

**THE DETERMINANTS OF INTERNET BANKING
ADOPTION BY UUM STUDENTS**

FADHEL MOHAMMED ABDULLAH AL GAIFI

**MASTER OF SCIENCE (FINANCE)
UNIVERSITI UTARA MALAYSIA**



OTHMAN YEOP ABDULLAH
GRADUATE SCHOOL OF BUSINESS
UNIVERSITI UTARA MALAYSIA

Cultivating Perspectives. Building the Future. Sharing Solutions

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

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

FADHEL MOHAMMED ABDULLAH (806047)

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

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

THE DETERMINANTS OF INTERNET BANKING ADOPTION BY UUM STUDENTS

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 : **ASSOC. PROF. MOHAMED NASSER BIN KATIB**

Tandatangan : *Mohamed Katib*

Tarikh : **22 MAY 2011**

PERMISSION TO USE

In presenting this thesis in partial fulfillment for a postgraduate degree from the Universiti Utara Malaysia, I agree that University Library may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purposes, may be granted by my supervisors or, in their absence, by the Dean of the Othman Yeop Abdullah Graduate School Of Business, College Of Business. It is understood that any copying or publication or use of this thesis or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

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

Dean
Othman Yeop Abdullah
Graduate School of Business
College of Business
Universiti Utara Malaysia
06010, UUM Sintok
Kedah, Malaysia

ABSTRACT

Two hundred and eighty six questionnaires, which are considered as complete, acceptable and usable, were received from the students of UUM. Questionnaires are developed to examine the major factors considered most important in the process of adopting internet banking by students in UUM. In other words, this study aims to define the major determinants of internet banking adoption by students inside UUM.

The data are analyzed by using SPSS programme. Descriptive and correlation analysis have been applied to determine the significant relationships for all hypotheses at 1 percent level of significance. In addition, factor analysis has also been used to inspect how variables affect each other and to what extent they are interrelated. The findings reveal that all independent variables included in this study namely “Perceived Ease of Use (PEU)”, “Perceived Usefulness (PU)”, “Perceived Web Security (PWS)” and “Attitude (AT)” have a significant relationship with the dependent variable which is “Intention to Use internet banking (IU)”. We also find that there is a significant relationship among independent variables. Percentage and frequency distribution are also used to analyze the respondents profile.

Acknowledgment

In the name of Allah, Most Gracious And Most Merciful. First and foremost, Allhamdulillah, praises to Allah S.W.T for giving me the will and strength in enduring all the problem in completing this thesis.

My highest and most sincere appreciation goes to my beloved parents, and my brothers and sisters, who have always encouraged and guided me to be independent, never try to limit my aspiration.

I would like to express my deep and sincere gratitude to my supervisor Professor Mohamed Nasser B. Katib for his patience, encouragement and kindness throughout the completion of this project paper. His wide knowledge and his logical way of thinking have been of great value for me. His understanding, encouraging and personal guidance have provided a good basis for the present thesis. I am very grateful to him not only for his assistance, but also he is a great person as human. I will never forget such kind people.

TABLE OF CONTENTS

	page
PERMISSION TO USE	i
ABSTRACT	ii
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES	x
LIST OF ABBREVIATIONS	xi
CHAPTER ONE: INTRODUCTION	
1.0 Background of the Study	1
1.1 Internet Banking in Malaysia	3
1.2 Why Study Internet Banking	5
1.3 Problem Statement	7
1.4 Research Questions	9
1.5 Research Objectives	9
1.6 Significance of the Study	10
1.7 Limitations of the Study	11
CHAPTER TWO: LITERATURE REVIEW	
2.0 Introduction	12
2.1 Review of Related Theories	12
2.2 Review of Previous Studies	17

2.3	Summary	20
-----	---------	----

CHAPTER THREE: METHODOLOGY

3.0	Introduction	21
3.1	Theoretical Framework	21
3.2	Research Design	24
3.3	Hypothesis	25
3.4	Data Collection Method	26
3.4.1	Sample selection	26
3.4.2	Survey Questionnaire	27
3.5	Measurement of Factors	28
3.6	Data Analysis	29
3.6.1	Use of Factor Analysis	29
3.7	Pilot Study and Reliability Test	30

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.0	Introduction	32
4.1	Demographic Profiles of Respondents	33
4.1.1	Gender	33
4.1.2	Age	34
4.2	Internet Usage Habit	35
4.2.1	Access to the Internet	35
4.2.2	Months of Using Internet	36

4.2.3 I Use Internet Banking Frequently	37
4.2.4 I Encounter Problem Frequently in Using Internet Banking	38
4.2.5 I Use Internet Banking Service Frequently as Source of Information	39
4.2.6 I Use Internet Banking From More Than One Bank Frequently	40
4.2.7 Besides Internet Banking, I Use Frequently Other Banking Channels	41
4.3 Reliability Analysis Test	42
4.4 Descriptive Statistics	43
4.5 Pearson Correlation Analysis	44
4.6 Hypotheses Testing	46
4.6.1 Hypothesis 1	46
4.6.2 Hypothesis 2	47
4.6.3 Hypothesis 3	47
4.6.4 Hypothesis 4	48
4.6.5 Hypothesis 5	48
4.6.6 Hypothesis 6	49
4.6.7 Hypothesis 7	49
4.6.8 Hypothesis 8	50
4.7 Factor Analysis	52
4.8 Conclusion	60

CHAPTER FIVE: SUMMARY AND CONCLUSIONS	
5.0 Introduction	61
5.1 Summary	61
5.2 Conclusion	62
5.3 Implications of the Study	63
5.3.1 Push Strategy	63
5.3.2 Pull Strategy	66
5.4 Recommendations for Future Studies	67
REFERENCES	68
APPENDIX	
Questionnaire	74

LIST OF TABLES

4.1.1	Respondent Profile by Gender	33
4.1.2	Respondent Profiles by Age	34
4.2.1	Respondent Profiles by Access to the Internet	35
4.2.2	Respondent Profiles by Months of Using Internet	36
4.2.3	Respondent by Frequency of Using Internet Banking	37
4.2.4	Respondent by Encountering Problem	38
4.2.5	Respondent by Considering Internet Banking as Source of Information	39
4.2.6	Respondent by Number of Banks Used	40
4.2.7	Respondent by Banking Channels Used	41
4.3	Results of Reliability Test	42
4.4	Descriptive Statistics	43
4.5	Pearson Correlation Analysis	45
4.6.1	Findings of One-Way ANOVA on Intention and its Relationship With Attitude	46
4.6.2	Findings of One-Way ANOVA on Intention and its Relationship With Perceived Usefulness	47
4.6.3	Findings of One-Way ANOVA on Attitude and its Relationship With Perceived Usefulness	47

4.6.4 Findings of One-Way ANOVA on Attitude and its Relationship With Perceived Ease of Use	48
4.6.5 Findings of One-Way ANOVA on Intention and its Relationship With Perceived Ease of Use via Perceived Usefulness	48
4.6.6 Findings of One-Way ANOVA on Attitude and its Relationship With Perceived Ease of Use via Perceived Usefulness	49
4.6.7 Findings of One-Way ANOVA on Intention and its Relationship With Perceived Web Security	49
4.6.8 Findings of One-Way ANOVA on Attitude and its Relationship With Perceived Web Security	50
4.6.9 Summery of Hypotheses Testing	51
4.7.1 Reliability and Factor Analysis (From SPSS Analysis)	52
4.7.2 Detailed Factor Analysis	56

LIST OF FIGURES

1.1	Problem Statement of the Study	8
3.2	Research model of UUM students' intention to use internet banking	25
4.1.1	Respondent Profile by Gender	33
4.1.2	Respondent Profiles by Age	34
4.2.1	Respondent Profiles by Access to the Internet	35
4.2.2	Respondent Profiles by Months of Using Internet	36
4.2.3	Respondent by Frequency of Using Internet Banking	37
4.2.4	Respondent by Encountering Problem	38
4.2.5	Respondent by Considering Internet Banking as Source of Information	39
4.2.6	Respondent by Number of Banks Used	40
4.2.7	Respondent by Banking Channels Used	41

LIST OF ABBREVIATIONS

ATT: Attitude

ATB: Attitude toward Behavior

ATM: Automated Teller Machines

BAFIA: Banking and Financial Institution Act

BI: Behavioral Intention

BNM: Bank Negara Malaysia

EFA: Exploratory Factor Analysis

IB : Internet Banking

IDT: Innovation Diffusion Theory

IT: Information Technology

IU : Intention to Use

OB : Online Banking

P: Probability

PDA: Personal Digital Assistant

PBC: Perceived Behavioral Control

PC: Personal Computer

PEU: Perceived Ease of Use

PU : Perceived Usefulness

PWS : Perceived Web Security

SEM: Structural Equation Model

SN: Subjective Norm

TAM: Technology Acceptance Model

TRA: Theory Of Reasoned Action

TPB: Theory of Planned Behavior

UUM: Universiti Utara Malaysia

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

In this study, the terms Internet Banking (IB) and Online Banking (OB) are used interchangeably. IB/OB differs from Electronic Banking (e-banking) since the latter is an activity of higher level that encompasses not only IB/OB, but also Mobile Banking, SMS Banking, WAP-Banking, ATM and other types of electronic payment systems not operated through the Internet. This study focuses on IB, because it is considered as the most significant and most popular channel for delivering banking services in the cyber age. Therefore, when we speak about Internet Banking history and its background, we should not ignore that of electronic banking as their history is somehow interrelated and synaptic.

Over the last few decades information technology has affected the banking industry highly and has provided a way for the banks to differentiate their products and services. For more than 200 years, banks were using branch-based operations but the advent of

The contents of
the thesis is for
internal user
only

REFERENCES

Afifi, A. A., & Clark, V. (1984). Computer-aided multivariate analysis. Wadsworth. Inc., Belmont, California.

Agarwal, R., & Prasad, J. (1999). Are individual differences germane to the acceptance of new information technologies? *Decision sciences*, 30, 361-392.

Ajzen, I. Madden (1986). Prediction of goal directed behavior: attitudes, intentions and perceived behavioral control. *Journal of Experimental Social Psychology*, 22, 453-474.

Aladwani, A. M. (2001). Online banking: a field study of drivers, development challenges, and expectations. *International Journal of Information Management*, 21(3), 213-225.

Allport, G. W. (1935). Attitudes.

Almossawi, M. (2001). Bank selection criteria employed by college students in Bahrain: an empirical analysis. *International Journal of Bank Marketing*, 19(3), 115-125.

Ariguzo, G. C., Mallach, E. G., & White, D. S. (2006). The first decade of e-commerce. *International Journal of Business Information Systems*, 1(3), 239-255.

Bank Negara Malaysia (2000). Annual Report 1999. Kuala Lumpur: Bank Negara Malaysia.

Brown, R. D. (2001). E-commerce: customer service success factors. *Futurics*, 25, 18-30.

Chang, M. K., & Cheung, W. (2001). Determinants of the intention to use Internet/WWW at work: a confirmatory study. *Information & Management*, 39(1), 1-14.

Cheng, T. C., Lam, D. Y. C., & Yeung, A. C. L. (2006). Adoption of internet banking: an empirical study in Hong Kong. *Decision Support Systems*, 42(3), 1558-1572.

Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 64-73.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.

Doob, L. W. (1947). The behavior of attitudes. *Psychological Review*, 54(3), 135.

Emory, C. W., & Cooper, D. R. (1991). *Business Research Methods*. Homewood IL: Richard D. Irwin: Inc.

Fensel, D., Ding, Y., Omelichenko, B., Schulten, E., Botquin, G., Brown, M., et al. (2001). Product data integration in B2B e-commerce. *Intelligent Systems, IEEE*, 16(4), 54-59.

Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention and behavior: An introduction to theory and research.

Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems*, 4(1), 7.

Genser, B., Cooper, P. J., Yazdanbakhsh, M., Barreto, M. L., & Rodrigues, L. C. (2007). A guide to modern statistical analysis of immunological data. *BMC immunology*, 8(1), 27.

Goodwin, D. R., & McElwee, R. E. (2001). Grocery shopping and an ageing population: research note. *The International Review of Retail, Distribution and Consumer Research*, 9(4), 403-409.

Guttman, L. (1944). A basis for scaling qualitative data. *American Sociological Review*, 9(2), 139-150.

Hair Jr, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis: with readings*: Prentice-Hall, Inc.

Harman, H. H. (1976). *Modern factor analysis*: University of Chicago Press.

Hirtle, B., & Metli, C. (2004). The evolution of US bank branch networks: growth, consolidation, and strategy. *Current Issues in Economics and Finance*, 10(8), 1-7.

Hooley, G. H. (1993). The Multivariate Jungle—The Academic's Playground but the Manager's Minefield An Introduction to the Special Edition. *European Journal of Marketing*, 14(7), 379-386.

Jaruwachirathanakul, B., & Fink, D. (2005). Internet banking adoption strategies for a developing country: the case of Thailand. *Internet Research*, 15(3), 295-311.

Kim, J. O., & Mueller, C. W. (1989). *Factor analysis: Statistical methods and practical issues*: Sage Publications.

Lallmahamood, M. (2007). An examination of individual's perceived security and privacy of the internet in Malaysia and the influence of this on their intention to use e-commerce: Using an extension of the Technology Acceptance Model. *Journal of Internet Banking and Commerce*, 12(3), 1-26.

Lederer, A. L., Maupin, D. J., Sena, M. P., & Zhuang, Y. (2000). The technology acceptance model and the World Wide Web. *Decision Support Systems*, 29(3), 269-282.

Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 8(3), 130-141.

Mathieson, K. (1991). Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior. *Information systems research*, 2(3), 173.

Minhas, R. S., & Jacobs, E. M. (1996). Benefit segmentation by factor analysis: an improved method of targeting customers for financial services. *International Journal of Bank Marketing*, 14(3), 3-13.

Moe, W. W., & Fader, P. S. (2000). Which visits lead to purchases? Dynamic conversion behavior at e-commerce sites. *University of Taxas*.

Moon, J. W., and Kim, W., G.(2001). Extending the TAM for a world-wideweb context. *Information and Management*, 38(4), 217-230.

Pang, J. Y. (1995). *Banking & Finance Malaysia*: Times Pub.

Peter, J. P. (1979). Reliability: A review of psychometric basics and recent marketing practices. *Journal of marketing research*, 16(1), 6-17.

Porter, M. E. (2001). Strategy and the Internet. *Harvard business review*, 79(3), 62-79

Rafieda, A. M. (2006) *Factors Affecting UUM Lecturer's Adoption of Internet Banking Using TAM*. Unpublished Masters thesis, Universiti Utara Malaysia.

Rogers, E. M. (1995). *Diffusion of innovation* (Vol. 4): New York: Free Press.

Rosenberg, M. J., & Hovland, C. I.(1960): Cognitive, affective, and behavioral components of attitudes. *MJ Rosenberg, CI Hovland, W. J. McGuire, RP Abelson, & JW Brehm (Eds.), Attitudeorganization and change: A n analysis of consistency among attitude components*, 1-1.

Salisbury, W. D., Pearson, R. A., Pearson, A. W., & Miller, D. W. (2001). Perceived security and World Wide Web purchase intention. *Industrial Management & Data Systems*, 101(4), 165-177.

Sathye, M. (1999). Adoption of Internet banking by Australian consumers: an empirical investigation. *International Journal of Bank Marketing*, 17(7), 324-334.

Sekaran, U. (2006). *Research methods for business: A skill building approach*: Wiley-India.

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *The Journal of Consumer Research*, 15(3), 325-343.

Suki, N. M. An Empirical Study of Factors Affecting the Internet Banking Adoption among Malaysian Consumers'. *Journal of Internet Banking and Commerce*, 15(2), 1-11.

Thurstone, L. L. (1929). Theory of attitude measurement. *Psychological Review*, 36(3), 222.

Venkatesh, V., Morris, M. G., & Ackerman, P. L. (2000). A Longitudinal Field Investigation of Gender Differences in Individual Technology Adoption Decision-Making Processes* 1. *Organizational Behavior and Human Decision Processes*, 83(1), 33-60.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.

Westin, A. F., & Maurici, D. (1998). *E-commerce & privacy: What net users want*: Privacy & American Business.

White, H., & Nteli, F. (2004). Internet banking in the UK: why are there not more customers? *Journal of Financial Services Marketing*, 9(1), 49-56.

Wixom, B. H., & Todd, P. A. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information systems research*, 16(1), 85-102.

Yin, R. K. (2009). *Case study research: Design and methods*: Sage Publications, Inc.

Zikmund, W. G. *Business Research Methods*. 2000. *South-Western I*.