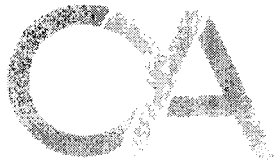


**AN EMPIRICAL INVESTIGATION ON THE  
ACCEPTANCE AND ADOPTION OF E-COMMERCE  
AMONG INTERNET USERS IN MALAYSIA**

**SHAI DATUL AK'MAR BINTI YAHYA**

**Dissertation Submitted to the Graduate School of Business  
Universiti Utara Malaysia  
in Fulfillment of the Requirement for the  
Degree Master of Science in Management  
2011**



**Othman Yeop Abdullah**  
**GRADUATE SCHOOL OF BUSINESS**  
**UNIVERSITI UTARA MALAYSIA**  
Cultivating Productivity, Building the Future, Sharing Solutions

**PERAKUAN KERJA KERTAS PROJEK**  
*(Certification of Project Paper)*

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

**SHAI DATUL AK'MAR BINTI YAHYA (805514)**

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)*

**AN EMPIRICAL INVESTIGATION ON THE ACCEPTANCE  
AND ADOPTION OF E-COMMERCE AMONG INTERNET USERS IN MALAYSIA**

Seperti yang tercatat di muka surat tajuk dan kulit kertas projek  
*(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 : **PROF. DR AJAY CHAUHAN**  
*(Name of Supervisor)*

Tandatangan :   
*(Signature)*

**DR AJAY CHAUHAN**  
**PROFESSOR**  
College of Business  
Universiti Utara Malaysia  
06010 Sintok, Kedah, Malaysia

Tarikh : **16 JUNE 2011**  
*(Date)*

## **PERMISSION TO USE**

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written permission except as provided below:

- 1) Any material contained in our derived from this unpublished research may only be used by others in their writing with due acknowledgement.
- 2) UUM or its Library will have the right to make and transmit copies (print or electronic) for institutional and academic purposes.
- 3) The UUM library will have the right to make, store in a retrieval system and supply copies of this unpublished research if requested by other universities and research libraries.

Affirmed by: Shaidatul Ak'mar Binti Yahya

## **ABSTRACT**

This study examines the effect of three factors on the acceptance and adoption of electronic commerce among internet user in Malaysia. A review of the literature shows that owner characteristics such as lack of knowledge and perceived lack of trust are significant inhibitors while environment characteristics such as government support are significant motivators of electronic commerce in Malaysia. A questionnaire survey was conducted in 150 respondents of internet user in Kuala Lumpur. A total of 108 valid responses were obtained. Stratified random sampling was adopted over other techniques to enhance representativeness. Data analysis shows that significant relationship exists between each of the three variables and electronic commerce adoption among internet user in Kuala Lumpur. Security issues emerged as the most important factor influence the acceptance and adoption of e-commerce. This factor is followed by government support and knowledge in information technology.

**Keywords:** electronic commerce, information technology, internet user, security

## **ABSTRAK**

Penyelidikan ini menguji pengaruh tiga faktor pada penerimaan, dan penggunaan perdagangan elektronik diantara pengguna internet di Malaysia. Sebuah kajian literatur menunjukkan bahawa ciri-ciri pemilik seperti kurangnya pengetahuan dan dirasa kurang kepercayaan adalah inhibitor signifikan sedangkan ciri-ciri persekitaran seperti sokongan kerajaan adalah motivator signifikan perdagangan elektronik di Malaysia. Sebuah tinjauan soal selidik ini dilakukan di 150 responden pengguna internet di Kuala Lumpur. Sebanyak 108 tanggapan yang sah diperolehi. Stratified random sampling diadopsi dari teknik lain untuk meningkatkan perwakilan yang sempurna. Analisis data menunjukkan bahawa ada hubungan yang signifikan antara masing-masing dari tiga pembolehubah dan adopsi perdagangan elektronik antara pengguna internet di Kuala Lumpur. Masalah keselamatan muncul sebagai faktor yang mempengaruhi yang paling penting penerimaan dan pelaksanaan e-dagang. Faktor ini diikuti dengan sokongan kerajaan dan pengetahuan di bidang teknologi maklumat.

Kata kunci: perdagangan elektronik, teknologi maklumat, pengguna internet, keselamatan

## **ACKNOWLEDGMENT**

In the end of this research, I would like to thank Allah S.W.T for the blessings that been bestowed upon me and also for giving me the strength and ability to complete the thesis successfully. First and foremost, I would like to extend my greatest gratitude to my family for their constant support and encouragement in completing this research.

I am deeply in debt to my supervisor, Prof. Dr. Ajay Chauhan for his patience, understanding, assistance and his constructive criticism in preparing dissertation. Thank you for being such an advisor.

And to all my colleagues, classmate and relatives: thank you for being such a great bunch. There are no others I would rather spend my time with more than all of you.

**WITH ALL OF THE SINCERITY THAT I POSSESS, THANK YOU**

Abstract	i
Abstrak	ii
Acknowledgement	iii
Table of Contents	iv
List of Tables	vi
List of Figures	viii
<b>Chapter 1: Introduction</b>	
1.1 Introduction	1
1.2 Background of the study	4
1.3 An Overview of E-commerce Guidelines in Malaysia	5
1.4 Problem Statement	6
1.5 Purpose of Study	7
1.6 Research Objectives	8
1.7 Significance of the Study	8
1.8 Hypothesis	9
1.9 Scope and Limitation of the Study	10
1.10 Definition of terms	11
1.10.1 Electronic Commerce	11
1.10.2 Security	12
1.10.3 Internet	12
1.11 Organization of the Thesis	13
<b>Chapter 2: Literature Review</b>	
2.1 Introduction	14
2.2 Literature Review	14
2.3 E-commerce Overview	18
2.4 Applications of Electronic-commerce	20
2.5 IT Knowledge	21
2.6 Security	22
2.7 Government Support	23
2.8 Acceptance of E-Commerce	24
2.9 Adoption of E-commerce	26
2.10 Factors that Affect E-Commerce Adoption on SME's	28

Chapter 3: Research Methodology	
3.1 Introduction	30
3.2 Operational Variables	30
3.3 Research Framework	30
3.4 Research Design	32
3.5 The Data Collection	32
3.5.1 Questionnaire	33
3.6 Population	33
3.7 Sampling Techniques	34
3.8 Sampling Size	34
3.9 Procedure for Analysis of Data	35
3.10 Data Analysis	35
3.10.1 Frequency Distribution	35
3.10.2 Reliability/Validity	36
3.10.3 Descriptive statistic	36
3.10.4 Correlation statistic	37
3.10.5 Chi square / Cross tabulation	37
3.10.6 Regression Analysis	37
Chapter 4: Research Findings and Analysis	
4.1 Introduction	30
4.2 Reliability	39
4.3 Demographic Factors	41
4.3.1 Frequencies Distribution	41
4.4 Level of Acceptance and Adoption of E-Commerce in Malaysia	47
4.5 Relationship of Factors Towards Acceptance and Adoption of E-Commerce User in Malaysia	48
4.6 Most Influence Factors towards Acceptance and Adoption of E-Commerce	55
4.7 Correlation among the variables	57
Chapter 5: Conclusion and Recommendation	
5.1 Introduction	60
5.2 Conclusion	60
5.3 Recommendation	64
REFERENCES	70
APPENDICES	78



## List of Table

Table 3.1: Research Framework	31
Table 4.1 : Rules of Thumb Cronbach's Alpha Coefficient Size	40
Table 4.2 : Reliability Test	40
Table 4.3 : Gender Frequency Distribution	41
Table 4.4 : Age Frequency Distribution	42
Table 4.5 : Ethnicity Frequency Distribution	42
Table 4.6 : Education Frequency Distribution	43
Table 4.7 : Occupation Frequency Distribution	44
Table 4.8 : Income Level Frequency Distribution	44
Table 4.9 : Length of Internet Usage Frequency Distribution	45
Table 4.10 : Frequency Usage of Internet per Week	46
Table 4.11 : Frequency of Acceptance and Adoption	47
Table 4.12 : Cross Tab IT Knowledge and Acceptance and Adoption	48
Table 4.13 : Chi Square Test IT Knowledge and Acceptance and Adoption	49
Table 4.14 : Symmetric Measures IT Knowledge and Acceptance and Adoption	49
Table 4.15 : Cross Tab Security Issues and Acceptance and Adoption	50
Table 4.16 : Chi Square Test Security Issues and Acceptance and Adoption	51
Table 4.17 : Symmetric Measures Security Issues and Acceptance and Adoption	52
Table 4.18 : Cross Tab Government Support and Acceptance and Adoption	53
Table 4.19 : Chi Square Test Government Support and Acceptance and Adoption	54

Table 4.20 : Symmetric Measures Government Support and Acceptance and Adoption	54
Table 4.21 : Coefficients Table	56
Table 4.22 : Criteria for Interpreting Strength of Relationship Between Two Variables	57
Table 4.23 : Correlation Table	58
Table 5.1 : IT Knowledge	65
Table 5.2 : Security Issues	66
Table 5.3 : Government Support	67
Table 5.4 : Acceptance and Adoption of E-Commerce	68

## List of Figure

Figure 2.1: Technology Acceptance Model (TAM)	26
---	----

## **Chapter 1: Introduction**

### **1.1 Introduction**

Electronic Commerce or e-commerce has received much attention from governments, businesses and regional bodies. This importance has been attributed to several converging factors. According to Ding (1999), these factors include: first, the development of the use of the Internet as a means by which information is disseminated and through which communication and connectivity is enabled; and second, the affordability of personal computers, increase in their computing capability, and the wide use of open standards. In the business environment, traditionally there is a need for a tangible and permanent form of communication in a transaction between buyer and seller.

However, in e-commerce there is the ability to communicate in an electronic form where a computer is able to recognize, reproduce and store means that business could now be conducted in a paperless environment. Electronic commerce is the process of trading across the Internet, that is, a buyer visits a seller's website and makes a transaction there. Less rigidly it includes deals where the Internet plays some role, for example, assisting the buyer in locating or comparing products and/or sellers.

The contents of  
the thesis is for  
internal user  
only

## 6.0 REFERENCES

### Journal

- Akkeren, J.V., Cavaye, A.L.M. (1999). "Factors Affecting Entry-Level Internet Technology Adoption by Small Business in Australia: An Empirical Study", Proceedings of 10<sup>th</sup> Australian Conference on Information Systems, pp.1079-1083.
- Afshar Jahanshahi, A. & Nawaser, K. (2010). Mobile commerce: the force of electronic commerce future. International seminar on 'innovations in strategic management for organizational excellence', Sinhgad institute of management. Pune. India
- Agrawal, V., Arjona, L.D. and Lemmens, R. (2001) E-Performance: The path to Rational Exuberance, *The McKinsey Quarterly*, No. 1, 30-43
- Ahuja, M., Gupta, B. and Raman, P. (2003) 'An empirical investigation of online consumer purchasing behaviour', *Communications of the ACM*, Vol. 46, No. 12, pp.145–151.
- Ainin, S (2000), Status of E-Commerce Application in Malaysia, *Information Technology for Development Journal*, Vol 9, 3 / 4, 153-161
- Ainin, S, Noorismawati, J, (2003), E-Commerce Stimuli and Practices in Malaysia at <http://www.pacis-net.org/file/2003/papers/e-business/258.pdf>
- Akkeren, J. and Cavaye, A. (1999) Factors Affecting the Adoption of E-commerce Technologies by Small Business in Australia – An Empirical Study. <http://www.acs.org.au/act/events/io1999/akkern.html>
- Barker, N. (1994). The Internet as a reach generator for small business. Unpublished master's thesis, University of Durham.
- Cockburn, C., & Wilson, T.D. (1995). Business use of the World-Wide Web. Retrieved September 29, 2002 from Web: <http://informationr.net/ir/1-2/vaperó.html>.

- Courtney, S. and Fintz, J. (2001) Small Businesses' Acceptance and Adoption of e-Commerce in the Western-Cape Province of South-Africa, Empirical Research Project, Department of Information Systems, UCT.
- Cragg, P.B and King, M. (1993) "Small Firm Computing: Motivators and Inhibitors", MIS Quarterly, pp. 47-60.
- Cronin, B., Overfelt, K., Fouchereaux, K., Manzvanzvik, T., Cha, M., & Sona, E. (1994). The Internet and competitive intelligence: A survey of current practice. International Journal of Information Management, 14, 204-222.
- Crow, M.M. (1988). Assessing Government Influence on Industrial R & D. Research Technology Management, (31) 5 pp. 47-52.
- Davies, S. (2002) South African SME's and Internet Based Electronic Business, Empirical Research Project, Department of Information System, UCT
- Davis, F. D. (1989). "Perceived Usefulness, Perceived Ease of Use and User Acceptance of Information Technology," MIS Quarterly (13)3, (1989), pp. 319-339.
- Ding, Julian. 1999. E-Commerce: Law and Practice. Kuala Lumpur: Sweet and Maxwell Asia.
- Elifson, K. W., Runyon, R. P., & Haber, A. (1998), Fundamentals of social statistics. Third Edition. Boston: McGraw-Hill.
- Ettlie, J.E. (1983). "Organizational policy and innovation among suppliers to the food processing sector". Academy of Management Journal, (26)1 pp. 27-44.
- Ettlie, J.E., and Bridges, W.P. (1982). "Environmental Uncertainty and Organizational Technology Policy". IEEE Transactions on Engineering management, (29)1 pp., 2-10.
- Globerman, S. (1975). "Technological Diffusion in the Canadian Tool and Die Industry", Review of Economics and Statistics, (57)4 pp. 428-434.

Green, P. E., Tull, D. S., & Albaum, G. (1978). *Research for marketing decisions* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.

Gregor, S. and Jones, K. (2000). "Enabling Electronic Commerce in Agribusiness; The Initial Stages of a Diffusion Process", *Proceedings of the 11th Australasian Conference on Information Systems (ACIS'2000)*.

Harrison, D.A., Mykytyn, P.P. and Rienenschneider, C.K. (1997) *Executive Decision About IT Adoption in Small Business: Theory and Empirical Tests, Information Systems Research*, 8, 2, 171-195

Iacovou, C.L., Benbasat, I., and Dexter, A.A. (1995) *Electronic Data Interchange and Small Organisations: Adoption and Impact of Technology, MIS Quarterly*, 19,4, 465-485

J. Campbell, Richard C. Sherman, Egon Kraan, & Zachary Birchmeier.(2001). *Internet Privacy Awareness and Concerns among College Students: Miami University.*

Kalakota, R., & Robinson, M., (1999). *e-Business: Roadmap for Success*. Addison Wesley

Julie,P.A. and Raymond, L.(1994) *Factors of New Technology Adoption in the Retail Sector. Entrepreneurship: Theory and Practice*, 18,5,79-90

Kalakota, R., Whinston, A.B., 1996. *Frontiers of Electronic Commerce*, Addison-Wesley, Reading, MA.

Kaur, Kiranjit. 2003a. Mahathir Mohamad: The Public Relations Champion for Malaysian ICT. In: IPRM. *World Class Public Relations*. Kuala Lumpur: Institute of Public Relations Malaysia (IPRM)

Kendall, J; Tung, LL; Chua, KH; Ng, CH; and Tan, SM. (2001). "Electronic Commerce Adoption by SMEs in Singapore", *Proceedings of the 34th Hawaii International Conference on System Sciences*, June 2001.



Kerlinger, F. N. (1986). *Foundations of behavioral research* (3rd edition). New York: CBS College.

Kimberly, J.R. and Evanisko, M.J. (1981). "Organizational innovation: the influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations", *Academy of Management Journal*, (24) 4 (1981), pp. 689- 713.

Kiranjit, K. (2004) *Consumer Protection in E-Commerce in Malaysia: An Overview*, from <http://www.une.edu.au/asiacenter/KKaur.pdf>

Kirby, D. and Turner, M. (1993) *IT and the Small Retail Business*, *International Journal of Retail and Distribution Management*, 21,7,20-27

Levin, S.G.; Levin, S.L.; and Meisel, J.B.(1987). "A dynamic analysis of the adoption of a new technology: the case of optical scanners", *Review of Economics and Statistics*, (69)1 (1987), pp. 12-17.

Link, A.N., and Bozeman, B. (1991). "Innovative behavior in a small-sized firms", *Small Business Economics*, (3), pp.179-184.

Looi, Hong Cheong (2005) "E-Commerce Adoption in Brunei Darussalam: A Quantitative Analysis of Factors Influencing Its Adoption," *Communications of the Association for Information Systems: Vol. 15, Article 3*. Available at: <http://aisel.aisnet.org/cais/vol15/iss1/3>

MacGregor, R.C., Waugh, P. and Bunker, D. (1996). "Attitudes of Small Business to the Implementation and use of IT: Are we Basing EDI Design Initiatives for Small Business on Myths?", 9th International EDI-IOIS Conference, Bled, Slovenia, June 9-12

McComb, G. (1998). *Web Commerce Cookbook*, Canada, John Wiley and Sons.

Mowery, D., and Rosenberg, N. (1979). "The influence of market demand upon innovation: A critical review of some empirical studies", *Research Policy*, 8 (1979), 102-153.

- Naresh K. Malhotra (2004) *Review of Marketing Research (Review of Marketing Research, Volume 2)*, Emerald Group Publishing Limited, pp.81-108
- O'Callaghan, R., Kaufmann, P.J., and Konsynski, B.R. (1992) "Adoption Correlates and Share Effects of Electronic Data Interchange Systems in Marketing Channels", *Journal of Marketing* , (56), pp. 45-56.
- Paynter, J, Lim, J (2001), Drivers and Impediments to E-Commerce in Malaysia, *Malaysian Journal of Library & Information Science*, Vol.6, no.2
- Pearson, M. and Grandon, E. (2004). "E-Commerce adoption: Perceptions of Managers/Owners of Small and Medium Sized Firms in Chile". *Communications of the Association for Information Systems*, (13) 2004
- Perspective (1st. Edition), Prentice-Hall, Inc.
- Phillips, M. (1998). *Successful E-Commerce*, Melbourne, Bookman Press.
- PIKOM: E-commerce industry to grow 30% annually next 3-5 year, (2010) at <http://biz.thestar.com.my/news/story.asp?file=/2010/7/13/business/20100713150259&sec=business>
- Poon, S., & Huang, X., (2004). *E-Commerce and SMEs: A Reflection and the Way Ahead*. Idea Group Inc. Charles Sturt University, Australia
- Poon, S., & Swatman, P.M.C. (1995). *The Internet for small businesses: An enabling infrastructure for competitiveness*. Paper presented at the Fifth Internet Society Conference, Hawaii, USA.
- Porter, M. (1985) *Competitive Advantage*. Free Press, NY
- Premkumar, G., Ramamurthy, K., and Nilakanta, S. (1994) "Implementation of Electronic Data Interchange: An Innovation Diffusion Perspective", *Journal of Management Information Systems*, (11)2,, pp. 157-186.

PricewaterhouseCoopers (1999) Securities Litigation Study Commentary by Harvey Kelly

Raymond, L. (2001). Determinants of Web site implementation in small business. *Internet Research: Electronic Network Applications and Policy*, 411

Reynolds, W., Savage, W. and Williams, A. (1994). *Your Own Business: A Practical Guide to Success*, ITP.

Rogers, E. M. (1983). *Diffusion of innovations*. (3rd ed.). New York: Free Press.

Rogers, E.M. (1995) *The Diffusion of Innovations*. New York, Free Press.

Schneider, P. and Perry, J.T. (2001) *Electronic Commerce*. ITP, Boston

Sekaran,U, (2006), *Research Methods for Business A Skill-Building Approach*, Fourth Edition, New Delhi, John Wiley and Sons.

Soh, C., Yap, C. S., and Raman, K. S. (1997). "Factors Contributing to Successful Computerization in Small and Medium Enterprises in Singapore", *Proc of the ENDEC International Entrepreneurship Conference on Entrepreneurship; A Spectrum of Possibilities*, 1997, pp.74-81.

Songan, P., Noor, F.M., (1999) "Predictors of Internet Utilization among Students in an Institution of Higher Learning in Malaysia", *Proceedings of Conference of IT in Asia (CITA 99)*, Kuching, Malaysia Sept 16th -17th pp. 38-51.

Sorbel, J. (2003) 'Identity theft and e-commerce web security: a primer for small to medium sized businesses', SANS Institute, pp.1-10.

Stair, R, Reynolds, G (2010) *Information Systems*, 9<sup>th</sup> Edition, Course Technology, Cengage Learning

Tan, Zixiang and Ouyang, Wu. (2003). "Globalization and E-Commerce: Factors Affecting Ecommerce Diffusion in China". *Communications of the Association for Information Systems*. (10)20

Taylor, S. and Todd, P.A. (1995). "Understanding information technology Usage: A test of competing models", *Information Systems Research*, 1995, June, (6)2., pp. 144 –176.

Telstra (1999) "Small Business Index: Survey of Electronic Commerce in Australian Small and Medium Businesses", Last access: 12th August 1999, URL: [www.pacificaccess.com.au / sbi/sbi\\_reports/may99regular.pdf](http://www.pacificaccess.com.au/sbi/sbi_reports/may99regular.pdf)

Teo, T; Tan, M and Wong, K (1998). "A Contingency Model of Internet Adoption in Singapore". *International Journal of electronic Commerce*. Winter 1998, (2)2, pp 95-118.

Thong, J. and Yap, C.S. (1995). 'CEO characteristics, organisational characteristics, and information technology adoption in small business', *Omega*, August, (23)4, pp. 429-442. *Yellow Pages Australia 1999, Small Business Index: A Special Report on Technology in the Small Business Sector*, May.

Turban, E, Lee J, King D and Chung, H.M (2000), *Electronic Commerce: A Managerial*

Turban, E., D. King, J. Lee and D. Viehland, (2004). *Electronic Commerce: A Managerial Perspective*. Pearson/Prentice Hall, New Jersey.

Utterback, J.M. (1974). Innovation in industry and the diffusion of technology, *Science*, (183), pp. 620-626.

Walton, L.W. and Miller, L.G. (1995) Moving Toward IS Theory Development: A Framework of Technology Adoption Within Channel, *Journal of Business Logistics*, 16,2, 117-135

Wilde, W.D. and Swatman, P.A. (2000) *Studying Telecommunication Enhanced Communities: An Economics Lens*. Deakin University, School of Management

Yousafzai, YS, Pallister, JG, Foxall, GR 2003, 'A proposed model of e-trust for electronic banking', *Technovation*, Article in press.

Zikmund (2003), *Business research methods*, 7<sup>th</sup> edition

**internet/website**

<http://en.wikipedia.org/wiki/Internet>

E-Commerce in Malaysia, (2010) at [http://wiki.media-culture.org.au/index.php/E-commerce\\_-\\_Overview\\_-\\_Malaysia](http://wiki.media-culture.org.au/index.php/E-commerce_-_Overview_-_Malaysia)

<http://www.computer-dictionary-online.org/index.asp?q=electronic+commerce>

Malaysia: Internet Landscape, (2010) at

<http://comm215.wetpaint.com/page/Malaysia%3A+Internet+Landscape>

Off to an early start internet in Malaysia (2010), at

<http://www.itu.int/asean2001/reports/material/MYS%20CS.pdf>

Internet in Malaysia, (2010) at [http://en.wikipedia.org/wiki/Internet\\_in\\_Malaysia](http://en.wikipedia.org/wiki/Internet_in_Malaysia)