

**The Use of ICT Tools for decision making within private
business organizations in UUM**

**By
HAETM A.A. EAMEE**

Theses submitted to the centre for graduate studies, University Utara Malaysia, in
fulfillment of the requirement for Degree of Master of Science Management

DECLARATION

I declare that all the work described in this dissertation was undertaken by myself (unless otherwise acknowledged in the text) and that none of the work has been previously submitted for any academic degree. All sources of quoted information have been acknowledged through references.

Haetm

October.2008



KOLEJ PERNIAGAAN
(College of Business)
Universiti Utara Malaysia

PERAKUAN KERJA KERTAS PROJEK
(Certification of Project Paper)

Saya, mengaku bertandatangan, memperakukan bahawa
(I, the undersigned, certify that)

HAETM A.A. EAMEE (800027)

Calon untuk Ijazah Sarjana
(Candidate for the degree of) **MASTER OF SCIENCE (MANAGEMENT)**

telah mengemukakan kertas projek yang bertajuk
(has presented his/her project paper of the following title)

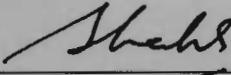
THE USE OF ICT TOOLS FOR DECISION MAKING WITHIN PRIVATE BUSINESS
ORGANIZATIONS IN UUM

Seperti yang tercatat di muka surat tajuk dan kulit kertas project
(as it appears on the title page and front cover of the project paper)

Bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan.

(that the project paper acceptable in the form and content and that a satisfactory knowledge of the field is covered by the project paper).

Nama Penyelia : **MR. SHAHMIR ABDULLAH**
(Name of Supervisor)

Tandatangan : 
(Signature)

Tarikh : **13 NOVEMBER 2008**
(Date)

PERMISSION TO USE

In presenting this thesis in fulfillment of the requirements for a postgraduate degree from Universiti Utara Malaysia (UUM). I hereby agree that University Library may make it unreservedly available for inspection. I further agree that permission for copy of thesis in any manner, in whole or in part, for scholarly purposes may be granted by supervisor **MR. Shahmir Abdullah**. It is understood that any copying or publishing or using of this of this thesis or parts thereof for financial gain shall not be allowed without any written permission. It is also understood that d recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from this thesis.

Requests for the grant permission to copy or to make other use of material in this thesis, in whole or in part should be addressed to

Dean (Research and post-Graduate)

College of Business

University Utara Malaysia

06010 Sintok

Kedah Darul Aman

ABSTRACT

The Use of ICT Tools for Decision- Making within Private Business Organization in the UUM obtained the easy way for the different organizations working with UUM. However the ICT tools among the organizations support the other integrations with the external and the internal integrations, such as the decision making tools, that obtain the flexible process during the organization progress, otherwise the study try to discover the various patterns of these integrations. Furthermore, the Use of ICT Tools for Decision- Making within Private Business Organizations in UUM implemented in these organizations to evaluate the usefulness of these tools.

ACKNOWLEDGEMENT

Alhamdulihhah, all praise to Allah for the strength and endurance provided to me to complete the thesis. Working for Msc degree generally and this dissertation specifically is no doubt a challenging and enduring journey that I will cherish all my life. My excessive gratefulness is to my mother, and my father, who bless me all the time and work for my best since I was born.

Firstly and foremost, I would to render my utmost appreciation and to my supervisor, **MR. Shahmir Abdullah**, for his earnest guidance in imparting his knowledge to his students. Without his understanding, consideration and untiring advice, this dissertation would not have been completed successfully.

I also would like to express my grateful appreciation to my other lecturer whom have imparted me valuable knowledge and know-how during my studies for Msc program.

I am blessed, thankful and appreciate of what I conquered. To all those people, thank you so much.

Haetm A.A.Eamee

TABLE OF CONTENTES

Cover	i
Declaration.....	ii
Permission to Use.....	iii
Abstract.....	iv
Acknowledgment.....	v
Table of Contents.....	vi
List of Table.....	viii
List of Figure.....	ix

CHAPTER ONE: INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction and Background of Study.....	1
1.2 Problem Statement.....	5
1.3 Research Objective.....	6
1.4 Research Questions.....	6
1.5 Significance of the Study.....	7

CHAPTER TWO: LITERATURE REVIEW

2.1 Information and Communication Technology.....	9
2.1.1 Types of Computer.....	10
2.1.2 Function of ICT (for communication use)	10
2.1.3 Impact of ICT.....	14
2.2 Decision Making	18

2.3	ICT in Decision Making	21
2.4	Decision Support System (DSS).....	23
2.5	Group Decision Support System (GDSS)	28
2.6	Factors Influencing ICT Use in Decision Making.....	31
2.6.1	Organizational Factors.....	31
2.6.2	Technical Factors.....	33
2.6.3	Process Factors.....	34
2.7	Summary	36
2.8	Hypothesis	37
2.9	Theoretical Framework.....	38

CHAPTER THREE: RESEARCH METHODOLOGY

3.1	Introduction	39
3.2	Research Design	40
3.3	Sampling Techniques	42
3.4	Data Analysis	42

CHAPTER FOUR: ANALYSIS AND RESULTS

4.1	Introduction.....	43
4.2	Data Analysis.....	45
4.2.1	Frequency Analysis.....	45
4.2.2	T-Test.....	47
4.2.3	Chi-Square Test.....	49
4.3	Testing Data.....	49

4.3.1	Reliability Analysis.....	49
4.3.1.1	Reliability of Organizational Factors (IV) =0.357.....	50
4.3.1.2	Reliability of Technical Factors (IV2) =0.601.....	51
4.3.1.3	Reliability of Process Factors (IV3) =0.455.....	52
4.3.1.4	Reliability of ICT Tools in Decision Making (DV) 0.539.....	53
4.4	Pearson Correlation.....	54
4.5	Regression (Multiple)	55
4.5.1	Regression Between Organization Factors (IV1) and ICT tools in Decision Making (DV).....	56
4.5.2	Regression Between Technical Factors (IV2) and ICT tools in Decision Making (DV).....	58
4.5.3	Regression Between Process Factors (IV3) and ICT tools in Decision Making (DV).....	60

CHAPTER FIVE: CONCLUSION

5.1	Introduction.....	62
5.2	Research Summary.....	63
5.3	Research Implication.....	65
5.3.1	Implication.....	65
5.3.2	Academic Implications.....	66
5.4	Discussion.....	68
5.5	Conclusion.....	70

List of Tables

Table 4.1: Questionnaire Criteria.....	44
Table 4.2: Descriptive Statistics.....	45
Table 4.3: One-Simple Test.....	48
Table 4.4: Reliability of Organizational Factors	50
Table 4.5: Item-Total Statistics of Organizational Factors	51
Table 4.6: Item-Total Statistics of Technical Factors.....	51
Table 4.7: Reliability of Process Factors.....	52
Table 4.8: Item-Total Statistics of Process Factors.....	52
Table 4.9: Reliability of ICT Tools in Decision Making.....	53
Table 4.10: Item-Total Statistics of ICT Tools in Decision Making.....	53
Table 4.11: Pearson Correlation between the Variables.....	54
Table 4.12: Multiple Regression Analysis Organization Factors (IV1).....	56
Table 4.12: Model Summary of Multiple Regressions Analysis Organization Factors....	57
Table 4.13: ANOVA (b) of Multiple Regressions Analysis Organization Factors.....	57
Table 4.14: Multiple Regression Analysis Technical Factors (IV2).....	58
Table 4.15: Model Summary Multiple Regression Analysis Technical Factors (IV2)....	59
Table 4.16: ANOVA (b) of Analysis Technical Factors (IV2).....	59
Table 4.17: Multiple Regression Analysis Process Factors (IV3).....	60
Table 4.18: Model Summary of Multiple Regression Analysis Process Factors (IV3)...	60
Table 4.19: ANOVA (b) of Process Factors (IV3).....	61

List of Figures

Figure 2.1 Twins pyramids of organizational structure and information system usage.....	17
Figure 2.2 These phases, called intelligence, design, and choice.....	18

CHAPTER ONE

INTRODUCTION

1.1 Introduction and Background of the Study

The development in the ICT sector has made it easier and cheaper to store, reuse and share valuable information than to have to reinvent it as it is needed (Hedelin and Allwood, 2002). Issues related with ICT have been extensively researched over recent years and positive impacts of using ICT is undoable agreed by all. ICT are shaping many industries, often by reshaping how information is shared. Information intensive industries such as banking and finance by their nature have the greatest impacts due to advancement in ICT. ICT for decision making are now a day widely used by organizations both in public and private sectors. Here in this proposed research we will try to find out the relativity of using of the information and communication technology (ICT) tools for decision making in the private business organization working within UUM.

It has been 50 years since Malaysia broke free from the claws of colonialism. The journey of progress and development relatively smooth despite some bumpy rides here and there, which are not uncommon. Compared to many countries, Malaysia is better off

The contents of
the thesis is for
internal user
only

REFERENCES

Eighth Malaysia Plan (2001-2005) .A Profile of Malaysian Chief Executive Officers' Use of Information Technology to Support Decision Making. Paper presented at the 7th Australian Conference on Information Systems, Australian

Aiken, M., Hawley, D., & Zhang, W. (1994). Increasing Meeting Efficiency with a GDSS. *Industrial Management Systems*, 94(8), 13-16.

Ang, C. L., Davies, M. A., & Finlay, P. N. (2001a). An empirical model of IT usage in the Malaysian public sector. *Journal of Strategic Information Systems*(10), 159-174.

Bruggen, G. H. V., Smidts, A., & Werenga, B. (2001). The powerful triangle of marketing data, managerial judgement, and marketing management support systems. *European Journal of Marketing*, 35(7/8), 796-816.

Bryman, A. (1996). *Quantity and Quality in Social Research*, Contemporary Social Research: 18. Routledge, 31-47.

Donnelly, M., Dalrymple, J. F., & Hollingsworth, I. P. (1994). The use and development of information systems and technology in Scottish Local Government. *International Journal of Public Sector Management*, 7(3), 4-15.

Emory, C. W., & Cooper, D. R. (1991). *Business Research Method* (4th ed.): IRWIN,332-339.

Feraud, G. J. S. (1998). Research paper: improving strategic decision making in logistics information management – a framework. *Logistics Information Management*, 11(4), 232-243.

Hedelin, L., & Allwood, C. M. (2002). IT and strategic decision making. *Industrial Management & Data Systems*, 102(3), 125-139.

Laver, M. (1989). *Information Technology: agent of change* (1st ed.): Cambridge University Press, 30-31.

Liang, T. P., & Hung, S. Y. (1997). DSS and EIS applications in Taiwan. *Information Technology & People*, 10(4), 303-315.

Mallach, E. G. (2000). *Decision Support and Data Warehouse Systems*: McGraw-Hill International Editions.

Nord, J. H., & Nord, G. D. (1995). Why managers use executive support systems: selecting and using information technology for strategic advantage. *Industrial*

Management & Data Systems, 95(9), 24-28.

Pereira, R. E. (1999). Factors influencing consumer perceptions of web-based decision support systems. *Logistics Information Management*, 12(1/2), 157-181.

Pinkerton, J. (1990). *Understanding Information Technology, Basic Terminology and Practice* (1st ed.): Ellis Horwood.

Sekaran, U. (1992). *Instructor's Resource Guide with Test Questions and Transparency Masters* (2nd ed.): John Wiley and Sons.

Sekaran, U. (2000). *Research Methods for Business: A Skill Building Approach* (3rd ed.): John Wiley and Sons.

Wang, Z. M. (1994). Organizational Decision Making and Competence Utilization among Chinese Managers. *Journal of Managerial Psychology*, 9(7), 17-24.

Crowston, 2001, the infraction of the organization behavior, retrieved on 3 Oct 2008.

Tricker, R.I. (1992). *The Management of Organizational Knowledge*, in *Information Systems Research: Issues, Methods and Practical Guidelines*, Galliers, R.D. (ed.), Oxford: Blackwell Scientific.

Utusan Malaysia, (2002). "In Search of a Paradigm for the Discipline of Information Systems," *Future Computer Systems*, Vol. 1, No. 1, pp. 71-97.

Buttery .*Varieties of Quafitative Research*, Beverly Hills, CA: Sage Publications.

Marco, Sorrentina & Carignani, (1999).*The Fund Theory of Accounting and Its Implications for Financial Reports*, The University of Chicago Press.

Johannessen, Olaisen & Olsen, (1999). "MIS Research: A Profile of Leading Journals and Universities," *DATA BASE for Advances in Information Systems*, Vol. 16, No. 1, pp. 3-14.

Nath (2000). *Strategic Planning for Information Systems*, John Wiley & Sons.

Harrison, (1996). "Business School Deans Assess the Current State of the IS Academic Field," *CA/S*, Vol. 4, Article 4, Sept.

Udo, (2000). "Towards a Theory of Artifacts: A Paradigmatic Base for Information Systems Research," *Journal of Information Systems*, pp. 3-19.

Mescon, B., and Thill, (2002)."CASE Tools as Organizational Change: Investigating Incremental and Radical Change in Systems Development," *MIS Quarterly*, Vol. 17, No. 3.

Quibria, (2002).*Management Information Systems: Strategy and Action*, McGraw-Hill Intl.

Cardinali, (1998). "Barriers to the Advance of Organizational Science: Paradigm Development as an Independent Variable," *Academy of Management Review*, Vol. 18, No. 4, pp. 599-620.

Morrison, (2001).*Management Education and Development: Drift or Thrust into the 21st Century?*, McGraw-Hill.

Bruggen , D., and Williams, D. (2001). "The Nature of Research: Qualitative or Quantitative, Narrative or Paradigmatic?" *Information Systems Journal*, Vol. 6, pp. 131-146.

Othman, U., Redman, T.C. (1996). *Data Quality for the Information Age*, Boston, MA: Artech House.

Keen, I (1995). *The Knowledge-Creating Company*, Oxford: Oxford University Press.

Nielsen (2000). "CASE Tools as Organizational Change: Investigating Incremental and Radical Change in Systems Development," *MIS Quarterly*, Vol. 17, No. 3.

Ramsay and Nielsen, (2000)."The Best Graduate Schools," *U.S. News & World Report*, April 29, pp. 62-69.