

# How Can E-Services Influence On Customers' Intentions toward Online Book Repurchasing (SEM Method and TPB Model)

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## Abstract

Efficiency and effectiveness of e-commerce lead increasingly applying it by organizations in all aspects of transactions. To be strong and stable enough in today's competitive world, organizations need to improve their technological and communicational infrastructure. Nowadays, superior Electronic services can add high customer value and create competitive advantage for the organization. Therefore, providing electronic purchasing for consumers have become one of the key issues for organizations. The main aim of this study is to investigate attitude and intention toward electronic repurchasing of books, by effective factor of e-service quality, using the TPB model and structural equation modeling method (SEM). Samples of this survey are electronic buyers of books (through online book stores) who have used electronic services which books sellers companies offer. The results show that e-service quality strongly affects intentions and attitudes towards repurchasing.

**Keywords:** e-purchasing, E-commerce, E-service quality, online book shopping, TPB, SEM

## 1. Introduction

Indeed, the impact of e-services in today's economy and trading is significant and not deniable. E-services provide important advantages to both consumers and companies. Katono proposed that using technology-based service delivery systems can reduce costs and improve the overall efficiency of operations and result in enhanced customer satisfaction, leading to customer retention and finally increased profits (Katono, 2011). In recent years, academics have been highly interested in the internet as it has changed the nature of business, markets and the economy in general. Nowadays, internet emerges as a significant growing market space. Indeed, the increasing numbers of commercial web sites which offer products or services purchased directly online, prove this matter (Bonera, 2011). In the twenty-first century e-

commerce and e-service have experienced a stage of steady growth. E-service growth which can be called web-based self-service, has mentioned the importance of service sector roles in modern economies (Udo et al., 2010). But, in any transaction mode, repurchase and reuse are critical to the success of online stores and online purchasing. What, then, keeps consumers loyal to an online store or an online service? E-commerce research answered from different aspects, including explanations based on service quality, benefits of online shopping, trust, and satisfaction (Fang et al., 2011). E-service quality is studied in many researches as one of the main factors that determine the success or failure of electronic commerce. In the other hand, one of the new challenges is the quality of the electronic service provided by company web sites and other electronic media. The quality of enterprise's e-services is one of the key indicators of how well a company can likely satisfy its customers (Udo et al., 2010) and how this satisfaction can lead to loyalty and guarantee reuse of e-services. In this paper we investigate the role of e-service quality on consumers' intentions towards book repurchasing. We studied online book seller companies as companies which provide e-services.

## **2. Theoretical Framework**

### *2.1. Intention*

Theory of planned behavior (TPB) has been used in several studies investigating consumers' purchasing intention. These researches have a common point that purchasing behaviors studied are purchasing standardized products and services (Tang et al., 2011). But in this study, the product or services which have been considered, is a virtual online service. In one hand, results of this study can prove successful using of TPB for predicting and explaining human behavior across various services especially e-services. In the other hand, using TPB can expand to investigate online book repurchase.

Theory of planned behavior underlying the effort of TRA has been applied successfully in predicting and explaining human behavior across various information technologies (Ajzen, 2002, 1991). According to TPB, a person's actual behavior in performing certain actions can directly be influenced by his or her behavioral intention and, in turn, can be jointly determined by his or her attitude, subjective norms and perceived behavioral controls toward performing the behavior.

### *2.2. E-services quality*

Forced by the expansion of e-commerce, e-service has increasingly known as a critical channel through which customer needs can be automatically granted over Internet throughout the consumption life cycle. In the promotion and development of Internet and information technology, e-commerce has not only considered new applications, business models and economics, but has also gradually improved the way that enterprisers conduct their business. E-service can present not only basic commerce functions such as online catalogues, online transactions, and order fulfillment but also a series of customer-oriented activities such as

online help, configuration and customization, and security mechanisms to enhance/improve customer.

"E-service" has recently become a popular research topic, with the growth of the e-commerce, and a number of published studies have offered a variety of conceptual definitions. Parasuraman et al. (2005, p.217) defined E-Service quality as "the extent to which a web site facilitates efficient and effective shopping, purchasing and delivery". This definition implied that the concept of E-Service quality extends from the pre purchase phase (ease of use, product information, ordering information, and personal information protection) to the post-purchase phase (delivery, customer support, fulfillment, and return policy) (Ladhari, 2010). He also makes it clear that online shoppers should rely entirely on information technology in their e-service encounters. Since then, e-service has been generally known as interactive information services by means of which customers can transact business (Rolland et al., 2010). Then, E-Service broadly defined to include both pre-web and post-website service aspects.

Rowley (2006) has conceptualized e-service to embrace all kinds of interactions: "service delivery and customer support as well as information provision". Indeed, in today's economy, consumers demands a cut in prices for goods that retain their standards of quality, and simultaneously leads a change in the consumers' decision making (Rolland et al., 2010).

Expansion of internet all over the world, leads E-commerce growth in the past few years. Chen and Dhillon (2003) proposed e-commerce as the transaction of products or services over the internet (Chien et al., 2009). E-commerce has changed the business pattern, with manufacturers, distributors, and customers, and used the internet as a tool for communication. These kinds of new transactions have been creating new platforms for a competitive strategy. Therefore investigating of how consumers consider the features of the internet to make purchasing decisions in the e-commerce environment would help managers and marketers (Chang, 2011).

E-service quality emerges as a strategic issue, determinant of competitive advantage and factor of long-term success of firms (Parasuraman et al., 2005). Importantly, effective management of e-service leads to deliver and maintain high quality is crucial for web sites which can increase customer satisfaction and customer loyalty (Carlson et al., 2011).

However, despite the E-service quality importance of the E-service quality, the conceptualization and measurement of it are still at a nearly phase of development and studies in this field are still somewhat limited and disparate (Ladhari, 2010).

There are just A few attempts which done to understand and measure e-service quality (Ladhari, 2009). Most of these efforts have concentrated on online shopping with limited attention to other service contexts. Some studies researched in dimensions of e-service quality and concluded that most measures of e-service quality are different in dimensions and attributes (Katono, 2011)

Several researches have attempted to explain the domain of e-service quality and identify its dimensions. Further, the focus of researchers in e-service quality has to some extent caused the trend in service quality modeling. Studies which have referred modeling e-service quality focused on its dimensions (e.g. ease-of-use, information quality, responsiveness) as e-service quality construct rather than as antecedents to the consumer's overall evaluation of service quality (Carlson et al., 2011).

In order to consider the customer-to-company interaction aspect, some other studies have focused on measurements of e-service quality. For example, after an extensive literature review Zeithaml et al. (2002) proposed the e-SERVQUAL model for measuring e-service quality to study how customers judge services. It contains seven dimensions: efficiency; reliability; fulfillment; privacy; responsiveness; compensation; and contact. Parasuraman et al. (2005) divided these seven dimensions into two separate scales: E-S-QUAL and E-RecS-QUAL. The first four dimensions are classified as the core service scale, and the latter three dimensions are known as a recovery scale, since they are important only when online customers have questions or problems (Chang et al., 2011).

For this study we should consider such instruments which have developed to assess the quality of an Internet portal, such as E-S-QUAL, SiteQUAL, UPWQ (user-perceived web quality), and QES. E-S-QUAL and SiteQUAL are related to the online shopping context but in particular, UPWQ measures perceived quality of general purpose Internet-based service from the user perspective. This instrument is suitable enough for measuring the e-service quality of Internet-based applications for web sites not involving online shopping (Liao et al., 2011)

Furthermore, Loiacono et al. (2000) developed a scale called WEBQUAL with 12 dimensions: informational fit to task; interaction; trust; response time; design; intuitiveness; visual appeal; innovativeness; flow; integrated communication; business processes, and substitutability. Overall, these WEBQUAL dimensions are more relevant to interface design than are suitable for service quality measurement (Zeithaml et al., 2002).

The particular variables used in our study came from an extensive literature review comparing. By considering online book sellers as an e-service and preferences of consumers of these kinds of e-service, we chose and applied some dimensions which were relevant enough to e-service quality. We attempted to consider all sides of e-service quality which referred to website of company, online services of website, advantages of using online services and so far. These are: ease of use; discount; delivery system; security; post-purchase customer service.

### **3. Conceptual Model And Research Hypotheses**

Intention towards e-services can be important antecedents of repurchase. To measure Intention towards repurchase of e-services, we proposed five factors which have positive direct effects on it. Therefore we assumed that:

Hypothesis 1-1: ease of use of e-service affects e-service quality, positively.

Hypothesis 1-2: discount of e-service affects e-service quality, positively.

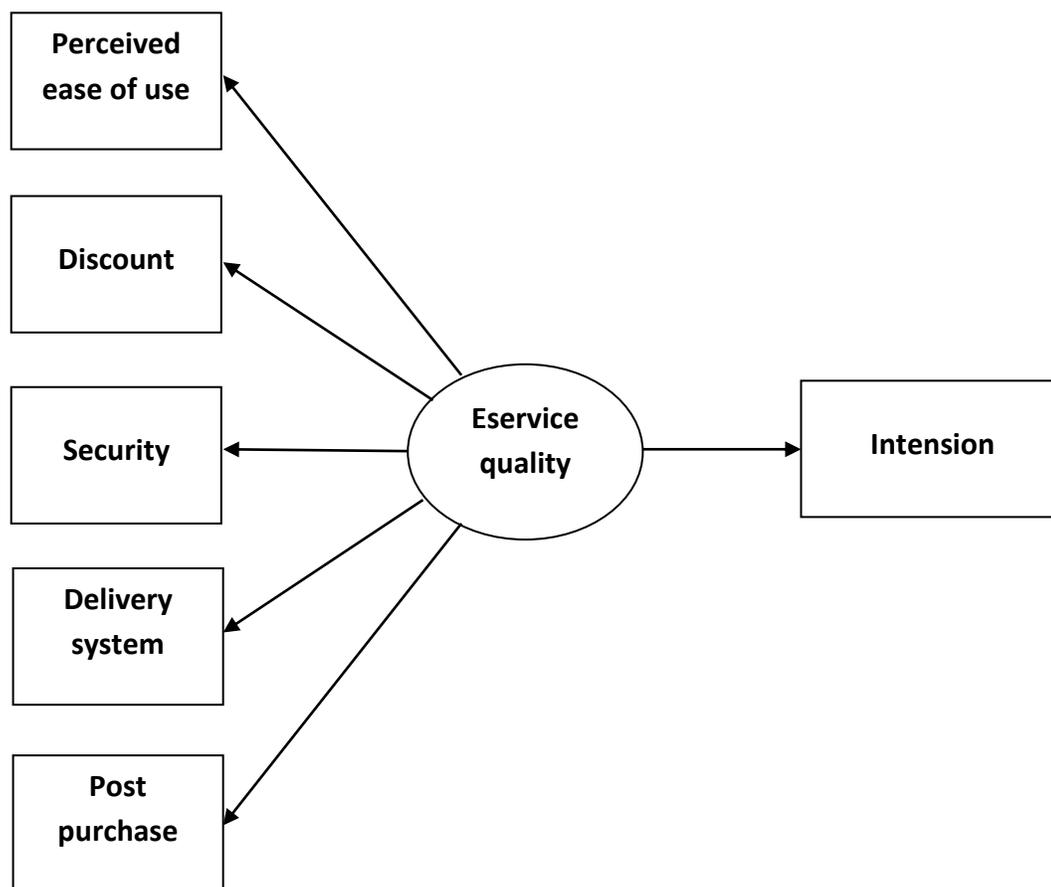
Hypothesis 1-3: security of e-service affects e-service quality, positively.

Hypothesis 1-4: delivery system of e-service affects e-service quality, positively.

Hypothesis 1-5: post purchase ability of e-service affects e-service quality, positively.

Hypothesis 2: e-service quality will be positively related to intension towards repurchase.

The conceptual model of the study is presented in figure1. TPB was adopted to explain the consumers' intension toward online repurchase. Specifically, this study considers e-service quality as an antecedent of intension towards online repurchase.



**Figure1: conceptual model**

#### **4. Research Methodology**

This study adopted structural equation model (SEM) in the data analysis. SEM includes two stages: measurement model analysis and structural model analysis. For the intended structural equation modeling (SEM), the power of the test is dependent upon the number of specified parameters and sample size. The sample collected from online book shops' customers. The questionnaires were spread through two big online book shops which their daily online book buyers were 100. From the 150 dispersed questionnaires, as we expected, only 95 of them were usable. The Morgan table suggests 80 sample sizes for 100 population size. The questionnaires were put on these two web sites for three days. The sample composed of 39 male and 56 female. Their ages were between 19- 46.

A field survey was conducted to test the hypotheses. The survey utilized a questionnaire designed to collect data regarding consumer online repurchase intention. This multi-item questionnaire has three main parts. First part is demographic questions. Second part is evaluating variables which have chosen from an extensive literature review: ease of use; discount; delivery system; security; post-purchase customer service (Rolland et al., 2010). The third part evaluates subjective norms and control behavior and attitude towards online repurchase which was come from Ajzen (1992). All items in the questionnaire were measured on A questionnaire was constructed and pretested in four rounds to ensure questions were understood as intended and to assess the feasibility of the survey approach. Each item related to the studied constructs was rated on a five – point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5).

Construct indicators shows high Reliability (Cronbach's alphas range from 0.71 to 0.91), and indicates strong internal consistency. Examining construct validity, all factor loadings in the CFA for the total measurement model were statistically significant (with all t values at  $p < 0.01$ ), demonstrating convergent validity (Kumar et al., 1998). A total Cronbach's alpha was 0.792.

## **5. Data analysis and hypotheses testing**

The model fit of the research model in this study was tested using AMOS 18.0. Researchers typically employ different indices to determine model fit. According to Brown (2006), fit indices are classified into absolute fit, parsimony fit, and comparative fit. Absolute fit indices measure how well the proposed model reproduces the observed data. The most common fit index is the model chi-square ( $\chi^2$ ) and the standardized root mean square residual (SRMR). Parsimonious indices are similar to the absolute fit indices except that it takes the model's complexity into account. An example is the root mean square error of approximation (RMSEA). Finally, the comparative fit indices are used to evaluate a model fit relative to an alternative baseline model (Harrington, 2009). Examples of comparative fit indices include the comparative fit index (CFI) and Tucker-Lewis index (TLI). In this study, all the fit indices mentioned above would be used.

The objective of conducting the structure model was designed to investigate consumers' attitudes and intensions towards online repurchase. We consider quality of e-services as

antecedent of consumers' intension which online book shops offer to their customer such as online book purchasing.

The results of testing fitness of structural model fit indicated that, Cmin (DF=14) = 27.316, Cmin/DF=1.951, CFI= 0.957, RMSEA= 0.035, RMR=0.042, GFI=0.977, TLI= 0.934, and P (value) =0.039.

After the measurement models was analyzed separately, the conceptualized fit model of research run as a structural model to test the hypotheses regarding to relationship between e-service quality intention. The method of maximum likelihood estimation in Amos Graphics.18 software used to analyzed data and hypotheses testing. See table 1.

**Table 1: hypothesis testing**

Hypothesis no.	path	Standardized Regression Weights	S.E.	C.R.	
H1-1	Ease of use <--- eservice quality	.738	.333	6.550	accepted
H1-2	discount <--- eservice quality	.914	.152	8.350	accepted
H1-3	security <--- eservice quality	.837	.166	7.750	accepted
H1-4	Delivery system <--- eservice quality	.716	.137	5.346	accepted
H1-5	Post-purchase <--- eservice quality	.560	.175	5.699	accepted
H2	intention <--- eservice quality	.889	.168	6.949	accepted

## 6. Results

By conducting the structure model, this research was designed to investigate consumers' attitudes and intensions towards online repurchase. We consider quality of e-services as antecedent of consumers' attitude and intension which online book shops offer to their customer such as online book purchasing. It was the first time that e-service quality of online purchasing book was measured in Iran. It was the first time in marketing literature that TPB is used to investigate attitude and intension towards online repurchase (Ladhari, 2009).

The results show that ease of use, discount, security, delivery system, and post-purchase related to the e-services quality, positively (table 1). One of The most important one is "ease of use" which refers to "Ease of navigation within a website, High speed navigation and Ease of

moving between pages of the website. The high regression weight mentioned that to have proper quality of e-services we need to improve ease of use of websites and e-services. Another important factor is post-purchase customer services which facilitates future use of e-services, such as "Ease of registering a complaint, Reasonable returns policy and efficient problem handling". Another important factor of quality is discount. It has the most influence on e-service quality. This results is consistent with previous researches of Rolland et al. (2010); Bressolles et al. (2010) and Ladhari, (2009), Lee, (2011). Therefore, H1-1 to 1-5 was supported.

E-service quality positively related to intension towards service reuse and H2 is supported ( $\beta=.889$ , C.R. =6.949). Consumers with high intension to use e-service continuously, say positive thing to others about using e-services, recommend the website to them and encourage their families and friends to use e-services. They prefer to have long time relationship with supplier even if the price increases. This results is very similar to Chiu's (2009) who found that " the study shows that trust, perceived ease of use, perceived usefulness and enjoyment are significant positive predictors of customers' repurchase intentions'.

## **7. Discussions, Implications and Limitation**

Designing quality service in today's dynamic environment is essential for becoming and remaining competitive. Service qualities are hot topics in service marketing literature and service marketers continually try to create efficient service strategies to deliver high quality service in order to satisfy their customers. However, many service offerings ultimately fail due to poor service quality performance. Previous studies of service quality in terms of e-services were primarily focused on the interaction between consumer perception and the outcome of quality service. Consumers' perceptions of online service failures have been described as the most frequently stated problem.

Improving e-service quality is the main key to long-term advantage in the digital age; therefore, understanding, measuring and managing e-service quality has become an essential issue for ensuring customers' satisfaction and loyalty as well as profitability of service firms (lee et al., 2011).

Most reviewed academic studies have investigated a more or less universal set of key attributes as the basis for measures of e-service quality. Some others have mentioned e-service quality relationship with other elements such as satisfaction, loyalty, or repurchase intension. The purpose of this study is to identify effects of e-service quality on attitude and intension towards online repurchase among online book buyers and e-service users in Iran.

As previous researches show, e-service quality affects intension towards online repurchase, directly or indirectly (Ladhari, 2009; Almaghrab, 2011; Chiu, 2009)

Some researchers studied the role of mediate variables on this relationship. Weisberg (2011) found that past purchasing can predict intentions to purchase and trust and social presence can

act as partial mediators. Li (2011) Found that overall service quality positively associated with repurchase intentions.

The particular variables used in this study (ease of use; discount; delivery system; security; post-purchase customer service) considered as e-service quality factors which strongly affect on attitude and intension towards e-service reuse. The most important factor is ease of use of e-services. Moreover, e-service quality will be positively related to attitude towards online repurchase, subjective norms, and perceived control behaviour. But, it was found that subjective norms and control behavior can affect online repurchase attitude and intension negatively. It means that users persist to reuse e-services even if their families and relatives do not accept it, or their limitation can influence using e-services. Moreover, e-service quality influence positively on subjective norms and behavioral control. E-service quality has an impact on intension towards online repurchase.

As results show by increasing e-service quality and intention towards reuse of e-service can be improved. But we should consider subjective norms and behavioral control as important factors, too. By improving limitations of using e-services or changing negative mind to e-services, offering e-service companies can encourage using e-services continuously.

In assessing the results, we should consider the limitations and restrictions of using e-services in Iran. As accessing to the internet is limited, there is low tendency to apply internet for doing anything that can be done in other ways. Another limitation is low speed of internet in Iran that decrease amount of using e-eservices. As another implicit factor, many consumers prefer direct methods of transaction. It may because they cannot rely on internet or websites to purchase.

In another hand, electronic commerce is growing day by day. We observe increasing electronic services which companies offer in their websites, and encouraging plans to raise using e-services. It may take a long time for a developing country like Iran, to apply extended and unlimited e-commerce, but the important matter is that "it has been started."

This study proved that e-service quality can affect attitudes and intensions towards reusing of e-service. As an antecedent of online repurchase, marketers should pay enough attention to improve e-services quality and adopt with customers' needs and preferences.

Studying hypotheses of this research has some limitations. Amount of consumers which have used e-services of online book shops at least 2 times, were small and not exactly countable. To have a proper sample size we first look into e-services users to determine proper sample group. By considering all issues, for the first time, we investigated the impact of e-service quality on attitude and intention towards online repurchase among online book buyers in Iran.

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