-Related Competencies	204
5.2.3 Requirements in Knowledge Management Competencies	205
5.2.4 Requirements in Management Skills	207
5.2.5 Requirements in Interpersonal and Communication Skills	207
5.2.6 Requirements in Entrepreneurial Skills	209
5.2.7 Requirements in Research Skills	210
5.2.8 Requirements in Major Overall Competencies and skills	210
5.3 Key Personal Qualities in Information Professionals	212
5.4 ANOVA Tests on the Competency Ratings among Company Groupings	215
5.5 <i>T</i> Tests on the Competency Ratings Between Malaysian and Foreign Shareholder Groups of Companies	218
5.6 Analysis on Relationships	221
5.7 Suggestions	223
5.7.1 Reevaluation of Educational Curriculum for Information Professionals	224
5.7.2 Innovative Curriculum Design at National and Faculty Level	224
5.7.3 Curriculum Revision Update	226
5.7.4 Developing a National Competency Model	228
5.7.5 Compulsory Subjects Required by Employers	228
5.7.6 Smart Partnership Between Faculties and Industry	234
5.7.7 Pool of Skilled and Talented Lecturers	235
5.7.8 Continuous Competency and Validation Process	236
5.8 Direction for Future Studies	236
5.9 Conclusion	237
<b>APPENDIX A Supervisor's Letter to Respondents</b>	243
<b>APPENDIX B Cover Letter for the Questionnaire</b>	245
<b>APPENDIX C The Questionnaire</b>	247
<b>REFERENCES</b>	258



## LIST OF TABLES

		Pages
Table 2.1	Summary of Literature Review	92
Table 4.1	Reliability Coefficients (Cronbach's alpha) Per Categorical Variables	128
Table 4.2	The Eigenvalues and Factor Structure of Personal Qualities	130
Table 4.3	General Information about the MSC Status Companies ( $n=125$ )	135
Table 4.4	Personnel Information	138
Table 4.5	Name of Post	139
Table 4.6	Distribution of Post by Level of Management	140
Table 4.7	Mean Scores on Information Technology-Related Competencies Ratings by Company Groupings	142
Table 4.8	Mean Scores on Multimedia-Related Competencies Ratings by Company Groupings	144
Table 4.9	Mean Scores on Knowledge Management Competencies Ratings by Company Groupings	146
Table 4.10	Mean Scores on Management Skills Ratings by Company Groupings	148
Table 4.11	Mean Scores on Interpersonal and Communication Skills Ratings by Company Groupings	150
Table 4.12	Mean Scores on Entrepreneurial Skills Ratings by Company Groupings	152
Table 4.13	Mean Scores on Research Skills Ratings by Company Groupings	153
Table 4.14	Mean Scores on Required Major Skills and Competency Ratings by Company Groupings	155
Table 4.15	Mean Scores on Required Personal Qualities Ratings by Company Groupings	158
Table 4.16	ANOVA Test on Required Information Technology-Related Competencies Ratings by Company Groupings	164
Table 4.17	ANOVA Test on Required Multimedia-Related Competencies Ratings by Company Groupings	166
Table 4.18	ANOVA Test on Required Management Skills Ratings by Company Groupings	167
Table 4.19	ANOVA Test on Required Interpersonal and Communications Skills Ratings by Company Groupings	169
Table 4.20	ANOVA Test on Required Research Skills Ratings by Company Groupings	171
Table 4.21	ANOVA Test on Required Major Skills and Competencies Ratings by Company Groupings	172
Table 4.22	<i>T</i> Test on Required Interpersonal and Communication Skills Between Malaysian and Foreign Shareholder Groups of Companies	177
Table 4.23	<i>T</i> Test on Required Research Skills Between Malaysian and Foreign Shareholder Group of Companies	178
Table 4.24	<i>T</i> Test on Required Major Skills and Competencies Between Malaysian and Foreign Shareholder	180

	Group of Companies	
Table 4.25	Remarks on the Degree of Correlation Coefficient	183
Table 4.26	Correlation Between Various Personal Qualities and Information Technology-Related Competencies	185
Table 4.27	Correlation Between Various Personal Qualities and Multimedia-Related Competencies	187
Table 4.28	Correlation Between Various Personal Qualities and Knowledge Management Competencies	189
Table 4.29	Correlation Between Various Personal Qualities and Management Skills	191
Table 4.30	Correlation Between Various Personal Qualities and Interpersonal and Communication Skills	193
Table 4.31	Correlation Between Various Personal Qualities and Entrepreneurial Skills	195
Table 4.32	Correlation Between Various Personal Qualities and Research Skills	196
Table 5.1	Key Competencies Tested Significant Using ANOVA	218
Table 5.2	Summary of Results of Hypotheses Testing	222

## LIST OF FIGURES

Figure		Pages
3.1	Competency Concept Model	107
4.1	The Scree Test for 29 Personal Qualities Variables	134
5.1	Key Skills and Competencies for Information Professionals	214
5.2	Key Personal Qualities for Information Professionals	215
5.3	A Holistic Model of Manpower Creation of Knowledge and Skills	226
5.4	A Conceptual Model of Required Key Competencies and the Relationships with Personal Qualities of Information Professionals of the MSC Status Companies	239