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A Holistic Approach for Initial Acceptance and Continuance Model in Website Stickiness

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ABSTRACT

How much do you pay to attract each customer to your Website? Some of the new e-commerce businesses are paying hundreds of dollars to attract one customer who will actually make a purchase, without a guarantee of a return visit. Until now, most research has focused on attracting customers or initial acceptance of Information Technology. However, as we know, attraction costs or initial acceptance cost are more expensive than retention costs or re-visit costs. Thus, this paper investigates the causal relationships between initial acceptance and the continuance process on Website visits. Specifically, it will examine from a holistic perspective the stickiness mechanism of Websites.

1. INTRODUCTION

Information Technology and its applications have been used widely in businesses of various industries, and specifically, the Internet has had a profound impact on a number of industries (Evans and Wurster, 1997). The number of users engaging in electronic commerce (EC) activities on the Internet such as financial investments, banking, gaming, and shopping has dramatically grown at an annual rate of greater than 50 percent (Liang and Ku, 1999). Simultaneously, Web technology for EC has developed broadly and been used widely in organizations by firms (business-to-business: B2B) and by individual users (business-to-customer: B2C; Hoffman et al., 1995; Zwass, 1996).

Despite the impressive growth of EC, there is compelling evidence to suggest that users' Website revisiting intentions are not subsequently a sure thing. According to a 2000 Boston Consulting Croup study (Shop.org & Boston Consulting Group, 2000), the proportion of consumers who buy out of those who visit a Website remains low ranging between 2.8% and 3.2%.

Therefore, the preceding evidence regarding Web business has prompted many firms to reassess and redesign their service quality, system use, playfulness, and design quality (Liu and Arnett, 2000; Wan, 2000) of their associated Websites as well as attempting to understand the growing numbers of customers (Kalakota 1997), consumer reactions to electronic shopping, product perceptions, shopping experiences, and customer service (Jarvenpaa and Todd, 1996). Palmer and Griffith (1998) propose that a change is needed for organizations to concentrate on not only the technological characteristics of their Website, but also to address customer concerns (Jarvenpaa and Todd, 1996) for Web usage.

In Web business, information technology determinants may lead consumers to engage in information system usage, while marketing determinants may facilitate one-time purchasing or repeat repurchasing behavior. Smith and Sivakumar (2002) explored conditions under which different dimensions of Internet shopping behaviors (browsing, one-time purchases, and repeat purchases), consumer related factors, the nature of the product, and the nature of the purchase occasion influenced user behavior. Forrestor research (1999) suggested that the perceived price of a product is a key attribute that most consumers consider in Web usage.

However, prior studies of Websites have articulated that consumer behavior of IT acceptance is separate from consumer characteristics or product characteristics. The willingness of customers to use Websites needs to be considered together with technology, products or services, social, and human factors. Actually, in Internet-based EC, why people decide to shop online, what kind of people want to use the Internet, and how people keep using Web sites have increasingly become important to web service providers.

In this paper, our conceptual model of Web usage is introduced from a holistic perspective. The research model proposes to investigate not only the relationship between the initial technology acceptance factors such as social influence, human, and marketing factors in predicting not only Web usage, but also the continuance of Web usage. In order to achieve the study's objectives, our Web usage model integrates initial-acceptance models such as TPB (Ajzen and Fishbein, 1980), TAM (Davis, 1989; Davis et al., 1989), Marketing Determinant (Rayport and Sviokla, 1994), and Individual Characteristics (Venkatesh, 2000; Klein, 1998; Compeau et al., 1999; Stewart, 1999), continuance models such as Online Repurchase Intention Model (Shim et al., 2001), and SERVQUAL & Behavioral Model (Dabholkar et al., 2000; Zeithaml et al., 1996; Homburg and Giering 2001; Oliver 1997; Anderson et al 1994; Marr and Crosby 1992; Ostrom and Iacobucci 1995), and post acceptance models (Bhattacherjee, 2001; Karahanna et al., 1999). Based on the literatures, we identify the key predictors of initial Web usage and continuance of Web usage through a survey of Web visitors.

2. LITERATURE REVIEW

The theoretical model for the study combines the initial acceptance models and the continuance models. The initial acceptance factors are based on the aspects of technical factor (Ajzen and Fishbein, 1980; Davis, 1989; Davis et al., 1989), social factors (Beard et al, 1986; Burnkrant and Cousineau, 1975; Handelman and Arnold, 1999), human factors (Compeau et al., 1999; Currall and Judge, 1995; McKnight et al., 1998), and marketing factors (Rayport and Sviokla, 1994). The continuance factors are based on satisfaction (Zeithaml et al., 1996; Bailey and Pearson, 1983) and stickiness (Beddoe and Stephens, 1999; Bush, 1999).

2.1. Initial Acceptance Constructs: Technology Dimension

Theories of IS use research have examined through the TRA and TPB, which has been proven successful in predicting and explaining behavior across business areas (Adams et al., 1992; Agarwal and Prasad, 1997; Christensen, 1987; Davis, 1989 and 1993; Mathieson, 1991; Moore and Benhasat, 1996; Pavri, 1988; Sheppard et al., 1988; Taylor and Todd, 1995; Thompson et al., 1991), Based on TRA, Davis (1989) introduced the technology acceptance model (TAM) which provided an explanation of the determinants of computer acceptance to end users (Chau, 1996; Hu et al., 1999; Sznjna, 1996; Venkatesh and Davis, 1996 and 2000).

2. 2 Initial Acceptance Constructs: Social Dimension

According to institutional theory (Handelman and Arnold, 1999), the institutional environment contains taken-for-granted social and cultural meaning systems, or norms, that define social reality. Rogers (1976) insisted that

social factors are closely related to the communication network aspects of IDT (Innovation Diffusion Theory), which lie at the heart of the diffusion process. There are two types of social influence: (1) informational influence, which occurs when individuals accept information as evidence of reality, and (2) normative influence, which occurs when individuals conform to the expectations of others (Bearden et al., 1986; Burnkrant and Cousineau, 1975; Handelman and Arnold, 1999).

First, Word-of-Mouth (WOM) communications might be a highly important external variable. WOM messages may be a powerful determinant of the adoption of technology. Consumers were affected more by WOM messages than by any other factor overall (Webster, 1991). Based on prospect theory, several studies (Kahneman and Tversky, 1979; Einhornn and Hogarth, 1981; Aharony and Swary, 1980, Lang and Litzenberger, 1989; Michaely et al., 1995) detect stronger effects when information about a product is unfavorable rather than favorable, and when information is verbal rather than written (Herr et al., 1991). In addition, face-to-face WOM messages have proven to be powerful influences on consumer attitudes and behavior.

Second, possible salient referents for the social normative component with respect to individuals' adoption of IT could be friends (Brancheau, 1987; Cale and Eriksen, 1994) and near peers of the potential adopter through their own personal experiences (Brancheau and Wetherbe, 1990).

2.3 Initial Acceptance Constructs: Human Dimension

In a learning electronic environment, individuals who are comfortable with technology may have positive attitudes (Jonassen, 1985). The concept of self-efficacy (Bandura, 1986) has been incorporated into IS research on technology adoption and use (Compeau and Higgins, 1995a and 1995b; Marakas et al., 1998; Staples et al., 1999). It has also made its way into the literature through the theory of planned behavior (Ajzen 1985), which considers perceived behavioral control and social norms as predictors of attitude (Mathieson, 1991). This research has shown that self-efficacy is an antecedent of Web usage (Compeau et al., 1999).

In addition, the failure of the Web as a retail distribution channel has been attributed to the lack of trust consumers have in Web security and privacy in general (Stewart, 1999). Currall and Judge (1995) defined trust as an individual's reliance on another party under conditions of dependence and risk. Mayer et al (1995) further clarified the relationship between trust and risk: trust is the willingness to assume risk, while trusting behavior is the assumption of risk. When the trustor does not have firsthand knowledge of electronic commerce, trust is important, given that there is some risk involved in using an electronic channel for financial transactions. This research has shown that trust is an antecedent of Web usage.

Klein's 1998 investigation found that prior experience with Internet shopping influences the next behavior. Liang and Huang (1998) found that consumer's prior experience had a moderating effect in predicting their acceptance of Internet shopping. This research has shown that prior experience is an antecedent of Web usage

2.4 Initial-Acceptance Constructs: Marketing Dimension

Hoffman and Novak (1996), as well as Berthon et al. (1996) suggest several uses for Websites including presence, promotion, sales, and customer research. In addition, the opportunity for users to examine or test the product or service and receive technical support can be provided through the Website. Rayport and Sviokla (1994) developed a framework for creating new values for customers. A customer's perceived value of a product or service consists of the three basic elements, the content of the product or service that companies are offering, the context of how companies are offering the product or service, and the infrastructure that enables the transaction to occur. Rayport and Sviokla (1994) developed a framework representing customer behavior in the marketspace using TRA. Customers' beliefs about a particular brand's content, context, and infrastructure have impacts on their attitude toward repetitive transactions for the product or the service associated with it.

Moreover, the price of product is an important aspect of online shopping. Price power is evident in the ranking of store formats. Some shoppers are highly price sensitive and consequently look for bargains. Such individuals will actively search and buy products on the Internet in order to obtain lower prices because lower prices are a main reason why online shoppers shop on the Web (Forrester Research, 1999).

In an Ernst & Young survey on e-commerce, 69% of respondents stated that brand names played a significant role in their online buying decisions. Online users continue to gravitate toward brands for two basic reasons: first, band names act as substitutes for information gathering by helping online buyers locate specific products and thus reduce search costs; and second, consumer attitudes regarding brand trust, security, and expectations regarding product quality (Coltman et al., 2002).

2. 5 Continuance Constructs: Satisfaction

According to SERVQUAL and satisfaction theory (Zeithaml et al., 1996; Bailey and Pearson, 1983; DeLone and McLean, 1992; Ginzberg, 1979, Kettinger and Lee, 1999, Klenke, 1992; Melone, 1990), the concept of end user satisfaction has been exclusively researched as a surrogate of system success. DeLone and McLean (1992) introduced a comprehensive taxonomy to organize diverse research in this area, as well as to present a more integrated view of the concept of information system success and posited six major dimensions or categories of success: system quality, information quality, use, user satisfaction, individual impact and organizational impact. Ives, et al (1983) developed a 13-item instrument, which was later confirmed by Baroudi and Orlikowski (1988). They defined end user satisfaction as felt need, system acceptance, perceived usefulness, MIS appreciation, and feelings about a system. Bailey and Pearson (1983) evaluated overall satisfaction, which they suggested is affected by 38 items, measured on a 7-point likert scale where "1" indicates users strongly agree with his/her present computer experience, and "7" indicates that they strongly disagree. Lee and Ulgado (1997) investigated the relationship between perceived SERVQUAL value and customers' overall satisfaction in the fast-food industry.

In this paper, the four-dimensional conceptualization of satisfaction is used, including satisfaction through usability, satisfaction through personalization, satisfaction through content, and satisfaction through privacy. These dimensions will be explained in detail later.

2.6 Continuance Constructs: Stickiness

Even though stickiness is a relatively new concept, according to the latest academic literature, there are several definitions in the concept of stickiness. Some definitions are as follows.

Beddoe-Stephens (1999) defined Stickiness as "a company's ability retain end users and drive them further into a site." Bush (1999) emphasize that Stickiness is clearly based on providing unique content and specialized services to vertical market niches. According to Devenport (2000), Stickiness is a measure of how much attention a Web site receives over time. By term definition, Website Stickiness is measured by the average minutes per month visitors spent at a site or network (Marketing terms.com), and Stickiness is anything about a Web site that encourages a visitor to stay longer. A Web site is sticky if a visitor tends to stay for a long time and to return (searchwebservices.com).

HYPOTHESES

On the basis of literature review, we seek to derive the causal relationships between initial-acceptance constructs and continuance constructs. Most research models are discontinuous and have not considered a causal relationship between initial-acceptance and continuance. Therefore, in this paper, we integrate two acceptance models to better explain end users' Websites usage from a combined or holistic perspective rather than from each perspective separately.

Our literature review suggested that technology, social, human, and market dimensions strongly affect end-users' intention to use Web sites based on TRA, TAM, TPB, IDT, Institutional theory, Prospect Theory, and WOM.

From this general statement, the degree of intention to use Websites will be measured within the four initial constructs. Hence, we propose the following hypotheses:

H1~4: Intention to use Web sites is determined by Technology, Social, Human, Marketing dimensions.

It is expected that if this hypotheses are proven true, then these new initial-acceptance constructs could be commonly used to test internal validity and statistical conclusion validity.

Theory of Reasoned Action (Ajzen and Fishbein, 1980; Ajzen, 1985) suggested that intention (behavior) affects behavior, and Shim and Drake (1990) also insisted that a strong intention to use a PC affects the use of PCs. Hartwick and Barki (1994) hypothesized that intention to use determines system use. According to the IT diffusion process model (Straub, 1994; Straub et al., 1995; Gefen and Straub, 1997), the perception of usefulness, the perception of ease of use and Gender differences may be related to intention to use which directly affect actual use. Hence, the following hypothesis is suggested:

H5: Intention to use directly affects actual use.

The second part of our research demonstrates the mediating role of satisfaction in Web site stickiness, and investigates the idea that end user Web continuance is channeled through satisfaction.

Klein (1998) found that prior experience with Internet shopping influences the next behavior. Similarly, Liang and Huang (1998) found that consumers' prior experience had a moderating effect in predicting their acceptance of Internet shopping. In prior experience, customer satisfaction is an essential factor regarding the reuse or revisitation of a Website.

Zeithaml et al. (1996) developed SERVQUAL and then insisted that service quality relates to retention of customers at the aggregate level. Kettinger and Lee (1994) demonstrated that knowledge and information, information products and information system staff and service improve user satisfaction with an information service function.

Bowman and Narayandas (2001) showed that customer satisfaction influenced repetitive buying behavior. Satisfaction research has typically defined satisfaction as a post choice evaluative judgment concerning a specific purchase decision (Bearden and Teel 1983; Churchill and Suprenant 1982; Oliver 1979, 1980; Oliver and DeSarbo 1988). Parasuraman et al. (1994) conceptualized the idea that transaction satisfaction contained evaluation service quality, evaluation production quality and evaluation price.

Based on SERVQUAL, we adapt and develop IT's Post-Acceptance Model (PAM) to ascertain why end-users stick to using certain Websites. PAM is based on Expectation-Confirmation Theory (ECT), which is adapted from consumer behavior literature (Anderson and Sullivan, 1993; Oliver, 1980; Petterson and Johnson, 1997). The process of repurchase-intention on the PAM framework is as follows (Bhattacherjee, 2001):

1. End-users form an initial expectation of a specific IT, and expect usefulness.
2. They accept and use the IT, and then form perception of its usefulness.
3. They assess their satisfaction with the IT.
4. Finally, satisfied end-users form an IT continuance intention.

The PAM model is different from TAM on at least three counts: 1) PAM explains continuance behavior while TAM focuses on initial acceptance; 2) PAM is a richer model from the perspective of post acceptance variables because these variables are in greater temporal proximity to continuance behaviors; and 3) TAM cannot provide a reasonable explanation of the acceptance-discontinuous anomaly based on a common set of pre-acceptance variables (Bhattacherjee, 2001).

As theorized and validated by ECT and PAM, end-users' continuance behavior is determined by their satisfaction with prior IT use (Trevino and Webster, 1992). Bhattachejee's 2001 study indicated that end users' satisfaction level is positively associated with their IT continuance intention.

According to Northwestern University's Integrating Marketing Communication research group (IMC: http://www.medill.northwestern.edu/imc/studentwork/projects/ Sticky/stickiness.htm), a Website's stickiness comes from Usability, personalization, and content. Walczuch et al. (2001) insisted that stickiness is affected by content, privacy, incentives schemes, online special events, Brand loyalty, personalization, reminders and navigation. Barnes and Vidgen (2001) suggested that Web quality is determined by information quality, interaction quality and an integrated view of Web site quality.

Based on previous research, in this paper we consider the satisfaction factors that increase stickiness to be usability, content, personalization, and privacy.

Satisfaction relates to customer evaluations of product usability based on such characteristics as durability, technical sophistication, and ease of use (Parasuraman, 1994). Usability explains the process of designing an e-commerce Website and compares it to designing a store in the offline world. It states that companies need to have a deep understanding of their consumers; how they shop, browse, and purchase (http://www.medill.northwestern.edu/imc/studentwork/ projects/Sticky/usability.htm).

IMC also defined personalization such that a personalized Website recognizes repeat visitors, offers them a unique set of alternatives based on their past behavior or stated preferences, and continues to learn from the users' interactions so as to remain relevant and tailored to meet their individual needs and wants. Some researchers (Hagel and Armstrong, 1997; Hof, 1998; Luedi, 1997) insisted that personalization attracts more people and keeps them on the Web site for longer, creates customer loyalty, and generates stickiness. According to Kotwica (1999), 81 percent of respondents to her survey have visited a site that uses some form of Web site personalization, and 64 percent found it useful.

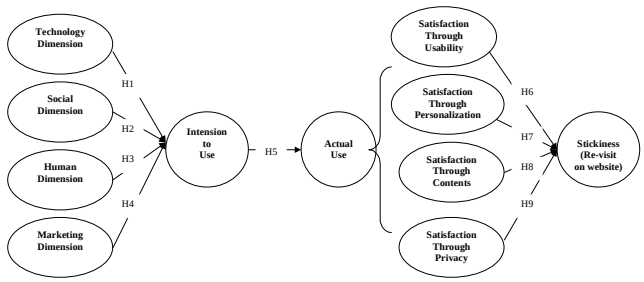
According to Walczuch (2001) and his partners, tailoring content to the individual user is one of the important factors in creating stickiness. They suggested three different types of content, depth of content, breadth of content, and frequent updates. Hegal and Armstrong (1997) insisted that the greater the vertical integration of functional content, the stickier the Web site is for end users. Davenport (2000) emphasizes a broad offering of content because the wide range of information options builds stickiness. For example AOL users more spend substantial amounts of time in the site due to a self-contained world of content. Another important factor for achieving stickiness is rapid updates in content. Users visit a Web site, and when they are satisfied with the site content they revisit the site.

According to Brenner (1998), respecting the privacy of users has a positive effect on stickiness. When privacy is respected, end-users may have loyalty to the site. When users feel that the sole owner of any information collected on a site sells, shares, or rents their information to others, they will not revisit or reuse the Web site. Kotwica (1999) also found that many respondents voiced concerns about privacy. That is, Web users feel that Big Brother is watching their information.

All four elements must work in unison in order for a site to achieve a sufficient degree of stickiness required to repeat transactions. This leads to the hypotheses.

H6-9: Stickiness in Web continuance usage is positively affected by satisfaction through Usability, Personalization, Content, and Privacy

Figure 1. Research Model



4. EXPECTED CONCLUSION

Our research model lays down a conceptual framework for continuance of Website visits by users. The holistic model between initial acceptance and continuance helps provide a better understanding of Web stickiness. Even though current research suggests a concept of stickiness, there is little empirical evidence. This study tries to investigate the causal relationships from initial acceptance to continuance.

This research also has limitations. Future research should consider specific types of Web sites as research subjects because there are likely many important deviations between Web site types, such as news sites, BC sites, and portal sites.

REFERENCES

References are available upon request from authors