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Post-Adoption Behaviors of E-Bookstore Customers

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Abstract

Although trade costs for both sellers and buyers can be reduced through the usage of e-commerce, however low transfer costs and global competition cause that the e-bookstores to have to maintain their customer loyalty is more difficult than traditional shopping stores. The formations of the customer loyalty of e-bookstores have been explored by many researchers from different points of view, such as service quality, satisfaction and trust. Nevertheless, the current bottleneck of e-commerce operation is that consumers are no longer continuing using e-bookstores. Based on the theory of Post-Acceptance Model, this study empirically tested using a field survey of e-bookstore customers. According to the deconstruction of online store environment, the factors of expectation-confirmation contain the confirmation of information contents, the confirmation of system platform and confirmation of web services quality. The results showed that satisfaction and perceived usefulness are significant predictors of continuance intention. The expectation-confirmation factors except the confirmation of system platform are significant predictor of satisfaction and perceived usefulness. The implications of these findings for e-bookstore continuance theory and practice are proposed in the final section.

Keywords: Post-Acceptance Model, Continuance Intention, e-Bookstore, Perceived Usefulness, Satisfaction

Introduction

One of the commercial activities for many Taiwanese is purchasing books in Internet. Take, for example, the sales volume for books.com.tw has 1.1 billion Taiwan Dollars (NT$) per year. This shows that e-commerce has unlimited potential in Taiwan, and many enterprises are also considering to develop online stores in order to open new digital route sales and new services to their customers. Since 1995, Amazon network shop (www.amazon.com), the initiator of e-bookstores, had been making good use of the information technology for its customers and building alliance for partnerships and the brand loyalty. Bill Gates, the founder of Microsoft, once pointed out in a magazine that all of his books are purchased online for he is very busy and it is a convenient way. With the providence of extremely broad options, this kind of website is also trustable.

Although trade costs for both sellers and buyers can be reduced through the usage of e-commerce, the low cost and global competition made it more difficult for network stores to maintain their customers' loyalty than the traditional shopping stores [1]. Furthermore, the development of new customers and the maintenance of old customers are similar to the leaky bucket theory. This needs the cut in of two sides at the same time; in other words, what network stores or operators face is a bucket with many holes. Therefore, through the elevating of the website quality and various advertisements and promotions, the attraction of new customers is like unceasingly pouring running water into the bucket. On the other hand, the maintenance of old customers is the same as striving to mend the holes in the bucket and to reduce the leaking water as much as possible, so that the water level can rise gradually.

There are differences between attracting new customers to accept the usage of online bookstore and maintaining the old customers to continue using online bookstore. Researchers have discussed this according to different viewpoints and factors and interpreted the leading factors for the new customers to adopt network shopping, such as Technology Acceptance Model, Theory of Reasoned Action, and Innovation Diffusion Theory. However, some scholars regard that the initial adoption of online store is different from the continuing usage of it [2]. In other words, attracting internet users to accept online shopping is only the beginning of success for e-commerce, a truly successful management for online stores depends on its members' continuing usage. As a result, the maintenance of the old customers' continuing usage of online stores is more important than the initial adoption of using online stores by the new customers [2][3][4][5][6][7].

According to recent website consumption

investigation given by yam.com, it shows that the consumption of network shopping in Taiwan is mainly the purchase of books, magazine and other publication, which is approximately 35%, the highest of all kinds of purchases. Its market scale surpasses one billion NT dollars. In addition, presently, Chinese e-bookstores are mainly occupied by books.com.tw, ylib.com, kingstone.com.tw, silkbook.com, eslite.com and so on. There are still other more online publishing bookstores that allow customers to order professional books (e.g. computer books) online, which include San Min Book Company, Flag Publishing and Kings Publishing. Speaking of most network bookstores, book discounts (price reduction strategy) is the major way to maintain customers' loyalty [8]. Therefore, many network bookstores design new functions (e.g. membership and accumulate points, books recommendations, extending reading, shopping cart, electron books and newspapers and so on), friendly interface (e.g. series of changeable website colour, the one-click function), information rapid renewal service (e.g. ranking the best-selling books, new books channel), the book friends and interactions (e.g. online book summary sites, personalized bookstore, and discussion area), safe diverse payments and delivery selections (e.g. home-deliver, deliver to convenience store, paying by ATM, on-line credit card payment etc.) in order to both attract more new customers and maintain old customers. The purpose of this research is to study whether those innovations are conducive to increase the continuance intention of the customers, and with a further approach to discover the crucial causes of the factors (e.g. user's satisfaction, value factor). The research will examine the correlation hypothesis by using empirical researching technique, and then the proposal of several management opinions and suggestions will be based on the results of the hypothesis diagnoses.

Literature Review

This study explores Taiwan's online bookstore users' intention of continuing to purchase books online. Adopting Post-Acceptance Model [6]as the base of the theory and using IS success model of Delone and Mclean (2003)[9] as the confirmation of it. Therefore, relating researches based on Post-Acceptance Model and IS success model will be reviewed.

Adopting Post-Acceptance Model

Bhattacherjee [6] regards that the expectation of the customer differs before and after the purchase of a product. With the consideration of this theory, this research modifies Expectation Confirmation

Theory and adds in the factors of perceived usefulness from Technology Acceptance Model [10]. Therefore, Post-Acceptance Model takes shape in Figure 1.

The confirmation in Expectation Confirmation Theory comes from the comparison between the previous expectation (t1) and the present result (t2). Positive disconfirmation is a term when the present result surpasses the previous expectation, while negative disconfirmation is a term when the present result is lower than the previous expectation. On the other hand, confirmation is a term when the two factors (t1 and t2) are equally balanced.
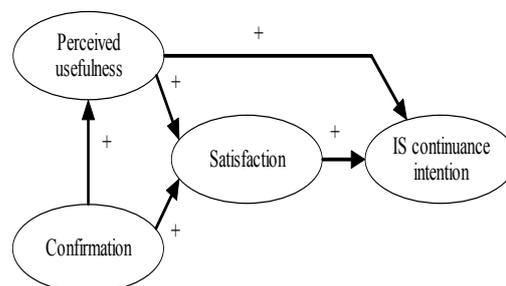

Figure 1：Post-Acceptance Model

Bhattacherjee [7] regards that confirmation is helpful in improving the rate of users' perceived usefulness and satisfaction. Davis et al.[10] indicates that the higher the perceived usefulness of the user in perceiving a specific technology or system, the more positive attitude in using the technology or system will be, which will in turn enhance the intention of usage. Many literatures have previously indicated that in the situation of e-commerce, perceived usefulness will positively influence the satisfaction rate and the attitude of network usage, as well as the usage intention and continuance intention [11][12][13][14][15][16]. Bhattacherjee[6] regards that perceived usefulness is a recognition and concept of the information system, and it can be referred as the afterward expectation of Expectation Confirmation Theory. This enables the hard defining expectation a concrete measurement. With the adoption of Post-Acceptance Model, this study hold the opinion that the reason why consumers are willing to continually purchase books online is because the internet is regarded as a useful mean for purchasing books and it also brings a sense of satisfaction to its consumers.

IS Success Model

Online bookstore is both a website platform and a retail store, so the way of measuring customers' confirmation of the website platform quality can be

made through the adoption of information content quality, information system quality and website service quality [9][17].　In the measurement of the customers' satisfaction rate, McKinney et al.[18] also indicates that the expectation and the comparison of consciousness result of information content quality and information system quality will turn out to be disconfirmation (IQ disconfirmation and SQ disconfirmation), and this will in turn affect the customer's satisfaction rate.

　　DeLone and McLean[9] integrated the effective viewpoint and process influence of the system and information to develop IS Success Model.　Additionally, the six construction side, including system quality, information quality, information usage, user's satisfaction, personal impact and organization impact, was proposed.　It is regarded that system quality and information quality will influence both the satisfaction rate of the user and the usage. What's more, the usage rate will also positively or negatively influence the user's satisfaction rate, which will become a personal impact and then influence the organization. In 2003, DeLone and McLean also renewed that the model should be added into the servicing quality, so as to become a more complete IS Success Model shown in Figure 2.
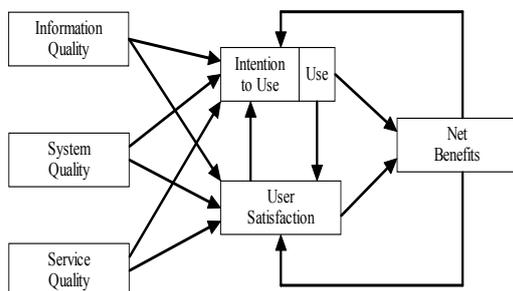

Figure 2：IS Success Model

　　Information content quality concerns with the relevance, instance, reliability, correctness and wholeness of the supplied information content [5][9][14][18]. Internet service quality includes the interaction quality of the staffs, substantial environment quality and results [9][19][20][21].

The Research Models and Hypotheses

The goal of this research is to probe into the influencing elements of the continuance usage of purchasing books online. With the inheritance and adoption of Post-Acceptance Model as the base of the theory, the adoption of information content quality, system quality and service quality from the confirmation in Post-Acceptance Model, and through the IS Success Model of DeLone and McLean [9], the satisfaction and perceived

usefulness of the system are developed through the influence of these three qualities. According to the previous relating literature reviews, this research develops a model given in Figure 3 and the following nine researching hypotheses
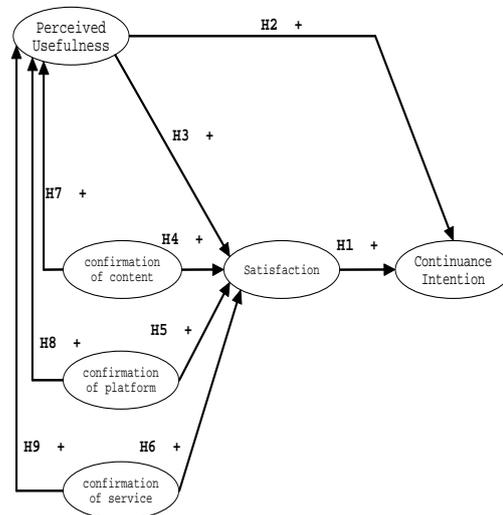

Figure 3: The Research Model

H1：Users' satisfaction positively influences the continuance intention of using e-bookstore.

H2： Perceived usefulness in purchasing books online positively influences the continuance intention of using e-bookstore.

H3： Perceived usefulness in purchasing books online positively influences the user's satisfaction.

H4：Informational content confirmation in purchasing books online positively influences the user's satisfaction.

H5： Website platform confirmation in purchasing books online positively influences the user's satisfaction.

H6：Website service quality confirmation in purchasing books online positively influences the user's satisfaction.

H7：Informational content confirmation in purchasing books online positively influences the perceived usefulness of using e-bookstore.

H8： Website platform confirmation in purchasing books online positively influences the perceived usefulness of using e-bookstore.

H9：Website service quality confirmation in

purchasing books online positively influences the perceived usefulness of using e-bookstore.

Research Methodology

This paper investigates online consumers' continuance intention of using online bookstore, and an empirical study will proceed by using questionnaires. Additionally, structure equation model (SEM) is adopted to verify the path relations of variables of the model. The research steps are to explain as follows.

Sampling Source and Data Collection Procedure

Empirical data for this study was collected via a convenience sampling survey, and the survey respondents were students of a polytechnic university in southern Taiwan. They were either full time or part time students. The students were inquired whether they had any experience of purchasing books or other products online before answering the questionnaire. The survey respondents are only those who had the experience before. 240 surveys were collected and 150 of them were valid after weeding out incomplete or failure surveys through the visual examination. 90 surveys are invalid but 62.5% of surveys were valid samples.

The majority of the survey respondents are females (60%) who are between 20 to 24 years old. Using convenience sampling, the sampling sources are mainly university students. The difference of their resident areas and their school records are not big. Most of their income are 3,000~6,000 and 21,000~24,000 NT$ per month due to the reason that the income differs between full time and part time students The online bookstores often used by 150 survey respondents are buy.yahoo.com.tw (51/150), 24h.pchome.com.tw (46/150), books.com.tw (37/150), eslite.com (6/150), and other online bookstores (10/150).

Measurement Constructs and Question Items

The constructing question items in this research are referred from Bhattacherjee [6][7] and other related articles [17][21], adopts its operational definition to develop measurement question items, and these are given in appendix. The previous survey of the questionnaires in this research had been held for three weeks before the formal survey. 20 consumers who had the experience of using online bookstore were invited as survey respondents to answer the questions. The results show that composite reliability (CR), average variance extracted (AVE) and factor loading are higher than the suggested values.

The questions of the questionnaire had been examined one by one by 2 information management professors and 3 doctorial candidates. The questions that had ambiguous meaning, easily confused or repetition sentences have been corrected or revised, in order to promote the content validity of the questionnaire. Seven-point Likert scales are used to measure each question and 1 is labeled as extremely disagree, 4 is labeled as neutral and 7 is labeled as extremely agree.

Data Analysis and Result

This research adopts Smart PLS version 2.0 M3 as the statistical analysis instrument. Smart PLS is graphical software for structural equation statistics that is similar to LISEREL. Comparing with LISEREL, Smart PLS is less restrictive in the request that variables must be normal and random distribution. Also, when estimating the path coefficient, it has fewer requirements about the sample size. The sample size of this research is 150 that are appropriate to adopt Smart PLS as the statistical analysis software.

Measurement Model Analysis

Under the consideration of the overall model, the purpose of measurement model analysis is both to test whether all measured variables have correctly measured its latent variables and whether they correspond with the complex measured variables under different circumstances. This research uses convergence validity and discriminate validity to represent construct validity. Convergence validity means using different measuring methods to measure variables from related variables, and it will be the measurement of same object when the correlation degree is high; thus, the score of measurement and the result should be the same. In a certain construct, the variance of measured variables should be highly interpreted or that measured variables should possess convergence, and this research uses factor loading (see Table 1) and average variance extracted, AVE (see Table 2) to represent it. The factor loading scale of all questions in this research is shown in Table 2. The scale is between 0.70~0.90, all of which are higher than the suggested scale 0.70. Therefore, the convergence validity of this research is within an acceptable range.

Table 1. Reliability analysis of all variables in measured model

Constructs	Item	Mean	STD.	Factor Loading	CR
Continuance intention	CI1	5.25	0.96	0.873	0.89
	CI2	5.39	0.92	0.870	
	CI3	5.22	0.85	0.829	
Satisfaction	SAT1	5.15	1.01	0.808	0.90
	SAT2	5.01	0.98	0.853	
	SAT3	5.05	0.96	0.809	
	SAT4	5.05	0.98	0.830	
Information content confirmation	CON1	5.03	1.05	0.807	0.90
	CON2	4.97	1.06	0.856	
	CON3	5.13	0.90	0.820	
	CON4	4.89	0.82	0.842	
System platform confirmation	SYS1	4.82	1.04	0.822	0.90
	SYS2	4.78	1.10	0.904	
	SYS3	4.88	1.15	0.867	
Service quality confirmation	SEV1	5.09	1.04	0.820	0.87
	SEV2	5.17	1.07	0.806	
	SEV3	5.27	1.04	0.703	
	SEV4	4.98	0.98	0.833	
Perceived usefulness	PU1	4.92	1.03	0.814	0.90
	PU2	4.90	0.99	0.801	
	PU3	4.73	0.96	0.855	

Discriminate validity means the measuring of two different concepts, no matter the same or the different method the researcher uses, the relating analysis after the result of measurement shows that the correlation degree is lower. This research table is shown in Table 2. AVE scale is between 0.62 and 0.75, and the radical expression of any two constructs of AVE is larger than the coefficient relationship of these two construct. Therefore, the discriminate validity of this research is within an

acceptable range.

Table 2：Correlation of Constructs and AVE

		Constructs					
	AVE	CI	SAT	PU	CN	SY	SE
CI	0.74	0.86	-	-	-	-	-
SAT	0.68	0.43	0.82	-	-	-	-
PU	0.68	0.50	0.43	0.82	-	-	-
CN	0.69	0.38	0.45	0.45	0.83	-	-
SY	0.75	0.54	0.15	0.27	0.10	0.87	-
SE	0.62	0.34	0.54	0.39	0.43	0.16	0.79

Note ： CI = Continuance Intention, SAT = Satisfaction, PU = Perceived Usefulness, CN =Informational Quality Confirmation, SY = System platform Confirmation, SE = Service Quality Confirmation.

This research adopts composite reliability(CR) as the reliability measurement. The latent variables of CR is consisted by all measuring variable reliability, it indicates that the inner coherence of construct index and its suggesting scale is higher than 0.6 [22]. High reliability means that there is high relation between the indices so that researchers will be confident to regard that the measuring item of this construct is coherent. The CR of this research construct (see Table 1) is in between 0.87~0.90, all of which are higher than the suggested rate 0.6. Therefore, the CR of this research construct is within an acceptable range.

Structural Equation Analysis

This research uses Structural Equation Model (SEM) to examine the proposed research model, and it adopts Smart PLS to make statistical analysis. Since PLS lacks the generation of overall goodness of fit index, it is represented only with the explained variance (R^2) of endogenous constructs, path coefficient between constructs and its statistical significance (see Figure 4).

The variance explanation for continuance intention is 30%, the variance explanation for user's satisfaction is 38%, and the variance explanation for perceived usefulness is 28%. Of the nine proposed research hypotheses, only satisfaction rate of systemic quality confirmation have not achieved an significant level, while the

path coefficient of other eight hypotheses are between 0.19~0.39 and are statistically significant
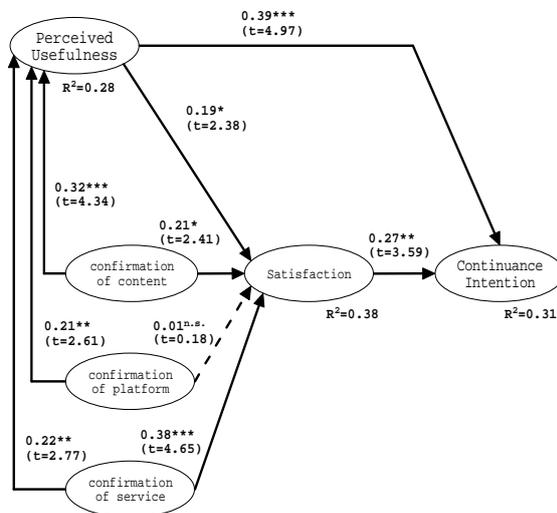
*p<0.05,**p<0.01,***p<0.001,n.s.=nosignificant
Figure 4：PLS result of the research model

Conclusion and Managerial Implications

According to the adoption of Post-Acceptance Model, this research develops continuance purchasing books online model, and the testament shows that the influence of perceived usefulness and user's satisfaction on continuance intention are quite evident. The path coefficient (β=0.39) of continuance intention to perceived usefulness is larger than the path coefficient (β=0.27) of continuance intention to user's satisfaction. This result is different from the testament of Bhattacherjee [6][7], which indicates that with the rapid development of e-store, many consumers already have mature online shopping experience. Therefore, the influence of continuance intention on the perceived usefulness of purchasing books online (the convenience, completeness and effectiveness) is higher than the influence on user's satisfaction. Moreover, the explanation of variance extent of continuance intention in this research (31%) is lower than the explanation of variance extent of Bhattacherjee [6] (41%). This indicates that the causes of customer's repurchasing behavior may be more complicated through the influence of the development of e-store and marketing strategies. Lin et al. [23] regards that perceived playfulness is an important considering element. What's more, in the research, Yen and Tsai [24] have deconstructed perceived usefulness as functional usefulness and social usefulness and added the concept of Web 2.0 into e-commerce.

(p<0.01). Therefore, the model of this research can be accepted to make further analysis.

This is also the probable direction to promote the explanation of variance extent of continuance intention in the future.

This research adopts Post-Acceptance Model as the base of the theory and uses IS success model of DeLone and McLean [9] to deconstruct the confirmation of Post-Acceptance Model. The result shows that systemic quality confirmation does not have evident influence on user's satisfaction; in other words, the website platform response rate, the easiness of using and the usability of website functions are more difficult to reach a convergence concerning on the influence of user's satisfaction (β=0.01,t=0.18). This may be because those who have filled out the questionnaire have different opinions about each e-bookstore platform, so it is worthy to make further study on the brand loyalty.

Carr [25] indicated that IT changes swiftly the business operations' strategy. However this advantage will be vanished if the IT has been imitated by competitors. Additionally, consumers are gradually dissatisfied with the platform functions that are developed by e-store using some other web techniques. The competition and imitation of website platform functions lower the uniqueness of web resources. With the concern of users' post-adoption behavior in purchasing books online, this study discovers that even though the confirmation of website platform shows influence on consumers' value, it, however, does not affect consumers' satisfaction. Therefore, under the premise of maintaining consumers' satisfaction, it is suggested that companies should lay emphasis on elevating the service quality.

The deconstructing confirmation element of this research indicates that website service quality has more evident influence on user's satisfaction (β=0.38,t=4.65), and information content quality has more evident influence on perceived usefulness (β=0.32,t=4.34). Thus, this research suggests that the venders of e-bookstores need to specially recruit service staffs and operate valuable web content after the website platform is stabled. Also, they should increase book commentary and book information and reader interacting site in order to attract more customers to visit again.

With the more online purchasing experiences of Taiwanese, this research have not included the discussion of risk and trust problems of internet trade into the model. The main purpose of this research is to clarify the influence of continuance intention on perceived usefulness. This is also an issue that companies need to lay emphasis on. Even though low price is still the main promotion strategy for many stores, it will, nevertheless, not

help the long-term continuance intention project, and the research also lacks the discussion of this issue. In this study, survey respondents are students of a polytechnic university, while the result possesses reliability yet it is still inadequate concerning the inference of external validity. As a consequence, the authors suggest that a larger scale of investigation can be made in the future under the circumstances of enough budgets and the cooperation of portal sites.

Appendix

Measurement Question Items

Continuance Intention:
CI1. I tend to continue using e-bookstore rather than discontinue their use.
CI2. My intentions are to continue using e-bookstore rather than any alternative means.
CI3. If I could, I would like to discontinue using e-bookstore.

Satisfaction:
ST1. I am satisfied with my decision on using e-bookstore.
ST2. It is a wise choice for me to purchase books online.
ST3. I am very delighted to purchase books online.
ST4. I am satisfied with the usage of e-bookstore.

Confirmation of Information Context:
CN1. The book information provided by e-bookstore fulfills my needs that are better than I had expected.
CN2. The book information provided by e-bookstore is more up-to-date than I expected.
CN3. The book information provided by e-bookstore is more complete than my expectations.
CN4. The book information provided by e-bookstore is more reliable than my expectations.

Confirmation of website platform:
SY1. Every function provided by e-bookstore can always be properly used that is better than my expectations.
SY2. The information shown on the screen of e-bookstore is faster than I expected.
SY3. Every function provided by e-bookstore is easy to use that is better than my expectation.

Confirmation of Website Service Quality:
SE1. Website services provided by e-bookstore being accomplished as scheduled is better than I expected.

SE2. Purchasing products on e-bookstore is relieved that is better than my expectation.
SE3. E-bookstore actively assists customers in choosing and buying products is better than my expectation.
SE4. Particular requirement of customers being adequately taken care is better than my expectation.

Perceived Usefulness:
PU1. It is more convenient for me to purchase books and other products online.
PU2. E-bookstore service allows me to find more products that conform to my interest.
PU3. Using e-bookstore service enhances my time arrangement effectively.

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