Why Do Customers Purchase from a Website? Customer Activity-based Web Presence Readiness Model

Kyung Woo Kang, Yong Jin Kim and Seung Kyoong Shin
Why Do Customers Purchase from a Website? Customer Activity-based Web Presence Readiness Model

(Author names are in alphabetical order)

Kyung Woo Kang
University of Rhode Island
Email: kwookang2002@yahoo.com, voice: 401-787-6937

Yong Jin Kim*
Binghamton University (SUNY)
Email: ykim@binghamton.edu, voice: (607) 777-6638

Seung Kyoon Shin
University of Rhode Island
Email: shin@uri.edu, voice: 401-874-5543

* Corresponding author
Why Do Customers Purchase from a Website? Customer Activity-based Web Presence Readiness Model

Abstract

Internet applications must be integrated into the value chain of a business in a comprehensive manner. Thus, in order to be successful, companies participating in e-commerce should align their internal process in accordance with their business model presented by their web site, all the way through the value chain. In this regard, the current paper proposed a framework for web presence readiness with three consumer activities and utilities customers may focus on to embrace the major concerns of customers’ in online purchasing context. This paper examined the proposed model with the data collected from very popular companies for customer ratings. Post payment support quality is found to be the most important determinant of customers’ positive evaluation on e-business websites. Based on the empirical results, the current study proposes an alternate model of web presence readiness. The proposed model may provide useful implications for the practitioners and managers of companies who are involved in web-based e-commerce. The implications and future research directions are discussed.

Keywords: e-commerce readiness, web presence readiness, utility, and time discount
1. Introduction

Web site design in terms of usability has been considered a catalyst to attract visitors and make customers purchase the offerings from the site [6, 28]. Previous studies investigated the factors affecting the number of pages accessed or the time spent at the site [12], customer attitude toward the web site [13, 18, 25], and information quality as a key success factor [1, 26, 27]. The usability problems can be addressed by taking into account customer needs [25] and supporting activities for the needs [34] as well as by giving attention to technical aspects of web site design. According to Porter [34], Internet applications must be integrated into the value chain of a business in a comprehensive manner. Thus, in order to be successful, companies participating in e-commerce should align their internal process in accordance with their business model presented by their web site, all the way through the value chain. To our knowledge, however, there is little research that addresses the issue of web site coherence with consumer activities and the utilities customers eventually attain from online shopping, which is named “web presence readiness” in this paper.

The current paper proposes a web presence readiness model rooted in consumer decision-making process [30] and their utility concerns with regard to online shopping [2] and
previous studies on web site success factors. The proposed model consists of the factors affecting the customers’ perception of the utility from the purchased product and the instrumental utility attained from the core process support of Web information systems. The model includes perceived economic benefits as the utility from the purchased product and product search support quality, e-shopping method diversity, and post payment support quality as the factors enhancing the instrumental utility. The research variables in the proposed model are designed to cover three major online purchasing activities of customers: product or solution search, purchase, and after-payment activities.

The contributions of the current study are twofold. First, this paper proposes a framework that relates web site content to consumer activities. The results of this study will allow practitioners to rethink their web site functionality to fit their business and customers activities and to set up better web presence strategies. Second, the current study investigates to provide a comprehensive set of items that supports seamless consumer purchasing activities on the Web. The findings of this study will help managers and developers design web sites by providing insights on how comprehensive their web site should be in terms of business activities to make the web site successful.
2. E-Commerce Readiness

2.1 The Definition of E-Commerce Readiness

E-commerce readiness can be defined as the extent to which an entity (e.g. a company or a website) is prepared and equipped with respect to the conditions in which an entity could perform effectively in the practice of e-commerce [39]. The e-commerce readiness can differ according to evaluators: customer vs. supplier. From customer viewpoint, ease of use and usefulness are the most important factors in evaluating a web site [9, 10, 11, 16, 26].

From companies’ perspective, important are technical readiness including infrastructure, technologies, and regulations affecting e-commerce and web presence readiness such as business activity supportiveness. For the companies, users’ readiness for e-commerce also is of interest [33]. Among the e-commerce readiness aspects, web presence readiness in terms of the impact of web site usability on consumer attitude [1, 28, 30, 31, 32] have been highlighted, partly because web presence readiness is readily visible in e-commerce practices and partly because seamless integration of web activities with business activities is the catalyst for e-commerce effectiveness. The e-commerce effectiveness, in turn, improves customer utility in ways of offering better products and effective support for customer activities online.

2.2 Web Presence Readiness as the Focus of E-Commerce Readiness

Web presence readiness refers to the extent to which a firm (or any other entity that has
the intention to compete through e-commerce implementation) is prepared and equipped “in terms of information content and information delivery mechanisms” [39] to support customer activities throughout the purchasing process. It can be presented in terms of merchandize information, company information, web site design, navigating/searching features, and other such information contents and functionalities.

The importance of web presence readiness stems from the fact that (1) it is the only, single point of contact with customers or suppliers where all transactions and other interactions take place, and thus all the internal processes should be in line with web presence [3], and that (2) it is also used as a real time feedback channel from the customers that enables the firm compete more effectively in e-commerce practices [3]. The feedback functionality of web presence, including comments from customers and the information captured by the system such as cookies, is as equally important as the single point of contact, since feedback from customers and suppliers could be used to realign the company’s internal process to fit its web site. This realignment based on the information from feedback functionality affects the effectiveness of business processes as well as that of web presence readiness that is one of the crucial aspects of e-commerce success [1, 3].

2.3 Web Presence Readiness and Customer Utility

As discussed above, Web presence readiness influence e-business effective and thus
affect customer utility perception, the major driver of purchasing decision [2]. Utility represents the perceived benefits from a selected product or a set of products [14, 37]. According to the utilitarian view of customer purchase decision, customers’ purchase decision process needs to be considered in light of the final outcome (i.e. the purchased product or the economic objective) and with regard to the associated process of the purchasing experience as well [2]. This is mainly because the ultimate goal of customers in purchase decision is to maximize the total utility from a purchase experience. Hence, the utility perspective is especially useful in analyzing customers’ concerns with regard to both the online purchase experiences and corresponding items featured in an e-business site [20].

The total utility associated with the customers’ purchase decision is argued to consist of utility from the product itself, instrumental utility, and non-instrumental utility [2]. The utility from the product itself, representing perceived economic benefits from the product purchased, is the core objective of the customer engaged in the purchase process. This utility results from acquiring the solution that resolves the gap between desired state and actual state of the customer [5]. The instrumental utility refers to the utility obtained from the instrumental elements of the purchasing process that are central to the purchase of the product, including acquiring information, evaluating, and choosing products [2]. For instance, in case of traditional purchase process, physical activities such as driving to the store, locating the section, and physically
assessing the product are the instrumental elements [2]. In online context, however, the instrumental elements of purchase consist mainly of searching and comparing offerings across Web sites [2] and assurance of on-time product delivery [21].

Finally, the non-instrumental utility represents the utility from the non-instrumental elements of the shopping process, elements that are peripheral to the shopping expedition [2]. Non-instrumental utility can be more important than other elements under certain circumstances of traditional shopping expedition [2]. In the online shopping context, it may not be the main concern in the customer’s purchase decision, because the non-instrumental utility comes from the peripheral elements of shopping experience such as socializing with people and enjoying a relaxing shopping atmosphere. In online shopping environment, such atmospheric elements are hard to be readily offered and the ultimate goal of the customers is not to pursue such peripheral elements in shopping experience. This study, therefore, excludes non-instrumental factors from the research model.

In sum, Web presence readiness can be argued to be mainly driven by both perceived economic benefits from the purchased product and instrumental utility support. Stated differently in light of online customers’ preference for a web site over another, customers might tend to prefer (i.e. evaluate more positively) a site that provides better offerings, features, functionalities, and information since it would resolve the customer’s concerns better than other competing sites.
The next section discusses the proposed model and constructs affecting positive customer evaluation on an e-business website in terms of the two utilities.

3. Web Presence Readiness Model

The ultimate goal of web presence readiness is to maximize the web site effectiveness by enhancing both the economic benefits and the instrumental utility in the customers’ online purchasing experiences. Consumer activities involving product purchase include need recognition, information search, evaluation, purchase, and after-purchase evaluation [30].

![Research Model Diagram]

Figure 1. Research Model

The current study focuses on the latter four activities in the sense that each of these activities needs to be supported by company web sites to enhance the instrumental utility from
the purchase experience and thereby getting more positive evaluation from the online customers.

Need recognition is assumed to has been completed before the customer is engaged in online purchasing process where mostly the other four activities are performed. Figure 1 illustrates the proposed model of Web presence readiness.

3.1 The Research Model and Hypotheses

The proposed model consists of four independent variables: perceived economic benefit, product search support, e-shopping methods diversity, and post payment support. The dependant variable in this study is the positive Web site evaluation that represents customers’ preference of a Web site to another. This study assumes that the positive evaluation on an e-commerce website is formed by the four Web presence readiness constructs during the purchase process. The independent variables are reflective of customer concerns at each stage of the online purchase process and indicative of Web presence readiness factors that could resolve such concerns thereby enhancing customers’ total utility. It is also assumed that pre-payment support quality and post-payment support quality independently affect the positive evaluation, albeit related each other. The remainder of this section elaborates on each independent variable and the relationship with the dependent variable.

Perceived Economic Benefit In the context of online shopping, perceived economic benefit
can be defined as the monetary advantage compared to other offerings from other sources that is directly or indirectly related to the purchase of the intended product. Perceived economic benefits are regarded as the fundamental motivation to shop online and thus online customers are definitely more sensitive to price than customers offline [20]. The perception of economic benefits form a product purchase is formed based on both the relative price offered by an e-business website and other related charges such as shipping charges and associated shipping options [2, 36]. In addition, the information about the price and other conditions should be clearly stated to help customers with determining what to buy.

In sum, if customers perceive a Web site has better economic benefit than other competing sites, online customers would evaluate the Web site more positively than other competing Web sites. This argument leads to the following hypothesis 1.

H1: Perceived economic benefits positively affect the positive Web site evaluation.

Product Search Support Quality As addressed earlier, customers have gone through the problem recognition stage where they consider the desired state and the actual state and recognize the gap between them [5] before they are engaged in the purchasing process. What customers usually come up with from the problem recognition or need specification stage [5, 30] is the product category (e.g. digital camera or notebook pc) that could fill the gap they identified.

In order to proceed with the purchase process, customers need to arrive at a specific
product (i.e. specific model within the product category) that they will actually purchase from a Web site. In today’s mass-production and mass-merchandizing shopping environment, however, it may not be an easy task for customers to search and find the exact product they intend to purchase. The customers may not be even sure about which model could satisfy their needs the best. Stated differently, searching the ‘right’ product incurs costs to the customers in terms of their time and physical effort to accomplish the task. Furthermore, besides the product information itself, different ways of presenting information online alters the search costs and when the online shopping site design made product information easier to search and compare, customers become to purchase higher quality and more expensive products [19]. From the customers’ point of view, it is of great importance to reduce the search cost in order to maximize the instrumental utility from the online purchase process.

Hence, it is fundamental to offer product search support such as ease of finding the product, clarity of product information, rich product assortment that is indicative of a higher probability of finding the ‘right’ product, associated overall look and design of the Web site, and comparison functionality across the competing sites [2].

This product search support is also related to perceived economic benefits since during this product search task, customers likely assess the level of information necessary to make an informed choice [30]. The better the Web site supports the product search activities, the more
chance of getting more economic benefit as well as the higher probability of finding the ‘right’ product customers have. Based on these product search support considerations, we draw hypotheses H2 a and b as follows.

H2a: The product search support quality has a positive impact on the positive Website evaluation.
H2b: The product search support quality positively affects perceived economic benefits.

**e-Shopping Methods Diversity**  As the purchasing process nears to the end (i.e. checking out after payment and delivery arrangement etc.), the issues related to risk customers perceive become prominent since after the check out point, the due obligation from the customer side has been completed but still the customer does not obtain the product purchased in physical possession and does not get engaged into the usage of it either. Perceived risk refers to the nature and amount of risk perceived by a customer in contemplating a particular purchase decision [8]. Spence et al. [38] found that there is significantly greater perceived risk in buying products by mail than in buying the same products from a salesperson or in a retail store. Although their finding was in the context of mail-order shopping, the implication is applicable to other similar contexts as long as the risk factors are immanent [8]. In online context, due to the lack of direct interaction with the merchant [35], such perceived risk might be related to the concerns such as (1) lack of opportunity to examine products prior to a purchase; (2) difficulties in returning faulty
merchandise; and (3) frequent suspicion of unethical business operations (e.g. fraudulent transaction or gimmicks) [38].

The most favored strategy of reducing uncertainty in this perceived risk situation is to seek information that helps resolve or at least minimize the perceived risk [8]. In this sense, online customers would pursue, first, information about whether the Web site has appropriate return policy to avoid difficulty in returning faulty product [8]. Second, they consider information on whether the site has diverse payment options that would include an option the customer prefers in order to reduce the possibility of a fraudulent transaction. Majority of online customers express their fears about internet security and the security issue still remains one of the major barriers to online shopping [35]. Online customers, therefore, would prefer a Web site that provides diverse payment options in consideration for their financial risk. Finally, online customers would look for information about whether the Web site is equipped with alternative interaction methods that could compensate the lack of direct physical interaction with the merchant [27, 35]. Because they cannot physically assess the product they purchase online, online customers would pursue other ways to reduce their perceived risk that may include the intensive customer support availability (e.g. live online customer support representative and 24/7 customer service availability) or the inclusion of third party authority such as the Better Business Bureau. In summary, online customers would try to avoid their perceived risk before they
complete the online purchase process by pursuing e-shopping method diversity features that are reflective of the ways to reduce possible losses they might experience after payment.

Hence, to enhance instrumental utility by reducing the perceived risk at the point of check out, it is necessary to offer an appropriate return policy, diverse payment methods, intensive customer support, and endorsement by a third party authority.

The notion of perceived risk is closely related to the economic benefit. The amount of risk perceived by a 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 [8]. In this consideration of perceived risk, the core concern is the economic cost incurred by a bad purchase decision. The above argument about these e-shopping method diversity leads to the following hypotheses.

H3a: The e-shopping method diversity would have a positive impact on the positive Website evaluation.
H3b: The e-shopping method diversity would affect positively to the perceived economic benefit.

Post Payment Support Quality  Due to the shopping circumstance typical to online purchase where time lag between payment and product possession and usage exists, the ‘time’ related issues needs to be considered. At the core of time related issues is positive time discounting that refers to people’s preference for immediate consumption over delaying it [2]. Waiting time, in general, has been found to be negatively related with consumer perceptions of service quality,
because customers frequently has the immediate consumption preference in relation to corresponding monetary expenses [4, 24].

Researchers have argued that waiting time can be managed in two technical aspects: operations management and perceptions management [24, 41]. Companies can actually reduce the waiting time by making the work process efficient (i.e. operation management). But it is not common. When the actual wait duration cannot be controlled, the consumer’s perception of waiting time needs to be controlled [41]. In case of uncertain waiting time such as customers do not know how long they will have to wait and the consequences of the wait, customers feel uneasiness and anxiety [41]. In a similar vein, pre-process waits feel longer than in-process waits [24].

In the context of online purchase, most time related issues fall into 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 their overall evaluation from the purchase experience and perceived waiting time is identified as a sub-dimension of outcome quality [4]. Considering the punctuality component of customer expectation with respect to satisfaction, we could infer that on-time delivery is an important element of a Web site’s post payment support.

The availability of product customers want to buy and paid for is also important to post
payment support quality. Consider that a customer ordered a product and paid online and find that the product is not in stock or not anymore available. This lack of availability after payment may negatively affect the evaluation of the e-business website. Also, a Web site that has an accurate and seamless order processing that matches information provided on the Web presence to the product delivered to the customer to meet his/her expectations, and associated customer support mechanism to back up such ensuring efforts would receive more positive evaluation from customers.

Another way of managing the time perception of customers is a good order tracking system. An effective and efficient online order tracking can be a critical tool to manage online customers’ expectation-disconfirmation on delivery time and thus in turn, to obtain a more positive customer evaluation of the Web site. For instance, Cao and Zaho [7] found that a more effective order-tracking system resulted in better evaluation of delivery fulfillment in e-tailer business. The above post payment support considerations lead to hypothesis 4.

**H4:** *The post payment support quality has a positive impact on the positive Website evaluation.*

4. Methodology

4.1 Data collection

In order to test the proposed research model, the current study used a set of secondary
data. Through an extensive survey of retail Web site evaluation data sources, two (i.e. Bizrate.com and MySimon.com) were selected on the basis of their popularity of usage and comprehensiveness of the evaluation item coverage with regard to customer online purchase experiences from e-business websites. From the two sources, 74 evaluation items were identified—20 items from Bizrate.com (www.bizrate.com) and 54 items from MySimon.com (www.mysimon.com). Items from Bizrate.com were mostly measured in 10-point Likert scale (15 items in 10-point scale, 3 in percentage, and 2 in numeric) and items from MySimon.com were mostly measured in binary format (Yes/No), which indicates whether the evaluated website has the specified item on their Web presence or not (53 items in binary and one item in 5-point scale). It needs to be noted that the ratings of these items are representative of the customers’ evaluation of the store (a retail website) rather than that of a particular product they purchased from the site. Hence, a single set of customer ratings for a website exists though the evaluation has been derived from customers’ purchase experiences of various products sold in the website.

Based on the product categorization in MySimon.com, product categories and subsequent product models were selected and surveyed to find out the website ratings. To avoid a possible bias in product category selection that may result in an excessive number of sub-categories (e.g. more than 10 product categories within a shopping department or over 10 product models within a product category), randomization technique was adopted. In such cases, serial numbers were
assigned to each product category (e.g. iPods, Cell Phones, Digital Cameras, etc.) or model (e.g. “Harry Potter and the Half-Blood Prince” in case of Books Dept. or “Now That's What I Call Music!” in case of Music Albums Dept.) from each shopping department (e.g. Books, Electronics, Automotive, Toys, Jewelry, etc.) and using random number generator, 10 randomly selected product categories and/or subsequent product models were surveyed for the evaluation rating items and consequently included in the final data set. Through this procedure, a total of 185 data points (e-business websites) with valid evaluation on each items from both sources (i.e. Bizrate.com and MySimon.com) were compiled.

4.2 Measurement Model Test

Most of the measures employed in this study are obtained from the two online market research companies; BizRate.com and MySymon.com. Scale items of latent variables and definitions of the items utilized in this study are summarized in Appendix. We conducted multiple tests on construct validity and reliability. Exploratory factor analysis (EFA) was executed to assess the validity of the constructs, using the Varimax rotation method with Kaiser normalization. 15 indicators were clustered into four constructs. A software package, SPSS 12, was utilized to implement the EFA. The results and statistical measures are provided in Table 1. The factor loadings of all items are positive, significant, and ranges above the cutoff value of 0.6
[22, 23]. Gerbing and Anderson [17] 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 worth 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.

Table 1. Confirmatory Factor Analysis and Cross loadings

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

Variance Explained 20.69 14.39 15.10 26.06
4.2.1 Reliability

Reliability is an indication of the degree to which the measurements produces consistent results. The evidence for reliability of first-order factors is reported in Table 2. An examination of the scales yield a Cronbach’s alpha value between 0.712 and 0.937, demonstrating high reliabilities above the recommended threshold of 0.6 [29].

Table 2. Reliability Measures for Model Constructs

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach Alpha (α)</th>
<th>Composite Reliability (CR)</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Search Support Quality</td>
<td>0.893</td>
<td>0.894</td>
<td>0.678</td>
</tr>
<tr>
<td>Perceived Economic Benefits</td>
<td>0.712</td>
<td>0.754</td>
<td>0.506</td>
</tr>
<tr>
<td>e-Shopping Methods diversity</td>
<td>0.937</td>
<td>0.875</td>
<td>0.701</td>
</tr>
<tr>
<td>Post-Payment Support Quality</td>
<td>0.819</td>
<td>0.926</td>
<td>0.718</td>
</tr>
</tbody>
</table>

Construct reliability was further assessed with Composite Reliability (CR) and Average Variance Extracted (AVE) drawn from PLS Graph 3.0. The measure of CR is above the recommended threshold of 0.7 for all four EC readiness constructs [29]. 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 [15]. All AVEs for the constructs used in this study are greater than recommended cut-off value .50 [15]. All measures conclude that the reliability for four EC-readiness constructs (product search support quality, Perceived Economic benefits, e-shopping methods variety, and post-payment support
quality) is adequate for statistical analysis [40].

4.2.2 Discriminant Validity

To test for multicollinearity, we create a correlation matrix for all variables, and discovered that none of them possesses a correlation coefficient of over 0.70 (Table 3). We further calculated the AVE of each latent variable to assess discriminant validity. 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 greater than the off-diagonal elements, as shown in Table 3. This indicates that there exists reasonable discriminant validity among all of the constructs.

Table 3. Correlation between Constructs

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. A. Product Search Support Quality</td>
<td>(0.823)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. B. Perceived Economic Benefits</td>
<td>0.493</td>
<td>(0.711)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. C. e-Shopping Methods diversity</td>
<td>0.028</td>
<td>0.220</td>
<td>(0.847)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV. D. Post-Payment Support Quality</td>
<td>0.501</td>
<td>0.397</td>
<td>0.029</td>
<td>(0.837)</td>
<td></td>
</tr>
<tr>
<td>V. E. Positive Evaluation</td>
<td>0.453</td>
<td>0.325</td>
<td>-0.098</td>
<td>0.678</td>
<td>(1.000)</td>
</tr>
</tbody>
</table>

*Note: the number in parenthesis is the square root of AVE.

4.3 Structural Model Test

In order to examine the proposed model, structural equation modeling (SEM) using PLS Graph 3.0 was applied. The SEM analysis investigates the impacts of product search support
quality and e-shopping methods diversity on perceived economic benefits. Figure 2 presents the results of model assessment.

The results indicate that product search support quality and e-shopping methods diversity have statistically significant 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 0.10 level respectively. It is worth noting that product search support quality has relatively stronger and more significant impact than e-shopping methods diversity. That is, product search support that diminishes various transactional costs may be a more important benefit to online shoppers than

![Figure 2. Research Model Assessment](image-url)
diverse e-shopping methods. The two antecedents together explain 28.7% of variation of e-shoppers’ perceived economic benefits.

It is noteworthy that the three antecedents - product search support quality, perceived economic benefits, and e-shopping methods diversity - are not significantly associated with positive evaluation. That is, these factors may not have direct influence on the online shoppers’ evaluation of an electronic store. The only factor that is positively associated with the dependant variable is post-payment support quality. The path coefficient between post-payment support quality and positive evaluation is relatively high and statistically significant (β₄ = 0.719, p < .001). The explained variance of model (R²) with all variables is 60.5%. However, after removing the three variables, the R² of the model explained by post-payment support quality alone is 59.0%.

5. Discussion and Implications

In the current study, we set out to understand the factors determining the individual customers evaluation on an e-business website. We categorized the utility customers try to attain from their online purchase into the utility from the purchased product itself and the utility gained from the instrumental features of Web information systems. We then tested the proposed research model with a set of data collected from two major e-business rating companies. The
empirical results lend support for three research hypotheses, but not for the other three. Hypotheses 2b, 3b, and 4 are supported, while Hypothesis 1, 2a, and 3a are not. The results of testing hypotheses are summarized in Table 4.

Table 4. Summary of Hypothesis Test

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td><em>Perceived economic benefits positively affect the positive website evaluation.</em> Not supported</td>
</tr>
<tr>
<td>H2a</td>
<td><em>The product search support quality has a positive impact on the positive website evaluation.</em> Not supported</td>
</tr>
<tr>
<td>H2b</td>
<td><em>The product search support quality positively affects perceived economic benefits.</em> Supported</td>
</tr>
<tr>
<td>H3a</td>
<td><em>The e-shopping method diversity would have a positive impact on the positive website evaluation.</em> Not supported</td>
</tr>
<tr>
<td>H3b</td>
<td><em>The e-shopping method diversity would affect positively to the perceived economic benefit.</em> Supported</td>
</tr>
<tr>
<td>H4</td>
<td><em>The post payment support quality has a positive impact on the positive website evaluation.</em> Supported</td>
</tr>
</tbody>
</table>

The empirical results of the research model clearly show that post-payment support quality is the only variables that influence positive evaluation that may in turn affect the customers repurchase behavior. The results can be understood, given the importance of time lag between payment and product possession and usage occurring in online purchase circumstances and the immediate consumption preference to delaying it [2]. Moreover, post payment support of a website plays an extremely important role in the website evaluation of the customers since, in
this stage, customers compare their perceived performance of the product based on their actual experience from the purchase to their expectation formed during the previous stages driven mainly by information.

However, it is interesting that perceived economic benefits, the fundamental motivation to shop online [20], does not affect the positive evaluation of websites. To resolve this issue, we rethink the parallel influence assumption of the purchase stages in online shopping. The underlying logic is that customers evaluate purchase experiences with a view to future decision making forming attitudes and behavioral intention towards the website [30] such that even after payment and check out from the website, customers’ evaluation of the site is not yet completed. Upon the delivery of the product purchased and subsequent usage of it, customers evaluate the final outcome of their purchase process in regard to the preceding stages of the process where their activities are predominantly information driven [27].

According to this logic, the evaluation of the website support for before-payment activities influences the evaluation of the website support for after-payment activities and this post payment evaluation determines the overall evaluation with regard to the purchasing experience in a website in a sequential manner. Therefore, we can hypothesize post-payment support quality plays an important role as a mediating variable in the model. That is, product search support quality and perceived economic benefit may have positive effects on post-
payment support quality.

**An Alternate Model of Web Presence Readiness**

Figure 3 illustrates the alternate model.

This model has an even better fit and explained more variance as shown in Figure 3. Based on the results of SEM, we are again able to support the hypothesis that product search support quality (p < 0.001) and e-shopping method diversity (p < 0.01) have positive effects on perceived economic benefits, explaining about the same variance with a $R^2 = 28.6$. Product search support quality (p < 0.001) and perceived economic benefits (p < 0.1), in turn, have positive effects on post-payment support quality, explaining 28.1% of variance. Finally, after removing the direct relationships from the three non-significant variables, the model has a great fit overall and explains a large percentage of variance of positive evaluation with a $R^2 = 0.59$. The coefficients are similarly significant, so the same hypotheses are supported.

![Figure 3. An Alternate Model](image-url)
The alternate model clearly shows the importance of the factors affecting the instrumental utility including on-time delivery, assurance of product availability, and order tracking functionality to manage or control the time-related issues [41].

Prior to discussing the implications of the current research, it is necessary to be aware of its limitations. One limitation involves the use of the rate of positive rating as the dependent variable instead of behavioral intention or behavior. However, we believe that using the averaged score for behavioral intention collected by the source company (Bizrate, com) may inflate the recency effect so that the effect of negative evaluation becomes even smaller. Whereas the use of the ratio of the number of positive rating to that of total rating may reduce this bias. Secondly, data we used in this study was collected by the third party and not designed for this specific study. Moreover, it was collected in survey/questionnaire format. The standard limitations of self-report data including self-selecting bias and low response rate apply to this research. The results of this study, however, may allow more generalizability, because the subjects responding the questionnaire were actual consumers who shopped online. Future research is desired to design the survey instrument and examine the model with the data collected from actual consumers.

From a theoretical perspective, the current study sheds light on the importance of the factors affecting instrumental utility, in particular post-payment support quality such as on-time
delivery, assurance of product availability, and order tracking functionality to respond to the positive time discounting customers possess. 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. Moreover, as shown in the alternate model, it is the post payment evaluation that mediates the effect of the website support for before-payment activities on the overall evaluation with regard to the purchasing experience in a website.

The results also indicate that practitioners have to be careful in designing their web presence readiness. The anxiety and risks customers feel increase after payment until they actually receive the product they ordered [41]. Therefore, they have to put a great effort on designing the after payment activities support as well as before payment activity support.

**Concluding Remarks**

The current research, by bringing direct and indirect utility with regard to the shopping at e-business sites into the consideration, provides a different angle for the understanding of 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 affected by before-payment activity support and perceived economic benefits. Accordingly, the findings of this study may help redirect the e-business success research to consider the factors affecting the
instrumental utility such as post-payment support and the alignment of business process and web sites.

This study, along with previous research, should be regarded as just one of the many steps necessary for understanding the impact of Web information systems design on the performance of e-business firms. The measures we used in this study is only some of many other factors affecting customer utility perception. Future study may investigate more factors related to time lag management and risk control from the customer point of view.
Appendix. Questionnaire of the four dimensions

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Scale items</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Search Support Quality</td>
<td>PS-1 Ease of finding</td>
<td>How easily were you able to find the product your were looking for</td>
</tr>
<tr>
<td></td>
<td>PS-2 Overall look and design</td>
<td>Overall look and design of the site</td>
</tr>
<tr>
<td></td>
<td>PS-3 Clarity of product Information</td>
<td>How clear and understandable was the product information</td>
</tr>
<tr>
<td></td>
<td>PS-4 Selection of products</td>
<td>Types of products available</td>
</tr>
<tr>
<td>Perceived Economic Benefits</td>
<td>PE-1 Price comparison</td>
<td>Prices relative to other web sites</td>
</tr>
<tr>
<td></td>
<td>PE-2 Shipping charges</td>
<td>Reasonable shipping charges</td>
</tr>
<tr>
<td></td>
<td>PE-3 Variety of shipping options</td>
<td>Desired shipping options were available</td>
</tr>
<tr>
<td>e-Shopping Methods Diversity</td>
<td>MD-1 Payment methods</td>
<td>Diversity of payment methods</td>
</tr>
<tr>
<td></td>
<td>MD-2 Product return</td>
<td>Flexibility of product return</td>
</tr>
<tr>
<td></td>
<td>MD-3 Special features</td>
<td>Various tools for convenient electronic shopping</td>
</tr>
<tr>
<td>Post-Payment Support Quality</td>
<td>PP-1 Availability of product</td>
<td>Product was in stock at time of expected delivery</td>
</tr>
<tr>
<td></td>
<td>PP-2 Order tracking</td>
<td>Ability to track orders until delivered</td>
</tr>
<tr>
<td></td>
<td>PP-3 On-time delivery</td>
<td>Product arrived when expected</td>
</tr>
<tr>
<td></td>
<td>PP-4 Product met expectations</td>
<td>Correct product was delivered and it worked as described/depicted</td>
</tr>
<tr>
<td></td>
<td>PP-5 Customer support</td>
<td>Availability/Ease of contacting, courtesy &amp; knowledge of staff, resolution of issue</td>
</tr>
</tbody>
</table>
References


30


The University of Rhode Island started to offer undergraduate business administration courses in 1923. In 1962, the MBA program was introduced and the PhD program began in the mid 1980s. The College of Business Administration is accredited by The AACSB International - The Association to Advance Collegiate Schools of Business in 1969. The College of Business enrolls over 1400 undergraduate students and more than 300 graduate students.

Mission

Our responsibility is to provide strong academic programs that instill excellence, confidence and strong leadership skills in our graduates. Our aim is to (1) promote critical and independent thinking, (2) foster personal responsibility and (3) develop students whose performance and commitment mark them as leaders contributing to the business community and society. The College will serve as a center for business scholarship, creative research and outreach activities to the citizens and institutions of the State of Rhode Island as well as the regional, national and international communities.

The creation of this working paper series has been funded by an endowment established by William A. Orme, URI College of Business Administration, Class of 1949 and former head of the General Electric Foundation. This working paper series is intended to permit faculty members to obtain feedback on research activities before the research is submitted to academic and professional journals and professional associations for presentations.

An award is presented annually for the most outstanding paper submitted.