

## Why Do Customers Purchase from a Website? Activity-based Web Presence Readiness Model\*

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This study proposes a web presence readiness model based on pre-payment service functions and a post-payment service function both of which embrace the major concerns of customers in the online purchasing context. Based on the concept of *customer utility from the product itself and instrumental utility*, the research model suggests four antecedents including, *Perceived Economic Benefits, Product Search Support Quality, e-Shopping Method Diversity, and Post-Payment Support Quality*. We empirically examined a proposed research model using data collected from online rating company websites. Among the four antecedents, post payment support quality is found to be the most influential determinant of customer evaluation on e-commerce websites. Based on the empirical results, the current study proposes an alternate model of web presence readiness. The findings of this study may provide an insight to field practitioners designing commercial websites. The implications and future research directions are further discussed.

**Keywords :** E-commerce Readiness, Web Presence Readiness, Utility, Time Discount

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## I . Introduction

Website usability has been considered one of the core components that bring customers to an e-commerce website [Buschke, 1997; Hasan *et al.*, 2012; Konradt *et al.*, 2012; Nielsen, 2000]. Studies identified the customer attitude toward the website [Eighmey, 1997; Ghose and Dou, 1998; Keeney, 1999], the quality of presented information, as well as other factors affecting the number of pages visited or the time spent at the site [Dreze and Zufryden, 1997] as key success factors [Agarwal and Venkatesh, 2002; Hernández *et al.*, 2009; Lederer *et al.*, 2000; McKinney, Yoon, and Zahedi, 2002; Garrity *et al.*, 2005]. Another stream of research found that usability involves customer needs [Hasan *et al.*, 2012; Keeney, 1999], supporting activities for the needs [Porter, 2001] and technical aspects of website design. According to Porter [Porter, 2001], Internet applications must be integrated into the value chain of a business in a comprehensive manner. Thus, in order to succeed in online business, organizations should align their internal business process in accordance with their business model presented by their website all the way through the value chain. Given the available technology today, the features of company websites are somewhat similar across competing e-commerce websites. Hence, the focal point is how they deliver comprehensive total service experiences to the customers, seamlessly aligning with business processes such that the website features are actual representations of the business process. In addition, more attention should be paid to the post-payment customer support services since this phase of the pur-

chasing experience is not only where customers are disengaged from the indifferent technology features but also where businesses can make differences in complete service experience provided to the customers.

The current paper proposes a web presence readiness model based on existing theories including, consumer decision-making processes [O'keefe and McEachern, 1998], consumer's perceived utility [Balasubramanian, Raghunathan, and Mahajan, 2005], and website success factors. Relying on the literature that has validated the vital role of perceived utility and its substantial impact on the decision making process [Balasubramanian, Raghunathan, and Mahajan, 2005; Farquhar, 1984; Seddon, 1997], we propose that online customer's utility, especially, instrumental utility should be central to an understanding of web presence readiness. The proposed model identifies the factors influencing customer evaluation on an e-commerce site through the lens of utilities both from purchased products (direct utility) and from the purchasing process support by the website (instrumental utility). Direct utility is represented by the perceived economic benefit, and instrumental utility is affected by product search support quality, e-shopping method diversity, and post payment support quality. Among these, post payment support quality has the highest strategic importance since this phase of the customer's online purchasing experience is where businesses can make differences by providing a complete service package experience to the customers. The factors affecting instrumental utility relate three major online purchasing activities of customers: product (or service) search, purchase, and after-payment

activities.

The contributions of the current study are in two folds. First, this paper proposes a research model that relates website features to online buying process, which enables us to examine the effects of the values created by the features. The results of the study may help field practitioners understand the importance of website functionality fitting to customer activities. Second, this study provides implications for designing online shopping websites that facilitate seamless consumer purchasing activities. This is particularly important for a start-up online company because website design supporting the consumer purchasing process leads directly to customer trust and satisfaction, which in turn results in an increase in sales [Palmer, 2002]. The findings of this study may help managers and developers design effective websites by providing insights on how to gain customers' positive feelings on their websites.

In essence, we emphasize the importance of instrumental utility. In particular, post-payment support quality appears to be a leading factors influencing customer evaluation hence more attention should be paid to the post-payment customer support aspect of the process.

In the following section, we begin by discussing the theoretical foundation of e-commerce readiness. We then develop an empirical model and hypotheses. The following section provides the data description, measurement and structural models, methodology, and the main estimation results. Next, we discuss the implications of the empirical results and propose an alternative model. We conclude with the caveats as well as suggestions on directions for future work.

## II . E-Commerce Readiness

### 2.1 E-Commerce Readiness

E-commerce readiness can be defined as the extent to which an e-commerce website is prepared and equipped with respect to the conditions so that the website can effectively support the customer online buying process [Storey *et al.*, 2000]. E-commerce readiness may differ depending upon perspective. From the customer viewpoint, ease of use and usefulness are the most important factors in evaluating a website [Davis, 1989; Davis, Bagozzi, and Warshaw, 1989; Devaraj, Fan, and Kohli, 2002; Gefen and Straub, 2000; Lederer *et al.*, 2000]. From the industry perspective, important are technical readiness including infrastructure, technologies, e-commerce pertinent regulations and web presence readiness [Parasuraman, 2000].

Among those readiness factors, the impact of web presence readiness on consumer attitude has been highlighted [Agarwal and Venkatesh, 2002; Nielsen, 2000; O'keefe and McEachern, 1998; Palmer, 2002; Palmer and Griffith, 1998]. It is primarily because web presence readiness is readily visible in e-commerce practices and seamless integration of web activities with business activities is the catalyst for e-commerce effectiveness [Chang, Jackson, and Grover, 2003]. The e-commerce effectiveness, in turn, improves customer utility in ways of offering better products and effective customer support online.

### 2.2 Web Presence Readiness and E-Commerce Readiness

Web presence readiness refers to the extent

to which an online store is prepared and equipped “in terms of information content and information delivery mechanisms” [Storey *et al.*, 2000] supporting customer activities throughout the purchasing process. It can be implemented in the form of product information, company information, website design, navigating/searching features, and various information contents and functionalities.

The importance of web presence readiness stems from two facts; (1) it is the primary contact channel with customers, through which all transactions and interactions take place, and thus all business processes need to be in line with web presence [Barua *et al.*, 2001], and (2) it has become a substantially efficient real-time feedback channel with customers, which enables the firm to complete e-commerce practices in an effective manner [Barua *et al.*, 2001]. In particular, the feedback functionality based on customer comments and information captured by various technologies is a key component of web presence. In numerous cases, feedback from customers is used to realign the company’s business process, and improve the effectiveness of the processes as well as web presence readiness [Agarwal and Venkatesh, 2002; Barua *et al.*, 2001].

### 2.3 Web Presence Readiness and Customer Utility

Web presence readiness influences e-business effectiveness and customer utility perception, both of which are the key drivers of customer purchasing decision [Balasubramanian, Raghunathan, and Mahajan, 2005]. From the utilitarian perspective, customers’ purchasing decision process needs to be considered in light of the pur-

chasing process as well as the final outcomes [Balasubramanian, Raghunathan, and Mahajan, 2005]. The primary goal of customer purchasing decision is to maximize the total utility from the purchase and to minimize transaction costs. The utilitarian perspective, therefore, can be a useful framework in understanding customers’ concerns with regard to both the online purchasing and functionalities provided by an e-commerce site [Iqbal, Verma, and Baran, 2003].

Utility represents perceived benefits from a selected product or a set of products [Farquhar, 1984; Seddon, 1997]. The total utility associated with the customers’ purchase decision consists of utility from the product itself and instrumental utility<sup>1)</sup> [Balasubramanian, Raghunathan, and Mahajan, 2005]. The former includes perceived economic benefits from the purchased product, being a common interest of customers engaged in the purchase process. This benefit can be acquired by a product or service that resolves the gap between desired and actual state of the customer needs [Bruner and Pomazal, 1988]. The latter refers to the utility obtained from the instrumental elements of purchasing process such as acquiring information, evaluating, and choosing products [Balasubramanian, Raghunathan, and Mahajan, 2005]. In the con-

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1) The third utility is the non-instrumental utility which represents the utility from the non-instrumental elements of the shopping process, which are peripheral to the shopping expedition. This utility relates the additional benefits from the shopping experience such as socializing with people and enjoying a relaxing shopping atmosphere. Although the non-instrumental utility can be important, it may not be the main concern in the online customer’s purchase decision. This study excludes non-instrumental factors from the research model.

text of traditional purchasing process, activities such as driving up to a store, locating items to buy, and physically assessing its value can be viewed as the instrumental elements. Contrarily, those elements are replaced in the online purchasing context with searching and comparing offerings across Websites, assurance of on-time product delivery without physical contact or engagement and so forth [Iwaarden *et al.*, 2004]. Furthermore, the elements provided through web technologies up to the checkout and payment step. For this reason, they are more or less the same across competing e-commerce retailers, mitigating the possible room for differentiation which, in turn, makes post payment support more important.

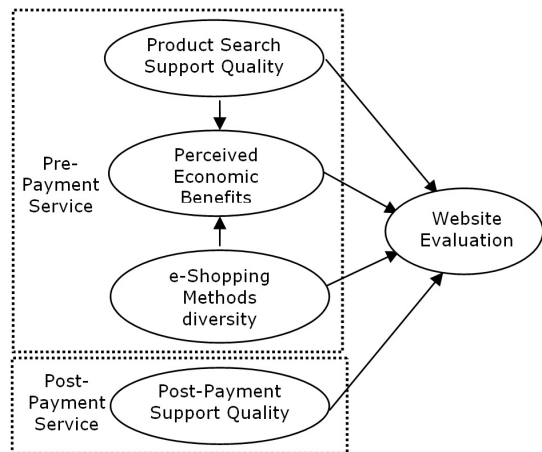
In sum, web presence readiness is mainly driven by both perceived economic benefits from the purchased product and instrumental utility support. Customers tend to positively perceive and respond to a site with superior product offerings, useful features and convenient functions, information related to the purchasing decision making, and follow-up support services after payment. In this sense, web presence readiness differs from the usability concept which focuses on the instrumental utility side of the equation.

### III. Web Presence Readiness Model

The goal of web presence readiness is to improve the website effectiveness by increasing both the economic benefits and the instrumental utility in online purchasing experiences. Key consumer activities concerning product purchase include information search, evaluation, purchase, and after-purchase evaluation [O'keefe and Mc-

Eachern, 1998]. This study focuses on four important components of B2C websites, which improve consumer's instrumental utility. <Figure 1> illustrates the proposed model of web presence readiness.

The dependent variable in this study is website evaluation that represents customers' preference of a Website to another. We hypothesize that the four web presence readiness constructs influence the evaluation on an e-commerce website. The independent variables are reflective of customer's concerns at each stage of online purchasing process and are indicative of web presence readiness factors that may resolve such concerns, thereby enhancing customers' total utility [Turban *et al.*, 2004].



<Figure 1> Research Model

#### 3.1 Perceived Economic Benefit

In the context of online shopping, the perceived economic benefit can be defined as a monetary advantage, which is directly or indirectly related to the product purchase. The perceived economic benefit is a strong motiva-

tion to shop online for those who are price-sensitive [Iqbal, Verma, and Baran, 2003]. The economic benefit is formed based on both the product price offered by the website and various fees such as shipping charges and associated shipping options [Read and Loewenstein, 1995; Balasubramanian, Raghunathan, and Mahajan, 2005]. When a website provides a better economic benefit than others, a consumer would develop a positive feeling on the website. This argument leads to the following hypothesis.

H1: *Perceived economic benefits positively affect website evaluation.*

### 3.2 Product Search Support Quality

Customers undergo the problem recognition stage when there exists a gap between the desired and actual states [Bruner and Pomazal, 1988]. Because of the sheer number of products and vendors accessible in the electronic market, it is not an easy task for customers to search and find a product that meets their needs. Searching a 'right' product often incurs substantial costs to the customers in terms of their time and effort.

In addition to the number of the products, an increasing amount of information is another factor of search costs [Hoque and Lohse, 1999]. According to the economic theory of search, when customers are well provided with information regarding the available prices in the market and are able to search multiple providers with minimal barriers, equilibrium prices that consumers pay will converge to marginal cost, eventually increasing consumer economic benefit [Bakos, 1997]. From a customer's point of

view, it is of great interest to maximize the economic benefit by using various search tools. A website providing appropriate search tools, therefore, will positively affect perceived economic benefits. Such product search support tools can assist customers in two folds; a rich product assortment which is indicative of a higher probability of finding the 'right' product, and the comparison functionality across the competing sites [Balasubramanian, Raghunathan, and Mahajan, 2005].

Product search support is also related to the perceived economic benefits since during the product search task, customers tend to assess an optimal amount of information necessary to make an informed choice [O'Keefe and McEachern, 1998]. The better a website supports the product search activities, the more benefits a customer recognizes by finding the 'right' product. Based on these product search support considerations, we draw hypotheses H2a and H2b as follows.

H2a: *The product search support quality has a positive impact on the website evaluation.*

H2b: *The product search support quality positively affects perceived economic benefits.*

### 3.3 E-Shopping Methods Diversity

Perceived risk refers to the nature and amount of risk perceived by a customer in contemplating a particular purchase decision [Gupta, Tung, and Marsden, 2004; Cox and Rich, 1964]. Spence *et al.* [Spence, Engel, and Blackwell, 1970] found that consumers feel significantly greater risk in buying by mail than in buying from a salesperson or in a retail store. In the online context, such perceived risk may be escalated due to

lack of opportunity to examine products prior to purchase, difficulties in returning faulty merchandise, and frequent suspicion of unethical business operations [Liao and Cheung, 2001; Spence, Engel, and Blackwell, 1970].

A common strategy reducing uncertainty associated with perceived risk is to acquire information that helps resolve or at least minimize the perceived risk [Cox and Rich, 1964]. For example, online customers tend to look for information concerning return policy to identify possible risks related to merchant returns, and also seek for information regarding payment options to find out possible risk involved in payment methods [Cox and Rich, 1964]. Note that majority of online customers express their fears about Internet security and the security issue still remains one of the major barriers to online shopping [Ranganathan and Ganapathy, 2002]. Online customers further look for information about whether the website provides efficient communication methods that may compensate lack of face-to-face interaction with the merchant [Ranganathan and Ganapathy, 2002; McKinney, Yoon, and Zahedi, 2002]. They also refer to authoritative third parties such as Better Business Bureau.

In summary, online customers tend to minimize perceived risk of online purchase using various e-shopping methods available. In order to reduce the perceived risk of customers, it is necessary to offer appropriate e-shopping methods including return policy, diverse payment methods, intensive customer support, and endorsement by a third party authority.

Furthermore, the notion of perceived risk may be closely related to the economic benefit. The amount of risk perceived by an online customer

stems from the individual's feeling of subjective certainty that he/she will "win" or "lose" all or some of the amount at stake [Cox and Rich, 1964]. The core concern is the economic cost incurred by a bad purchase decision. The above argument about the e-shopping method diversity leads to the following hypotheses.

H3a: *E-shopping method diversity would have a positive impact on website evaluation.*

H3b: *E-shopping method diversity would affect positively to perceived economic benefit.*

### 3.4 Post Payment Support Quality

Post Payment Support Quality refers to the degree to which an online company supports customers with a variety of post-payment services including order tracking, timely delivery, helping customers with various issues and so forth. This phase of purchasing experience, although website features supporting this phase may be similar across competitors, is very critical for companies due to the fact that they may be able to retain or simply lose their customers. Hence, businesses need to make differences by providing complete service package experience to the customers.

One common issue of online shopping relates a time lag between payment and product delivery. At the core of time related issues is positive time discounting which is rooted from people's tendency for immediate consumption rather than delayed [Balasubramanian, Raghunathan, and Mahajan, 2005]. The lengthy waiting time, in general, has been found to negatively influence consumer perceptions of service quality [Brady and Cronin, Jr. 2001; Katz, Larson, and Larson, 1991].

On the other hand, the consumer's perception of waiting time can be controlled [Taylor, 1994]. When customers do not know the length of the waiting time or the consequences of the wait, customers feel uneasiness and anxiety [Taylor, 1994]. Researchers also found that pre-process waits are felt longer than in-process waits [Katz, Larson, and Larson, 1991].

In the context of online purchase, most time-related issues fall into the perception management category. The issues include on-time delivery, assurance of product availability, and order tracking functionality. Studies have found that customers identify service punctuality as an integral part of overall evaluation and perceived waiting time is rather identified as a sub-dimension of outcome quality [Brady and Cronin, Jr., 2001]. Considering the punctuality component of customer expectation with respect to satisfaction, we may infer that on-time delivery is an important element of a website's post payment support.

A website with a seamless order processing and accurate product description would create trustworthiness of the website. In addition, various user-friendly online customer support tools would strengthen positive impression. An effective and efficient online order tracking is important to manage online customers' expectation-confirmation on delivery time, which, in turn, leads to a positive customer evaluation of the website. Cao and Zaho [2004] have confirmed that a more effective order-tracking system leads to a better evaluation of delivery fulfillment in 'e-tailer' (electronic retailer) business. The above post payment support considerations lead to hypothesis 4.

H4: *Post payment support quality has a positive impact on website evaluation.*

## IV. Methodology

We first conducted validity and reliability of measurement model. Then, in order to test the hypotheses, a partial least square (PLS) analysis was employed. An alternate model was constructed to re-conceptualize the dynamic effects of the antecedents on customers' website evaluation.

### 4.1 Data Collection

The research model was examined using two sets of secondary data from two successful e-business rating websites: Bizrate.com and MySimon.com. These were selected on the basis of the popularity among online consumers and comprehensiveness of the evaluation with regard to customer online purchase experiences. The items from Bizrate.com were measured in a 10-point Likert scale, percentile, and a numeric response format.<sup>2)</sup> Items from MySimon.com were measured in a binary format, which indicates whether the evaluated website has a specified item on their website or not. Note that the measurements assess each retail website rather than products consumers purchased from the site, and that each set of customer ratings is based on customers' purchase experiences of various products sold in the website.

A variety of product categories and models

2) 15 items from Bizrate.com are measured in 10-point scale, three items in percentage, and two items in a numeric response format. 53 items from MySimon.com are measured in binary and one item in 5-point scale. The score of each item has been calculated by the following equation:

$$\frac{\text{Average Survey Scores} \times \text{Number of Surveys} + \text{Average Member Scores} \times \text{Number of Member Reviews}}{\text{Number of Surveys} + \text{Number of Member Reviews}}$$



were selected based on the product categorization in MySimon.com. Then, the rating scores of websites offering the selected products were collected. To avoid a possible bias, a randomization technique was employed in selecting product categories and models.<sup>3)</sup> As a result, evaluation data of 185 websites were compiled from both data sources.

## 4.2 Measurement Specification

Perceived Economic Benefit, Product Search Support Quality, and Post Payment Support Quality are measured by 10-point scale items adopted from BitRate.com items (c.f. Appendix for item specifications). Note that each item score represents the customer's evaluation of the website. E-Shopping Methods Diversity is measured by three items from MySimon.com. The dependent variable of the testing model, website evaluation, was obtained from BizRate.com and is measured by the rate of customers' positive evaluation for each website to the total number of ratings.

## 4.3 Measurement Model Test

### 4.3.1 Measurement Model Test

We conducted a set of tests on construct validity and reliability of the antecedents. First, Exploratory Factor Analysis (EFA) was executed to assess the validity of the constructs, using

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3) Serial numbers were assigned to each product category (e.g. iPods, Cell Phones, Digital Cameras, etc.) and model. Using random number generator, 10 randomly selected product categories and product models were surveyed for the rating scores.

the Varimax rotation method with Kaiser normalization. Fifteen indicators were clustered into four constructs that are to be used as independent variables of the testing model. SPSS 12 was utilized to implement the EFA.

The factor loadings of all items appear to be positive and significant (cutoff = 0.6) [Kaiser, 1974, 1970]. Gerbing and Anderson [Gerbing and Anderson, 1988] have emphasized that existing assessments of reliability, such as Cronbach's coefficient alpha, are only meaningful if the measures have an acceptable level of unidimensionality. It is worthy of noting that, while cross-loadings are substantially low, factor loadings of all measures range between 0.70 and 0.94, indicating a significant level of construct validity and unidimensionality of scales (see <Table 1>).

The results of reliability test with the first-order factors are reported in <Table 2>. An examination of the scales yields Cronbach's alpha values between 0.712 and 0.937, demonstrating high reliabilities above the recommended threshold of 0.6 [Nunnally, 1978]. Construct reliability was assessed with Composite Reliability (CR) and Average Variance Extracted (AVE). The measure of CR is above the recommended threshold of 0.7 for all four EC readiness constructs [Nunnally, 1978]. AVE measures the amount of variance that a construct captures from its indicators relative to the variance contained in measurement error, which allows us to assess reliability for the construct [Fornell and Larcker, 1981]. All AVE values for the constructs are greater than the recommended cut-off value .50 [Fornell and Larcker, 1981]. The results indicate that the reliability of four EC-readiness constructs is adequate for statistical analysis [Straub, 1989].

<Table 1> Confirmatory Factor Analysis and Cross Loadings

	Product Search Support Quality	Perceived Economic Benefits	e-Shopping Methods Variety	Post-Payment Support Quality
Ease of finding	<b>0.813</b>	0.366	-0.018	0.189
Overall look and design	<b>0.776</b>	0.243	0.179	0.172
Clarity of product Information	<b>0.834</b>	0.066	-0.012	0.357
Selection of products	<b>0.868</b>	0.059	-0.158	0.181
Relatively low price	0.192	<b>0.768</b>	0.174	0.052
Shipping charges	0.060	<b>0.771</b>	-0.030	0.126
Variety of shipping options	0.328	<b>0.721</b>	0.028	0.272
Payment methods	0.049	-0.021	<b>0.877</b>	0.015
Product return	-0.019	0.263	<b>0.816</b>	-0.030
Special features	-0.055	-0.038	<b>0.816</b>	0.040
Availability of product	0.183	0.225	0.080	<b>0.845</b>
Order tracking	0.232	0.002	-0.015	<b>0.882</b>
On-time delivery	0.135	0.124	-0.028	<b>0.941</b>
Product met expectations	0.120	0.342	0.200	<b>0.709</b>
Customer support	0.341	0.015	-0.156	<b>0.841</b>
Variance Explained	20.690	14.3900	15.100	26.060

<Table 2> Reliability Measures for Model Constructs and Correlation between Constructs

	Cronbach Alpha(a)	CR	AVE	I	II	III	IV	V
I. Product Search Support Quality	0.893	0.894	0.678	(0.823)				
II. Perceived Economic Benefits	0.712	0.754	0.506	0.493	(0.711)			
III. e-Shopping Methods diversity	0.937	0.875	0.701	0.028	0.220	(0.847)		
IV. Post-Payment Support Quality	0.819	0.926	0.718	0.501	0.397	0.029	(0.837)	
V. Positive Evaluation	1.000	1.000	1.000	0.453	0.325	-0.098	0.678	(1.000)

Note) The number in parenthesis is the square root of AVE (Average Variance Extracted).

CR: Composite Reliability.

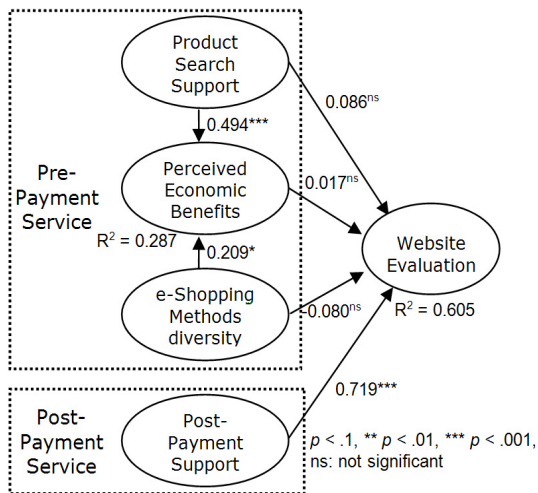
To investigate a possible multicollinearity problem among the independent variables, we created a correlation matrix for all variables. It appears that none of them possesses a correlation coefficient of over 0.70 (see <Table 2>). Multicollinearity is not a serious concern for this study as the results of tolerance values and variance inflation factors (VIF) do not show any evidence of multicollinearity [Hair *et al.*, 1998]. We further calculated the AVE of each latent variable to assess the discriminant validity. In order to show the discriminant validity of the variables in the model, the square root of AVEs should

be greater than the correlations among the constructs. That is, the amount of variance shared between a latent variable and its block of indicators should be greater than shared variance between the latent variables. In this study, the square roots of each AVE value are all above .07, which is greater than all other cross-relations (see <Table 2>). This indicates that the variables adopted in the model have a reasonable level of discriminant validity. This test, along with cross loading analysis in <Table 2>, validates the measurement properties of the principal constructs.

### 4.3.2 Structural Model Test

Assessment of the research model was conducted using PLS Graph 3.0. PLS is best suited for a complex model because of the minimal demands on measurement scales, sample size, and residual distributions [Chin, 1998]. The structural equation modeling (SEM) analysis investigates the impacts of four antecedents on the dependent variable.

In addition, it also examines the impacts of product search support quality and e-shopping methods diversity on perceived economic benefits. <Figure 2> presents the results of the model assessment.



<Figure 2> Research Model Assessment

The results indicate that product search support quality and e-shopping methods diversity have a statistically significant and positive influence on perceived economic benefits of online shoppers. In particular, the paths from product search support quality and e-shopping methods diversity to perceived economic benefits

are positive and significant at  $p < 0.001$  and 0.1 level respectively. Product search support quality turns to have a relatively stronger impact than e-shopping methods diversity. That is, product search support that diminishes various transactional costs may be the more important benefit to online shoppers than diverse e-shopping methods. The two antecedents together explain 28.7% of variation of e-shoppers' perceived economic benefits.

The other three antecedents, however, are not significantly associated with positive evaluation. That is, these factors may not have direct influence on the online shoppers' evaluation of an e-commerce site. The only factor that positively affects the dependent variable is post-payment support quality.

The path coefficient between post-payment support quality and positive evaluation is relatively high and statistically significant ( $\beta_4 = 0.719$ ,  $p < .001$ ). The explained variance of model ( $R^2$ ) with all variables is 60.5%. However, after displacing the three variables, the  $R^2$  of the model explained by post-payment support quality alone is 59.0%, which indicates that the three IV's do not directly influence the DV.

## V. Discussion and Implications

In the current study, we set out to understand the factors determining the customers' positive evaluation on an e-business website. We conceptualized a research model of the utilities that customers gain from their online purchase, and then tested the model using a dataset collected from two major e-business rating companies. The empirical results lend support for three research hypotheses. Hypotheses 2b,

3b, and 4 are supported, while hypothesis 1, 2a, and 3a are not. The results of testing hypotheses are summarized in <Table 3>.

The empirical results show that post-payment support quality is the one that influences positive evaluation that in turn affects customers repurchase behavior. We infer that the strength of the effects of the three antecedents on the dependent variable are somewhat diluted because of a time lag between purchasing time and product possession/usage [Balasubramanian, Raghunathan, and Mahajan, 2005]. The result implies that post payment support for the completion of the transaction has an essential influence on the website evaluation.

The measurement of the dependent variable is based on a positive rating scale rather than behavioral intention to repurchase. The rationale is that the average score of behavioral intention may inflate the recency effect so that the effect of negative evaluation becomes even trivial. Using the ratio of the number of positive rating to that of total rating may reduce this bias.

### 5.1 An Alternate Model of Web Presence Readiness

Even after payment, customer evaluation is not yet completed. Upon the delivery of the

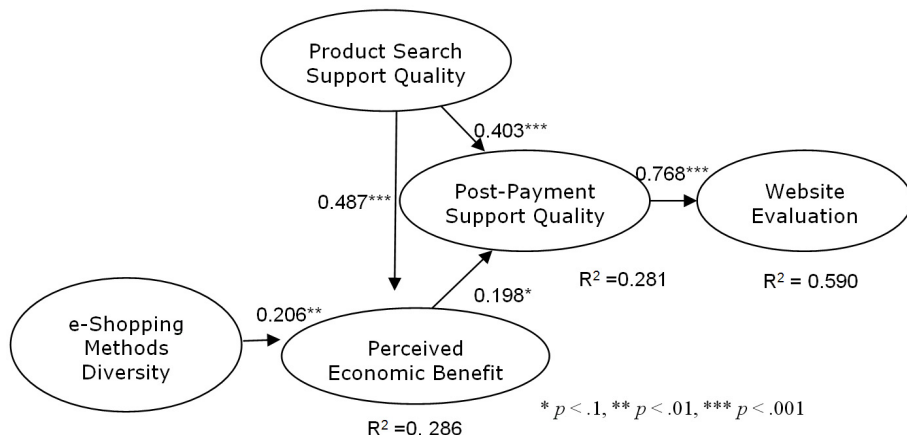
purchased product and subsequent usage of it, a customer continues evaluating the final outcome of the purchasing process in which most activities are predominantly information driven [McKinney, Yoon, and Zahedi, 2002].

In addition to the proposed research model, we re-conceptualize the dynamic effects of the independent variables, focusing on post-payment support quality. The underlying rationale is 1) that customers evaluate purchase experiences from the perspective of future decision making [O'keefe and McEachern, 1998], which forms attitudes and behavioral intention towards the website, and 2) that post-payment support quality may have stronger influence on customer evaluation than any other variables merely because it takes place relatively closer to the time of evaluation. As such, it is a logical question if the evaluation of the website support for pre-payment activities influences the evaluation of the website support for post-payment activities, and if post-payment evaluation has an impact on the overall website evaluation. This leads us to a set of additional hypotheses.

<Figure 3> presents an alternate testing model. The test results show that product search support quality ( $p < 0.001$ ) and e-shopping method diversity ( $p < 0.01$ ) have positive effects on perceived economic benefits ( $R^2 = 28.6$ ).

<Table 3> Summary of Hypothesis Test

Hypothesis		Test Results
H1	<i>Perceived economic benefits positively affect the website evaluation.</i>	Not supported
H2a	<i>Product search support quality has a positive impact on website evaluation.</i>	Not supported
H2b	<i>Product search support quality positively affects perceived economic benefits.</i>	Supported
H3a	<i>E-shopping method diversity would have a positive impact on website evaluation.</i>	Not supported
H3b	<i>E-shopping method diversity would affect positively to perceived economic benefit.</i>	Supported
H4	<i>Post payment support quality has a positive impact on website evaluation.</i>	Supported



<Figure 3> An Alternat Model

Product search support quality ( $p < 0.001$ ) and perceived economic benefits ( $p < 0.1$ ), in turn, have positive effects on post-payment support quality ( $R^2 = 28.1\%$ ). All coefficients are statistically significant. The results show the importance of the factors affecting the instrumental utility including on-time delivery, assurance of product availability, and order tracking functionality to control the time-related issues [Taylor, 1994].

An interesting finding is the effect of a variety of e-shopping methods on the perceived economic benefits. According to the theory of Perceived Strategy Restrictiveness [Silver, 1988], customers perceive the benefit from online shopping websites in proportion to the effectiveness of functions provided. The central premise of this model is that when shopping methods do not fully assist customers' buying processes, they perceive the website to be less beneficial and turn away from the site. A variety of functionalities may be translated as a perceived economic benefit to customers as they are perceived as a sort of investment the firm made to offer convenient shopping.

## VI. Implications

From a theoretical perspective, the current study sheds light on the importance of the instrumental utility. In particular, post-payment support quality including on-time delivery, assurance of product availability, and order tracking functionality to responds to the positive time discounting customers possess, appears to be important factors influencing customer evaluation. This finding alerts researchers to be cautious in examining the success factors for e-business from the angle of information search support and decision support. More attention needs to be paid to the angle of post-payment customer support services. Moreover, as shown in the alternate model, it is the post-payment evaluation that mediates the effect of the pre-payment activities on the overall evaluation with regard to the purchasing experience with a website.

To account for the perceived risk and uncertainty of online shoppers, online sellers have instituted various customer evaluation mechanisms which enable the collection and dissemi-

nation of information regarding the past transactions. While the success of online marketplaces has been by and large attributed to these evaluation mechanisms [Dellarocas, 2006], the literature has not provided sufficient knowledge regarding the dynamics of them. Our results reveal that the important role of the instrumental utility, especially, post-payment support quality on customer evaluation of the web presence readiness. The empirical results imply that post-payment support quality can be achieved by seamless integration of product availability, timely order tracking systems, on-time fulfillment, and adequate customer supports through which an e-commerce website can differentiate itself from its competitors aside from similar offerings of technology features of the website.

The results also suggest that practitioners need to be cautious with designing their web presence readiness. The anxiety and risks customers may encounter would rise from the point of payment until they eventually receive the product ordered [Taylor, 1994]. Website developers, therefore, need to carefully design the functions of after-payment activity support.

## VII. Concluding Remarks

The current research provides a new perspective on understanding the role of web information systems in supporting customer activities. The findings of the current study may shed light on the importance of the post-payment activity support that is highly associated with pre-payment activity support and perceived economic benefits. This means that technologically sophisticated firms with good strategy provide a wide range of support in a seamless manner which allows customers to have a better shopping experience. Accordingly, the findings of this study may help redirect the e-business research to the factors affecting the instrumental utility such as post-payment support and the alignment of business process and websites.

This study, along with previous research, should be regarded as one of the many steps necessary for understanding the impact of e-commerce website design on the performance of e-business firms. Future study may investigate further factors involved in time lag management and risk control from the customer point of view.

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