An Empirical Study on the Relationship between Customer Value and Business Value of Online Firms

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Abstract

Customer value is the source for competitive advantage of online businesses such as Internet shopping malls and portal service. It is important to analyze the relationship between customer value and repurchase in order to provide a guideline of successful online business. The purpose of this paper is to get answers for the following questions. First, what are key components of customer value in online business? Second, What difference exists in the importance or expectance of customer value and its current service level of online business? Finally, what influence relationships exist in customer value and repurchase intentions? Data collected from 615 respondents who experienced purchase on the Internet shopping malls were used to test a research model.

1. Introduction

Customer Value is the source of competitive advantages of online business and various researches have been conducted (Woodruff, 1997; Lapierre, 2000; Ulaga and Chacour, 2001). Yahoo offered service on the Internet at 1994. In Korea, Interpark opened Internet shopping mall at 1996. Online business based on the Internet is still in its infancy, but marks steady growth after overcoming a bubble crisis. It is necessary to provide guidelines for online businesses through the study on the components of customer value and the relationships between them and business value.

The purpose of this paper is to present a list of customer value factors, to analyze the difference between the importance of customer values and their current service levels, and to identify the influence of customer value on business value. In this paper, we employ repurchase intentions as the surrogate of business value. Generally, it is assessed by financial measures such as revenues and ROA, or non-financial measures. The repurchase intentions can affect a purchase behavior, and ultimately lead to the

increase of revenues.

2. Literature review for customer value of online business

The researches related to this study are classified into three categories such as:

- Types of customer value;
- Service quality;
- Technology acceptance model.

Table 1 shows a summary and the components of customer value in the previous researches. Table 2 summarizes previous works for the service quality.

Table 1: Previous researches for customer value

Author and year	Summary and types of customer value
Jang and Lee (2000)	· Customer value of traditional commerce: reliability, personal interaction, and shopping enjoyment · Customer value of online business: convenience, cost reduction, and information satisfaction
Kim and Oh (2002)	· economic value, service excellence, and convenience
Walters and Lancaster (1999), Walters and Lancaster (2000)	This study suggested a customer-centric value chain model and customer value criteria as follows: · Security, performance, aesthetics, convenience, economy, and reliability.
Keeney (1999)	This study suggested a useful comprehensive list of all the customer values as follows: · Quality, cost, delivery time, convenience, time reduction, privacy, shopping enjoyment, safety, and environment impact
Mathwick et al. (2001)	In this study, an experiential value reflecting the benefits derived from perceptions of playfulness, aesthetics, customer ROI, and service excellence was developed and tested in the Internet and catalog shopping contest.
Anckar et al. (2002)	This study presented four different ways in which customer value can be created in electronic grocery shopping as follows: · competitive prices, a broad and/or specialized assortment, superior shopping convenience, and superior customer service
Sweeney and Soutar (2001)	The work described four distinct value dimensions as follows: · emotional value, social value (enhancement of social self-concept), functional value (price/value for money), functional value (performance/quality)

Ulaga and Chacour (2001)	Customer perceived value is the function of quality and price, in which quality is composed of product related components, service related components, and promotion related components.
Lapierre (2000)	This study identified 13 key drivers of customer perceived value as follows: · product related values such as alternative solutions, product quality, produc customization, and price; · service related values such as responsiveness, flexibility, reliability, and technical competence; · relationship related values such as image, trust, solidarity, time/effort/energy, and conflict.
Eggert and Ulaga (2002)	In this study, relationship between customer-perceived value, customer satisfaction, and behavioral outcomes were empirically tested. Customer perceived value is measured by items such as reasonable quality, reasonable price and superior net-value.
Chen and Dubinsky (2003)	Key precursors of perceived customer value in a B2C e-commerce setting are valence of on-line shopping experience, perceived product quality, perceived risk, and product price.

Table 2: Previous works for SERVQUAL

Author and year	Service quality factors
Parasuraman et al. (1988)	This study suggested service quality scales (SERVQUAL) as follows: · reliability, assurance, tangibility, empathy, and responsiveness.
Jarvenpaa and Todd (1998)	Service quality of Internet shopping malls what is called e-SERVQUAL includes convenience, security, and entertainment as well as RATER.
Lee (2002)	This study presented information, transaction, design, communication, and security as e-SERVQUAL

Technology acceptance model (TAM) examined the mediating role of perceived ease of use and perceived usefulness in their relation between systems characteristics and the probability of system use. Many researches concluded that there were positive relationships between perceived ease of use, perceived usefulness, repurchase intention, and actual behavior (Davis, 1989; Legris et al., 2003; Moon and Kim, 2001; Gefen et al., 2003; Chen et al., 2002)

3. Research model and hypotheses

This paper aims at answering following three questions. First, what are constructs of customer value in

online business. Second, what differences between the importance of customer value and its service level exist? Third, does customer value of online business affect repurchase intention? In order to achieve the goal of this study, we present a research model as depicted in figure 1.

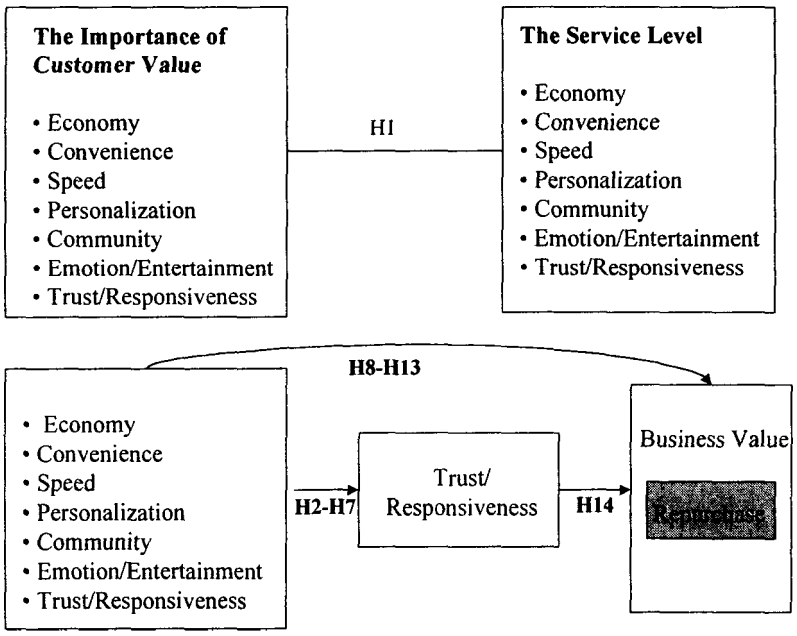

Figure 1: Research model

Table 3 shows constructs of customer value, their operational definition, references, and number of items grouped into a construct.

Table 3: Constructs of customer value, their operational definition, and references

Constructs (customer value)	Operational definition	Related researches	Number of items
Economy	Economic value perceived by customer through cost reductions or lower price than an average market price.	Jang and Lee (2000), Kim and Oh (2002) Anckar et al. (2002), Keeney (1999), Lapierr (2000), Mathwick et al. (2001), Naumann (1994) Sweeney and Soutar (2001), Walters and Lancaster (2000), Ulaga and Chacour (2001)	2
Convenience	Convenient value derived from customer satisfaction by providing convenient information, commodities,	Jang and Lee (2000), Kim and Oh (2002) Anckar et al. (2002), Keeney (1999), Walters an Lancaster (2000)	2

	and services for customer.		
Speed	The value derived from customer satisfaction through quick responses to customer needs as follows: ● Prompt transactions, order fulfillment, and feedback.	Jang and Lee (2000), Keeney (1999)	3
Personalization	The value derived from offerings of products, service, and transaction settings in the customized or personalized way.	Case et al. (2003), Maglio and Barrett (2000) Prahalad and Ramaswamy (2000), Vandenbosch and Dawar (2002)	2
Community	The value derived from online community in which customers get information and knowledge, and communicate with the others	Case et al. (2003), Hagel (1999), Prahalad an Ramaswamy (2000)	3
Emotion and Entertainment	The value derived from offerings of entertainment, pleasure, enjoyment, playfulness, and experiential cyberspace.	Keeney ([1999], Moon and Kim (2001), Heijden (2003), Mathwick et al. (2001), Sweeney and Soutar (2001), Walters and Lancaster (2000)	3
Trust	The value derived from offerings of secure and reliable transactions, quality assurance, security service, privacy protection, and optimal experience.	Keeney (1999), Lapierre (2000), Naumann (1994), Sweeney and Soutar (2001), Walters an Lancaster (2000)	4
Responsiveness	The value derived from the ability to flexibly meet the change of customer needs or unforeseen needs, and minimize customer's complaint.	Keeney (1999), Lapierre (2000), Sweeney and Soutar (2001)	3

The research model can be stated in the following hypotheses.

H1: There will be difference between the importance of the value to which customer will expect and the current service level that Internet shopping malls offer.
H2: Economic value for customer will positively affect trust/responsiveness value for him.
H3: Convenience value for customer will positively affect trust/responsiveness value for him.
H4: Speed value for customer will positively affect trust/responsiveness value for him.
H5: Personalization value for customer will positively affect trust/responsiveness value for him.
H6: Community value for customer will positively affect trust/responsiveness value for him.
H7: Emotion and entertainment value for customer will positively affect trust/responsiveness value for him.
H8: Economic value for customer will positively affect repurchase intention.
H9: Convenience value for customer will positively affect repurchase intention.
H10: Speed value for customer will positively affect repurchase intention.
H11: Personalization value for customer will positively affect repurchase intention.
H12: Community value for customer will positively affect repurchase intention.
H13: Emotion value for customer will positively affect repurchase intention.
H14: Trust/responsiveness value for customer will positively affect repurchase intention.

4. Empirical analysis

In order to target online consumers, a Web-based survey was employed. Users visiting the Web site of Pollever that is a survey research company between November 24 and November 30, 2003 were asked to participate in the survey. 651 respondents who had purchase experience in the Internet shopping malls participated in the survey. 36 responses were discarded owing to an invalid or insincere response. A total of 615 samples were used to conduct this analysis.

The questionnaire was pretested with expert group and students, and refinements were made based on the results of the pretest. Five-point scales were used in this survey.

Table 4 presents a descriptive profile of the sample.

Table 4: descriptive statistics of respondents' characteristics (n = 615)

Age Distribution			Job distribution			Experience Distribution		
Age (year)	Freq.	Percentage	Job	Freq.	Percentage	No. of Visit	Freq.	Percentage
10 – 19	5	1	Company	294	48	1-3	254	41
20 –29	163	43	Public	28	4	4-6	137	22
30 –39	254	41	Student	165	27	7-9	41	7
40 – 49	86	14	Homemaker	71	12	>= 10	183	30
> =50	7	1	Others	57	9			
	615	100		615	100		615	100

We examined the reliability of each of the composite constructs using Cronbach's Alpha. These are depicted in last two columns of Table 5. We conducted an exploratory factor analysis and verified seven factors in both cases of the importance of customer value and its service level. The results are shown in Table 5.

As can be seen, convergent validity of the constructs is demonstrated by the facts that all factor loadings exceed 0.50 on their construct. Similarly, discriminant validity is demonstrated by the fact that there are no cross-construct loadings that exceed 0.50. These findings suggest that the constructs are unidimensional and distinct.

Table 5: Scale properties

Constructs	Measure items	Factor loadings		Eigenvalue		Reliability coefficients (Cronbach's alpha)	
		Importance of customer value	Service level	Importance of customer value	Service level	Importance of customer value	Service level
Economy	Low price	.856	.837	1.704	1.726	.7865	.6943
	Low transaction cost	.814	.820				
Convenience	Convenient interface	.682	.609	1.507	1.367	.5803	.4944
	Convenient order and tracking procedures	.777	.701				
Speed	Reduction of shopping time	.732	.667	1.608	1.746	.6337	.5845

	Quick service	.521	.648				
	Updated information	.757	.567				
Personalization	Customized service	.785	.815	1.660	1.787	.7792	.7663
	Personalized transaction environment	.820	.817				
Community	Sharing of information and knowledge	.648	.505	1.823	1.726	.7006	.6513
	Proactive participation	.809	.842				
	Decrease of common risks	.680	.706				
Emotion/ Entertainment	Enjoyment and playfulness	.768	.773	1.846	1.945	.6729	.6690
	Events	.824	.821				
	Simple and clear We design	.531	.529				
Trust/ Responsiveness	Trust on the transaction	.733	.622	4.947	3.492	.9122	.8445
	Quality assurance	.816	.789				
	Secure service	.795	.670				
	Brand	.688	.568				
	Responsiveness to customers	.693	.618				
	Returns and feedback	.833	.766				
	Resolution	.742	.698				
Repurchase Intentions	Consistent repurchase intention	-	.808	-	1.856	-	.7281
	Recommendation		.782				

* Method for factor extraction: principal component, Rotation method: Kaiser normalized Verimax

As shown in table 6, hypotheses H1-1 ~ H1-7 are all strongly supported. This implies that gaps between the importance of customer value and its current service level exist. In particular, the gap is large in the trust/responsiveness construct.

Table 6: Results of hypotheses tests for analyzing differences

Hypotheses: Constructs	Mean (SD)	t-test	Hypotheses result

	Importance	Service level	t statistics	P value	
H1-1: economy	3.780(.734	3.497(.670)	8.491	.000	Accepted
H1-2: convenience	3.594(.670	3.389(.621)	6.602	.000	Accepted
H1-3: speed	3.697(.633	3.427(.601)	9.477	.000	Accepted
H1-4: personalization	3.480(.722	3.181(.689)	8.521	.000	Accepted
H1-5: community	3.437(.673	3.248(.608)	6.561	.000	Accepted
H1-6: emotion	3.469(.653	3.297(.609)	5.835	.000	Accepted
H1-7: Trust	3.539(.794	3.157(.596)	12.111	.000	Accepted

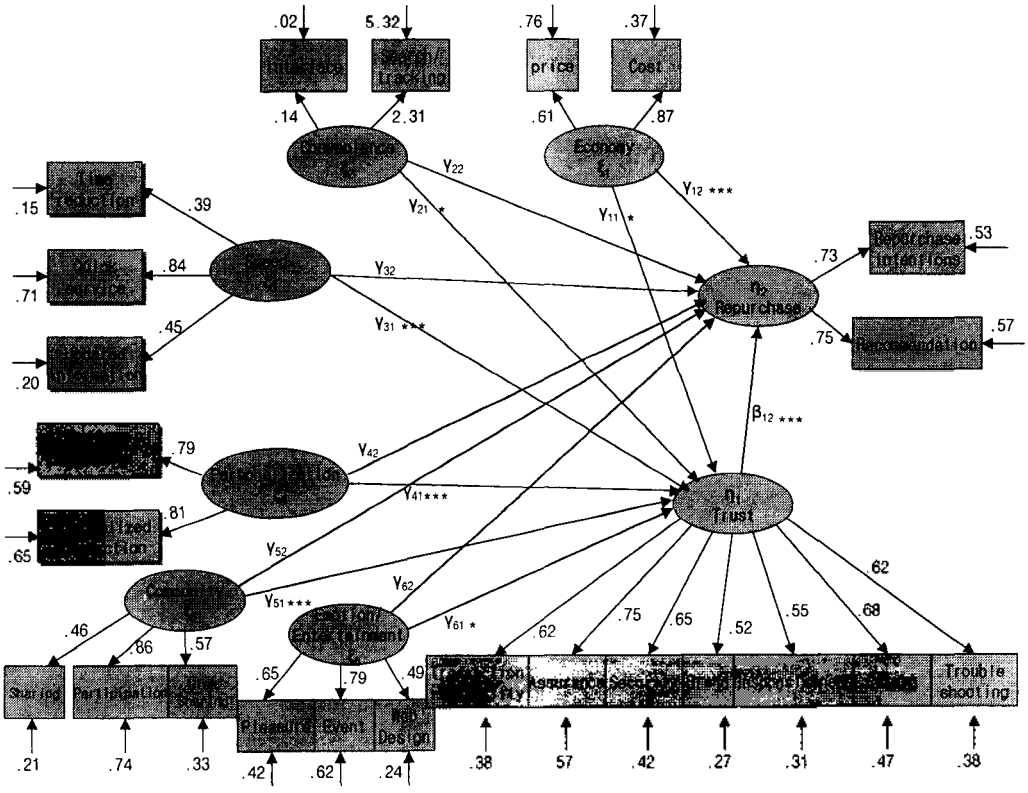

Figure 3: Structural equation model

Table 7: Results of structural equation model

Hypotheses	Causal path	Parameter estimates (SE)	P value	Hypotheses results
H2	Economy -> reliability	0.070(0.034)	0.041	Accepted
H3	Convenience -> reliability	0.170(0.080)	0.033	Accepted
H4	Speed -> reliability	0.547(0.084)	0.000	Accepted
H5	Personalization -> reliability	0.273(0.043)	0.000	Accepted

H6	Community -> reliability	0.222(0,067)	0.001	Accepted
H7	Emotion -> reliability	0.102(0.044)	0.020	Accepted
H8	Economy -> repurchase	0.225(0.053)	0.000	Accepted
H9	Convenience -> repurchase	0.110(0.086)	0.202	Rejected
H10	Speed -> repurchase	0.120(0.083)	0.149	Rejected
H11	Personalization -> repurchase	0.092(0.087)	0.178	Rejected
H12	Community -> repurchase	0.116(0.074)	0.116	Rejected
H13	Emotion -> repurchase	0.037(0.049)	0.460	Rejected
H14	Trust -> repurchase	0.479(0.076)	0.000	Accepted

Figure 3 presents a structural equation model representing influence relationship among customer values and repurchase intention. As shown in table 7, hypotheses H2 ~H7 are all supported. This implies that customer value factors such as economy, convenience, speed, personalization, community, and emotion positively affect other factor, trust/responsiveness. Hypotheses H9 ~ H13 are not supported while hypotheses H8 and H14 are strongly supported. Economy and trust values for customer have a strongly positive and highly significant impact on repurchase intention.

5. Conclusion

This paper developed and empirically tested a model representing the relationships between customer value factors and repurchase intentions as well as difference between the importance of customer value and its service level. The findings here suggested that the service level of customer value was significantly lower than its importance, and customer value factors positively affected the repurchase intentions. Specifically, economy and trust/responsiveness value factors directly affected the repurchase intentions while other factors such as convenience, speed, personalization, community, and emotion value indirectly affected it through trust/responsiveness.