

WILL STOCK INVESTOR USE MOBILE STOCK TRADING? EXPLORING THE INTERACTIVE EFFECTS BETWEEN PERCEIVED VALUE AND RISK

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ABSTRACT

In order to simultaneously capturing the encouraging and obstructive factors affecting the intention of stock investors to use mobile stock-trading, the concepts of perceived value and perceived risk were integrated into our research model. Based on the PLS analysis with a sample comprising 71 stock investors, we found that perceived utilitarian value, hedonic value and risk have significant impact on the adoption intention of stock investors. Moreover, perceived risk not only has negative direct effects on the adoption intention of stock investors, but also has moderating effects on the impact of perceived utilitarian value and hedonic value.

Keywords: Mobile stock-trading service, perceived value, perceived risk, adoption intention

INTRODUCTION

For increasing customer retention, security firms continuously engage in designing and delivering attractive services for customers (stock investors) [1] [9]. There are many mobile-based solutions have emerged allowing security firms to offer attractive services easily and one of the representative applications is mobile stock-trading service. Mobile stock-trading allows stock investors to obtain stock quotes, conduct stock trades, and check portfolio balances anytime and anywhere [13] [22]. Compared with traditional stock-trading services (e.g., Internet-based and telephone-based trading services), mobile stock-trading has unique features that are not available via traditional stock-trading services, such as mobility, ubiquity, and personal identity. Stock investors are not only able to obtain real-time stock market information, but also conduct stock trades without spatial and temporal constraints.

However, despite mobile stock-trading services provide many convenient features, percentage of stock investors that used mobile stock-trading services were much lower than the percentage of used traditional stock-trading services [18]. Why is the adoption rate of mobile stock-trading services relatively lower than that of traditional stock-trading services in general? This study investigates this issue by determining the key drivers of adoption of mobile stock-trading services. Mobile stock-trading

service is enabled by information technology (IT). To understand how customers decide whether to adopt a new IT-based service, previous studies suggested that it is necessary to understand the customers' perceived value of the new IT-based service [15] [25] [26]. Perceived value is a prominent determinant in the formation processes of behavior toward a new IT-based service [12] [13] [15] [29].

There are more factors besides perceived value influencing IT adoption and perceived risk is one of the critical factors in negative decisions especially in the mobile context [13] [16] [21]. Perceived risk can be regarded as a person's perceptions of susceptibility to various threats [8] [19] [20]. Perceived risk may be a barrier for stock investors to decide to adopt mobile stock-trading service since increased risks have been found in mobile network, such as intrusion, fraud and identity theft risks [14] [21]. Although the investigation of the impact of perceived risk on adopting IT-based services is common topic in IT adoption research (e.g., [7] [8] [10] [20] [21] [26]), perceived risk has often been treated as an antecedent, which directly and negatively affects customers' intention to adopt IT-based services. This study argues that perceived risk not only plays as the antecedent of adoption intention but also plays as the moderator influencing the relationship between perceived value and adoption intention. Because in the decisions of adopting a new IT-based service, although customers may consider how the IT-based service bring positive value and plan to take action, they may decide to draw back from the idea due to perceived risk in using the IT-based service [10].

This study proposes an adoption impact model of mobile stock-trading services to address the research question: How stock investors' perceived value and risk influence their intention to adopt mobile stock-trading services, and whether perceived risk moderates the impact of perceived value on adoption intention of mobile stock-trading services?

THEORETICAL BACKGROUND AND HYPOTHESIS

Adoption intention is defined as the likelihood that a person will intend to use a product or service [3] [12] [17] [27]. Previous studies have suggested that a customer's perceived value of a product or service plays a significant role in the customer's decision making of using the product or service [15] [25] [26]. Customer's perceived value is a function of multiple value dimensions and is important in predicting the customer's behavior [25] [29]. From the viewpoint of benefits gained, previous studies suggested that utilitarian and hedonic values are two important factors that customers consider when deciding whether to use a product or service [2] [11] [26].

Utilitarian value is related to functional and non-sensory attributes and focuses on instrumental expectations [2]. Fulfillment of instrumental expectations in the context of product or service consumption increases a customer's useful experience, thus enabling the customer's perceived utilitarian value. Just as customers might assess shopping encounters, customers judge the outcome of using an IT artifact according to the utilitarian value, which depends on how useful or beneficial the IT artifact is [4] [24] [26]. Providing mobile stock-trading service to assist stock investors in conducting stock

transactions can result in economic benefits to the stock investors, such as access investment information ubiquitously and stock investment decision making performance improvements [18] [22]. When a stock investor perceives that mobile stock-trading service is helpful to conduct stock investments, the investor will want to adopt mobile stock-trading service. Thus, Hypothesis 1 (H1) is proposed:

H1. A stock investor's perceived utilitarian value of a mobile stock-trading service positively influences the investor's adoption intention of the mobile stock-trading service.

Hedonic value perceived by a customer comes primarily from emotional and personally gratifying benefits. Hedonic value is related to sensory attributes and focuses on affective gratification expectations [2]. Fulfillment of affective gratification expectations in the context of product or service consumption increases the probability of a pleasurable experience, thus enabling consumers' perceived hedonic value. Just as customers might assess shopping encounters, customers evaluate the usage of IT artifact according to the hedonic value, which depends on how pleasant and agreeable those associated feelings with the IT artifact are [4] [26] [28]. If a stock investor feels cheerful and comfortable when using mobile stock-trading service, the investor is more likely to engage in the services. Thus, Hypothesis 2 (H2) is proposed:

H2. A stock investor's perceived hedonic value of a mobile stock-trading service positively influences the investor's adoption intention of the mobile stock-trading service.

In the research of mobile service usage behavior, previous studies have found that customers' concerns about risk-related issues are one of the key determinants for the adoption of a mobile service [16] [21]. Perceived risk is regarded as a customer's perception of the uncertainty and adverse consequences of engaging in an activity like using a service [8] [19] [20]. Conducting stock transactions through the mobile Internet may be associated with negative results that are not found in traditional formats, such as security and privacy problems. Even stock investors perceive a mobile stock-trading service as offering significant utilitarian value and providing hedonic value, they may consider whether to adopt the mobile service when they sense that there exists high risks and the consequences of damage is great when accidents happened. Thus, Hypothesis 3 (H3), 4 (H4), 5 (H5) are proposed:

H3. A stock investor's perceived risk of a mobile stock-trading service negatively influences the investor's adoption intention of the mobile stock-trading service.

H4. A stock investor's perceived risk of a mobile stock-trading service negatively moderates the impact of perceived utilitarian value on the adoption intention of the mobile stock-trading service.

H5. A stock investor's perceived risk of a mobile stock-trading service negatively moderates the impact of perceived hedonic value on the adoption intention of the mobile stock-trading service.

METHODOLOGY AND ANALYSIS RESULTS

Measurement development and data collection

Previous studies concerning IT-based service adoption provided the basis for the development of items to measure our four constructs. Perceived utilitarian value is measured through four items reflecting stock investor's perception of the functional-related benefits in using mobile stock-trading services [4] [5] [6] [11] [24] [25] [26]. Perceived hedonic value is measured through four items reflecting stock investor's perception of the enjoyment-related benefits in using mobile stock-trading services [5] [6] [11] [25] [28]. Perceived risk is measured through four items reflecting stock investor's perception of the uncertainty and adverse consequences of engaging in using mobile stock-trading services [8] [13] [16] [20] [23]. Adoption intention is measured through four items reflecting the likelihood that stock investor will intend to use mobile stock-trading services [3] [12] [17] [27].

For ensuring respondents have a certain degree of IT literacy, stock investors who have used online stock-trading services were chosen as the target respondents. In order to make contact with appropriate study subjects, two managers from a security firm in Taiwan were used to distribute questionnaires to their customers. The questionnaire was given to 200 stock investors who have experience with using mobile stock-trading services. Finally, 71 valid questionnaires were returned, yielding a 35.5% valid response rate. Partial Least Squares (PLS) with the bootstrap procedure was adopted to analyze our research model. The research model and the results of PLS analysis are illustrated in Figure 1.

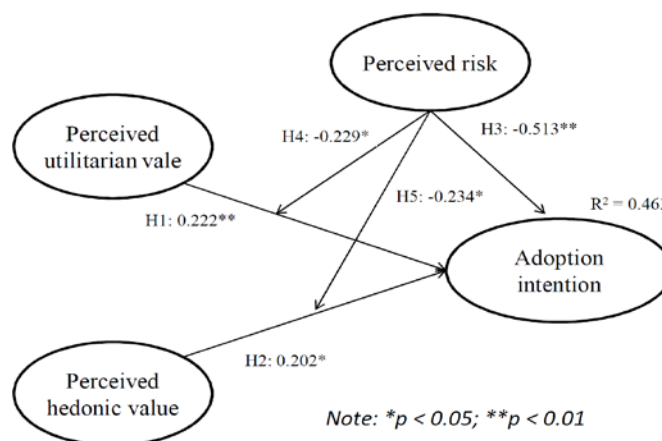


Figure 1 Research model and the results of path analysis

Analysis results

The results of Cronbach's alpha (ranging from 0.9 to 0.966) and CR values of the constructs (ranging from 0.925 to 0.975) are higher than the recommended level of 0.70, indicating adequate internal consistency. Convergent validity is demonstrated as the average variance extracted (AVE) values for all constructs. The results of AVE (ranging from 0.798 to 0.917) are higher than the suggested threshold value of 0.50. Comparing

the square root of the AVE with the correlations among the constructs, each construct is more closely related to its own measures than to those of other constructs. Therefore, the discriminant validity is supported.

Figure 1 presents a graphic depiction of the PLS results, which shows that a stock investor's perceived utilitarian and hedonic value of the mobile stock-trading service have direct impact on the investor's adoption intention. Moreover, perceived risk of the mobile stock-trading service not only has a negative direct impact on adoption intention, but also has negative moderating effects on the impact of perceived utilitarian value and hedonic value. As Figure 1 shows, the R^2 (explained variance) of adoption intention is 0.463, which implies that a stock investor's adoption intention can be well explained by the degree of perceived utilitarian value, perceived hedonic value, and perceived risk.

CONCLUSION

The results of this study show that a stock investor's perceived utilitarian value, perceived hedonic value and perceived risk of mobile stock-trading services are three significant factors that shape the investor's intention of adopting mobile stock-trading service. Previous studies suggested that perceived value and perceived risk are two important factors determining customers' intention of adopting an IT-based service (e.g., [3] [13]), this study reaffirms this result and at the same time proves that perceived risk plays a moderating role in the relationship between perceived utilitarian value and adoption intention and between perceived hedonic value and adoption intention.

Theoretically, this study validates findings of previous studies that perceived value (utilitarian and hedonic) value and perceived risk directly influence customers' mobile service usage intentions (support H1, H2, H3). Moreover, the moderation test shows that perceived risk can significantly reduce the effect of perceived utilitarian value on adoption intention (support H4) and the effect of perceived hedonic value on adoption intention (support H5). The results reveal that although stock investors may consider how mobile stock-trading services bring utilitarian value and hedonic value and plan to take action to adopt the mobile services, they may decide to draw back from the idea due to perceived risk in using the mobile services.

For managers, the result indicates stock investors' value perception toward mobile stock-trading service system is bi-dimensional - utilitarian dimension and hedonic dimension. When designing mobile stock-trading service systems to assist stock investors in conducting stock transactions, security firms not only have to consider stock investors' perceived utilitarian value derived from functions performed by the mobile stock-trading service but also have to consider perceived hedonic value resulting from sensations derived from the experience of using the mobile service. Moreover, we also suggest that reducing stock investors' risk perceptions is essential in offering mobile stock-trading services, since stock investors' perceived risk has a strongly negative effect on their intention of adopting mobile stock-trading services. In order to effectively reduce stock investors' perceived risk, security firms not only have to build a robust security mechanism for improving the safety of their mobile stock-trading services but also have to demonstrate risk countermeasures for stock investors.

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