

IT AND PRODUCTIVITY IN MALAYSIA: FIRM-LEVEL EVIDENCE

By

**Nor Hafizah bt. Mohd. Arop
EGA 98001**

**A Research Paper Submitted to the Faculty of Economics and
Administration in Partial Fulfillment of the Requirement for the Degree
Master in Economics.**

October 2001

Perpustakaan Universiti Malaya



A511375354

Table Of Content		i
List of Diagrams		iii
List of Tables		iii
Abstract		iv
Acknowledgements		v
		page
1	THE PRODUCTIVITY FRAMEWORK	1
	1.1 The Productivity Scenario	1
	1.2 Productivity Analysis in Malaysia	4
	1.3 The Framework	6
	1.4 Scope of Study	9
	1.5 Research Approach and Methodology	10
2	LINKING PRODUCTIVITY AND INFORMATION TECHNOLOGY	13
	2.1 Productivity and Information Technology	13
	2.2 Measuring Returns from IT Investment	20
3	IT IMPLEMENTATION	27
	3.1 IT Implementation in Asia	27
	3.1.1 Case Studies of IT Application in Manufacturing Sector	27
	3.1.2 IT Application in the Malaysian Industries	30
	3.2 The Productivity Paradox	36
4	CASE STUDY	41
	4.1 Manufacturing Sector	41
	4.1.1 Background of Company	41
	4.1.2 IT Implementation	41
	4.1.3 Impact of IT Implementation	43
	4.1.4 Productivity Analysis	45
	4.2 Service Sector	47
	4.2.1 Background of Company	47
	4.2.2 IT Implementation	47
	4.2.3 Impact of IT Implementation	49
	4.2.4 Productivity Analysis	51
	4.3 A Review of Performance	53
5	CONCLUSION	54
	5.1 The Importance of Measuring IT Performance	54
	5.2 The Role of IT in Total Factor Productivity	57
	5.3 Shortcomings of the Study	64

Appendix 1	General Linkages Among the Various Productivity Ratios	65
Appendix 2	Sample of Questionnaire	66
Bibliography		69

List of Diagrams

Diagram	Page
1 The Productivity Framework	8
2 The Relationship between IT and Productivity	15
3 Finding IT Value – A Cost/Contribution Framework	22
4 Sources of Technical Progress	59
5 Contribution of CI and TFP to Higher Productivity, 1990-2000	60

List Of Tables

Table	Page
1 Extent of IT Usage in Administrative Activities	32
2 Extent of IT Usage in Supporting and Primary Activities	33
3 Problems in IT Implementation	36
4 Benefits in IT Implementation	37
5 Productivity Indicators of M1 in 1998	48
6 Productivity Indicators of S1 in 1997	54

ABSTRACT

The research paper would attempt to measure the emerging digital economy, in terms of analysing the impact of information technology on the productivity of organisations. Specifically, it would look into the aspect of productivity measurement, albeit indirect measures, whether the investment in IT yields the desired effect on productivity performance. Several case studies that have been conducted, related to the subject matter, are examined to look at the success stories of IT implementations.

The paper would also analyse the phenomenon of "productivity paradox", the missing linkage between IT investment productivity performance. Finally, the significance of IT, as a source of technical progress, in enhancing the Total Factor Productivity, is also addressed.

ACKNOWLEDGEMENTS

I wish to record my appreciation to Professor Madya Dr. Idris Jajri, my supervisor, for his valuable comments and insights towards completing this research paper. I would also like to extend my appreciation to the management of the National Productivity Corporation (NPC) for their support in giving me the opportunity to pursue my master's degree. For my friends and colleagues, my deepest gratitude for your direct and indirect contributions.

To my dearest husband, Abdul Razak Don, thank you for your endless moral support and understanding in allowing me to complete this paper. To my three children, Ashraf, Amalia, and Arina, this is a benchmark for you to pursue learning to the highest level possible. To my parents and siblings, I owe a lot to all of you for your encouragement to ensure that I could complete this research paper. Last but not least, my best friend, Ogie, thank you for your encouragement.

Nor Hafizah bt. Mohd. Arop

October 2001