

A FRAMEWORK OF MOBILE BANKING ADOPTION: AN EMPIRICAL STUDY IN TAIWAN

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ABSTRACT

The advances of information and communication technologies make consumers expect to get more from the banking service in light of time-saving, cost-saving and convenience. In order to achieve the aforementioned expectation, mobile banking is an inevitable trend. The purpose of this study is to explore the determinants of mobile banking adoption in Taiwan from bank managers' viewpoints. This study combined Rogers's diffusion of innovation theory and Porter's five competitive forces to construct a research framework. The research subjects of this study are bank managers of 41 Taiwan's local banks. The results reveal that Business Size, Market Uncertainty, Features of Suppliers, and Propensity of Users have significant effects on the adoption decision.

Keywords: Mobile banking, Diffusion of innovation theory, Five competitive forces

INTRODUCTION

In recent years, modern people are no longer satisfied with traditional banks in the competitive environment due to the needs for cost-saving, time-saving and convenience. The emergence of electronic banking is the best way to demonstrate the forward phenomenon. It is obvious that mobile banking, the emerged electronic banking, is an inevitable trend.

However, not all of the banks in Taiwan have set up mobile banking. This study thought the adoption of mobile banking in Taiwan is a critical topic worth further research. Thus, the main research problem in this study is concerned with what are the variables determine the bank managers' decision to adopt mobile banking.

RESEARCH METHOD AND HYPOTHESES

This study viewed mobile banking as an innovative technology. Previous studies about innovative technology adoption are on the basis of Rogers's diffusion of innovation theory [7]. However, there are scholars debated over whether Rogers's innovative diffusion model is reliable and valid in organizations because the original model of innovative diffusion was developed from individuals. Under that issue-organizational innovative diffusion, many scholars reversed them into new dimensions [1] [6] [8]. Therefore, this study used these new dimensions revised from Rogers's innovative diffusion model and Porter's five competitive forces [5] to construct research structure. According to related literature review, this study explores the determinants of mobile banking adoption from two parts: Internal Factor and External Factor. Under Internal Factor, there are Organization, Innovative Technology and Human

Resource dimensions. Under External Factor, there are Competition, Users, and IT Substitute dimensions. The hypotheses of this study are as below.

H1.1: The organization has a significant impact on adopting mobile banking or not.

H1.2: The innovative technology has a significant impact on adopting mobile banking or not.

H1.3: The human resource has a significant impact on adopting mobile banking or not.

H2.1: The competition has a significant impact on adopting mobile banking or not.

H2.2: The users have a significant impact on adopting mobile banking or not.

H2.3: The IT substitute has a significant impact on adopting mobile banking or not.

DATA COLLECTION AND ANALYSIS

The questions in the questionnaire were basically derived from several variables, which were on the basis of previous literature review and referring to related empirical studies. In order to determine the relevancy of the questionnaire, the CVR (Content Validity Ratio) proposed by Lawshe's approach [4] is applied to justify the content validity of each item. Then, this study exploited Cronbach's α to access the internal consistency of each dimension. According to Guieford [2], the reliability of this study is acceptable.

This study targeted at bank managers of 41 Taiwan's local banks as research subjects. A survey was conducted from March of 2007 to April of 2007, a total of 240 questionnaires were sent out, and the number of returned questionnaire is 193 at a return rate of 80.42%. However, 26 responses were incomplete and had to be discarded, the final number of valid questionnaires was 167, with a true response rate of 69.58%.

Then, this study used Kaiser-Meyer-Olkin (KMO) values to test for correlation and whether or not the partial correlation of the variables was small. According to Kaiser's study [3], this study is adequate to conduct factor analysis. This study extracted 12 factors from factor analysis. Before proceeding with binary logistic regression analysis, the Pearson correlation matrix was conducted for the extent of multicollinearity problems. The result shows that there was no evidence of critical multicollinearity among those independent variables. Subsequently, this study proceeded with logistic regression analysis as planned and specified the following statistical model.

Model: Adoption = $\alpha_0 + \alpha_1 O1 + \alpha_2 O2 + \alpha_3 IT1 + \alpha_4 IT2 + \alpha_5 IT3 + \alpha_6 HR1 + \alpha_7 HR2 + \alpha_8 C1 + \alpha_9 U1 + \alpha_{10} U2 + \alpha_{11} ITS1 + \alpha_{12} ITS2 + \epsilon_i$

Where

O1: Centralization, O2: Business Size, IT1: Costs/ Complexity, IT2: Relative Advantage, IT3: Compatibility, HR1: Managers' and Employees' Features, HR2: Interconnectedness, C1: Market Uncertainty, U1: Perceived Risk, U2: Banking Needs, ITS1: Suppliers' Features, ITS2: Users' Propensity.

CONCLUSION

The results of binary logistic regression analysis show that Business Size, Market Uncertainty, Features of Suppliers, and Propensity of Users have significant effects on the adoption decision. There are several limitations in this study. First, this study only sampled Taiwan's local banks to explore the determinants of mobile banking adoption. Second, this study has derived the possible factors that may influence the adoption of innovative technology from the results of literature review. However, new factors may occur due to the publication of new literature. Third, this study only focused on the adoption decision of mobile banking. But how to implement the technology is also a critical issue. Finally, this study can not control the returned questionnaires, thus the adoption samples are more than non-adoption.

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