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An Empirical Study of Customers' Perception of E-Banking Service Based on Time Usage

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Abstract

Banks have invested heavily in developing online competence in the hope of attracting customers to the new, cheaper service channel. This research attempts to investigate customers' perception of different time usage of banking website services. This study adopts a convenient sampling strategy and chooses Northern Taiwan residents to be subjects. Research findings are as follows. It means two different types of customers (i.e., short-time usage, long-time usage online banking customers) have different value perceptions of exploration factor, security factor and specialty information service factor but similar evaluations of transaction technicalities factor, decision-making convenience factor and interactive interrogation factor. It implies that the utilitarian functions (transaction technicalities factor, decision-making convenience factor and interactive interrogation factor) are the essential website service for most online banking customers. The results show online banking services need to intensify the core functions and design these utilitarian features as effectively as possible to satisfy all online banking customers' need. On the other hand, providing better service on exploration and specialty information factor is more successful to keep and attract long-time usage online banking customers.

Keywords: online banking, time usage, banking website service, utilitarian functions

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INTRODUCTION

Development in Internet technology has provided customers with information in an easily accessible way (Wind & Mahajan, 2001). Numbers of financial institutions have their websites to convey their marketing messages. Therefore, there has been growing competition among companies to attract and keep online customers. Naturally, understanding different customer groups' necessity is important to evaluate banking website effectiveness.

More and more preference for information and transaction convenience has caused financial services sector to restructure. Besides, Internet use is the highest in the finance and insurance sectors. The purpose of the study is to investigate and explore different time usage of consumers' perception of e-banking service, which are deemed vital for better e-service delivery. If financial institutions understand what banking website services bring specific customers group more satisfaction, they can formulate more effective strategies for their target market.

INTERNET BANKING SERVICE DIMENSIONS

Internet banking services have been chosen as the study theme owing to their utilitarian nature and their important role in Internet services—a critical function in contemporary business. Factors ranging from transaction technicalities to exploration are included in the statements defining dimensions of online banking services so that the study question can be solved.

The 23 statements measure the dimensions of online banking service. The six dimensions are (1) transaction technicalities (2) decision-making convenience (3) interactive interrogation (4) specialty information (5) security (6) exploration. The definitions of the six dimensions used in this study are as follows:

Factor 1. Transaction technicalities

Owing to the regular transactions between financial institutions and customers, financial service is an on-going service. Customers use online banking for informational needs and conduct fundamental banking transactions, for example, checking account balance, transferring money between accounts and paying bills through online banking. Transaction technicalities factor appears to be the principal service factor leading to customer satisfaction (Yang, Z. et al. 2003). Customers also require information about specialized financial products such as foreign currency exchange rates to make an investment or have a vacation. This has been called situational involvement (Belk, R. W. 1974).

Factor 2. Decision-making convenience

Convenience means saving time, being easy to use and quick to access. Ease of use and accessibility obtain priority for the customers and are recorded as main satisfactory items (Jun & Cai, 2001). Besides looking for special financial products information, customers also want instant interest rates information among competitors that enables them to compare. Therefore, providing decision-making environments which reduce search cost could be a good way for service differentiation.

Factor 3. Interactive interrogation

Customers expect to solve their problems through bank website's e-mail facility, the frequently asked questions page and contact details for complaints. Laroche, M. et al. (2000) showed that seeking advice from sales representatives can help customers make the decisions in the complicated environment. The e-mail reply with promptness can contribute toward customer satisfaction (Laroche, M. et al. 1986). Hence, the interactivity feature of the Internet can facilitate dual communication.

Factor 4. Specialty information

Internet banking service includes useful characteristics to help customers manage personal accounts and transactions. For instance, the customers can assess saving possibilities and make illustrative tables or figures of their account transactions. The research of Zhu et al. (2002) showed that many specialty functions of banking website can enhance customers' satisfaction.

Factor 5. Security

Security and privacy have a powerful effect on customer trust in online transaction (Lee and Turban, 2001). Privacy risk means a customer may sacrifice their privacy when they are required to provide private information in making e-commerce transaction (Vijayasathy, 2002). Security consists of three dimensions-reliability, safety, and privacy (Polatoglu & Ekin, 2001). Good experience of security and privacy on the banking website has a positive influence on customer trust. In general, the level of trust is positively connected to customers' manner and intention to use the Internet banking service. Security has been recognized as important determinants of online banking quality (Liao & Cheung, 2002).

Factor 6. Exploration

Exploration means exploratory information seeking (Baumgartner & Steenkamp, 1996). Customers also like to take part in the virtual discussion group and exchange

opinions with others on banking issues. The opinions of online community may have an impact on customers' attitudes toward the e-banker's service and further influence their decision-making processes.

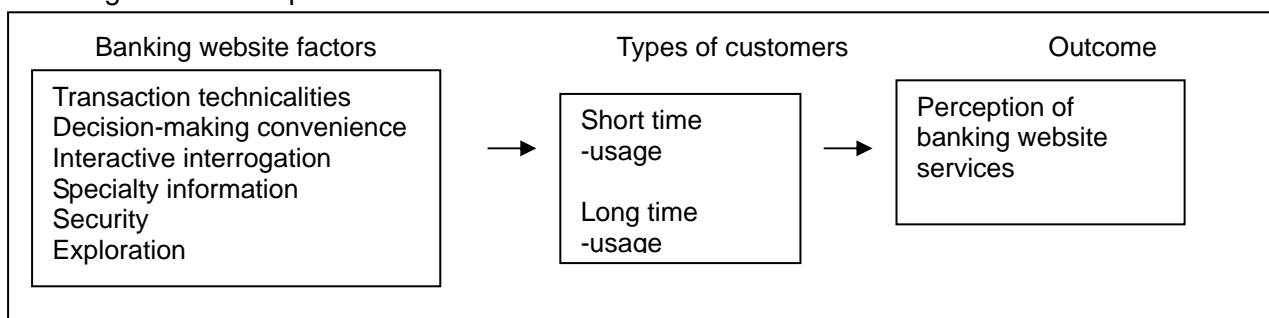
RESEARCH OBJECTIVE

In this paper, we identify six different factors of banking website services from transaction technicalities to exploration. We further classified online banking customers into two different types. They are short time-usage online banking customers and long time-usage online banking customers depending on their usage time on the banking website per visit. Based on a survey of 111 respondents, we want to investigate how the two types of customers perceive these six banking website factors differently.

Thus we propose the following hypothesis:

H1: Based upon time usage on the banking website per visit, different customers group will perceive banking website factors differently.

Figure 1. Conceptual Model



METHOD

Sampling and data collection

This review of existing studies has contained different factors which online banking service provides. But the review of previous literature indicates that there has been no systematic research done on examining the relationship between banking website characteristics and different consumer groups' e-banking experience for Asian subjects. However, Taiwan is chosen as the location for this study because Taiwan is ranked ahead of Korea, Japan and Singapore from the perspective of the Internet penetration rate. The majority of Internet users in Taiwan are students and office workers aged 18 to 50 with a higher education background and mostly reside in the north of Taiwan. They tend to spend more time and have more access to the Internet than other groups, and thus more likely to be online banking customers. Therefore, Northern Taiwan residents are selected to be the subjects in the study (Hu, 2009).

The participants who evaluate the online banking services must be currently the e-banking users. All items are measured on five-point Likert-type scales as self-reported attitudes. The scales go from strongly disagree (1) to strongly agree (5). The questionnaire consists of 23 statements. After screening out customers who do not use online banking service, a total of 111 usable responses is obtained and used for data analysis.

To measure the different constructs, validated items used by other researchers are adapted to fit the Asian subjects for this study. Transaction technicalities factor, decision-making convenience factor and interactive interrogation factor are assessed by adapting the scale developed by Kathryn & Tina (2002). Security factor and exploration factor are determined by scale items adapted from Katariina et al. (2004). Besides, specialty information factor is assessed by scale items developed by Kathryn & Tina (2002) and Katariina et al. (2004). The inter-item consistency reliability of these 23 variables is tested. The result of Cronbach's Alpha test is 0.81. The closer the reliability coefficient nears the value of 1.0, the better the reliability of the measures is.

DATA ANALYSIS AND RESULTS

Sample Profile

From a marketing point of view, it is important to describe the customer profile before we begin to discuss the results of the data analysis, because customers' demographics are the basis of the market segmentation. This will influence online banking providers to make differential marketing strategy.

The age group under 18 is not qualified for the study due to its minimal financial requirements. The older age group above 60 was also excluded from the study owing to little or no internet experience. Therefore, the 21-30(41 per cent) and 31-40(37 per cent) age groups appear to have more access to the Internet and use online banking. Income levels vary from lower (under NT\$ 15,000) to middle (NR\$35,001-NT\$ 45,000) to high (above NT \$ 75,001 per month). With information technology worker (14.4 per cent), financial worker (32.5 per cent) and service worker (17.1 per cent), the occupational status shows most online banking customers are white collar workers.

Perception of banking websites by two types of customers

How different consumer group perceive the 23 banking website variables and six factors is, however, still unclear. A t-test is utilized to explore this topic. The independent samples t-test can compare the means of two different groups(i.e., short

time-usage and long time-usage online banking customers). The analysis can also determine if the means of the two groups' distributions differ significantly from each other.

In this part, the perceptions of the banking website factors by two types of customers are discussed. Short time-usage online banking customers are defined in this research as those who use banking website services less than 15 minutes per visit. Long time-usage online banking customers are those respondents who use banking website services 16 to 45 minutes per visit.

The sample consists of 111 participants including 70(63.1%) short time-usage online banking customers and 41(36.9%) long time-usage online banking customers. Table1 below presents the mean scores for short time-usage and long time-usage online banking customers on banking websites perception in the study. The table also displays the results of the two –tailed significant difference between short time-usage and long time-usage online banking customers.

Table 1 The result of Independent-samples t-Test for two types of online banking customers

	Short time-usage online banking customers (N=70)	Long time-usage online banking customers (N=41)	Sig (two-tailed)
Factor	Mean	Mean	
Transaction technicalities	4.17	4.23	0.398
Decision-making convenience	3.79	3.91	0.209
Interactive interrogation	3.34	3.51	0.077
Specialty information	3.15	3.49	0.001
Security	3.21	3.52	0.001
Exploration	2.31	2.61	0.002

Table 1 shows that among six online banking factors, three factors (specialty information, security and exploration) have significant difference between short time-usage and long time-usage online banking customers. In specialty information factor, the independent-sample t test analysis indicates that the 70 short time-usage online banking customers have a mean of 3.15; the 41 long time-usage online banking customers have a mean of 3.49 in this study, which has the score of mean

difference -.34. The means differ significantly at the $p < .05$ level ($p = .001$). In Security factor, the independent-samples t test analysis indicates that the 70 short time-usage online banking customers have a mean of 3.21; the 41 long time-usage online banking customers have a mean of 3.52 in this study, which has the score of mean difference -.31. The means differ significantly at the $p < .05$ level ($p = .001$).

DISCUSSION AND CONCLUSION

To improve our understanding of customers' perceptions about Internet banking services as well as to employ benefit segmentation, six factors of Internet banking services and two types of customers differing in time usage on the banking website have been analyzed.

This study reveals that long time-usage online banking customers have the higher mean score for the six factors, whereas the short time-usage online banking customers have the lower mean score for all the factors. It is also shown that there is no significant difference in the perception of transaction technicalities factor, interactive interrogation factor and decision-making factor across the two types of e-banking customers. E-banking use is a clear indicator for higher telecommunication usage. This indicates that online banking customers are accustomed to the Internet and like the convenience of this channel.

Short time-usage and long time-usage online banking customers all see fundamental value in the e-banking service. For both types of customers, checking account balance, knowing foreign exchange rates, getting current interest rates information, transferring money between accounts, and paying bills through bank websites are clearly viewed as very important benefits. Besides, being quick to download, reacting to customers' queries, and providing information on special products are also valued by short time-usage and long time-usage online banking customers.

Table1 also shows that specialty information factor, security factor and exploration factor are perceived differently between short time-usage and long time-usage online banking customers. More online banking time usage and experience would positively enhance the evaluation of banking websites services. And this would lead to different perceptions between the two types of e-banking customers. In the study, the exploration factor (browsing the banking website, reading versatile daily news and exchanging opinions in discussion group) has been shown to bring more hedonic satisfaction to long time-usage e-banking customers.

It is found that long time-usage online banking customers pay more attention to the specialty information service factor than short time-usage online banking customers. With increased length of using e-banking, they can calculate when they will reach a goal with certain monthly savings and draw illustrative charts of account transactions. Long time-usage online banking customers may have liked these factors because of their assisting nature as well as their entertaining phases.

Surprising result is found for security factor. Table1 also indicates security factor is a significant point of difference between the two consumer groups. This implies that the level of security concern decreases as the e-banking customers' usage time increases. It can be concluded that long time-usage online banking customers are much more satisfied with banking website factors than short time-usage online banking customers, who have the poorer viewpoint of banking website services. Owing to the banking role in financial services circumstances, short time-usage online banking customers perceive banks as functional institutions. As customers mainly choose a transactional way to banking, exploration factor and specialty information factors satisfaction are not so important for short time-usage online banking customers.

Contrasting short time-usage online banking customers with long time-usage online banking customers, the differences are very clear. With a consumer-centered design approach, e-banking providers may benefit from our results when developing e-commerce strategies. The results show e-banking services need to intensify the core functions and design these utilitarian features as effectively as possible to entice all online banking customers to open an account and maintain profitable relationship. This is also the most cost-effective method to continue with e-banking service. On the other hand, providing better service on exploration factor and specialty information factor will be more successful to attract and keep long time-usage online banking customers' visit.

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