MEDIATOR ROLE OF ATTITUDE TOWARD SITE IN THE EFFECT OF RISK PERCEPTION AND BENEFIT PERCEPTION ON NET BENEFIT

Mustafa Emre Civelek*,Murat Çemberci**

*Istanbul Commerce University, Business Administration Faculty, International Logistics Department

**Istanbul Commerce University, Business Administration Faculty, International Logistics Department

E-mail: ecivelek@ticaret.edu.tr, mcemberci@ticaret.edu.tr

ABSTRACT

In online shopping customers have risk perception and benefit perception. These perceptions affect their attitudes towards the online shops. In this paper, interconnected relationship among product risk, financial risk, shopping flexibility, product selection, attitude toward site and net benefit have been suggested. In order to test hypotheses, structural equation modelling method has been used. By studying on a sample consists of 407 people who purchase goods or services from e-commerce web sites, it is found that attitude toward site plays mediator role in the effect of risk perception and benefit perception on net benefit.

Keywords: *Risk Perception, Benefit Perception, Net Benefit, Attitude toward Site, B2B*

RİSK ALGISI VE FAYDA ALGILARININ NET FAYDA ÜZERİNDEKİ ETKİSİNDE SİTEYE KARŞI TUTUMUN MEDIATOR ROLÜ

ÖZET

Online alışverişte müşterilerin risk algısı ve fayda algısı vardır. Müşterilerin bu algıları siteye karşı tutumlarını etkilemektedir. Bu makalede, ürün riski, finansal risk, alışveriş esnekliği, ürün seçimi, siteye karşı tutum ve net fayda kavramlarının birbirine bağlı ilişkileri önerilmiştir. Hipotezleri test etmek için yapısal eşitlik modeli metodu kullanılmıştır. Elektronik ticaret web sitelerinden ürün ve hizmet satın alan 407 kişi üzerinde yapılan çalışma ile siteye karşı tutumun risk algısı ve fayda algısının net fayda üzerindeki etkisinde ara değişken rolü olduğu bulunmuştur.

Anahtar Kelimeler: *Risk Algısı, Fayda Algısı, Net Fayda, Siteye Karşı Tutum, B2B*

1. Introduction

Nearly for two decades volume of B2C is rapidly increasing. But this area has not been matured yet. There is still great potential in this area. Because the number of Internet users is increasing rapidly every year. As a result, the number of people shopping on the internet is also increasing. But the vast majority of Internet users still do not shop online. In order to make use of this potential, it is necessary to determine the factors that affect the attitudes of internet users towards online shops and their hesitations against online shopping. The most important aspect of an electronic commerce business is its website. The most important factor that determines the success of a website is that the site is preferred by the customers among other competing sites. In this preference, the determining factor is the attitude of the customer. This attitude is the result of the shopping experience of the customer. As a result, the customer

has a net benefit perception about the site. There are prejudices and perceptions about shopping on the Internet, regardless of the web site used by Internet users. These are risk perception and benefit perception. These perceptions have appeared over a long period of time and will change over time. Attitudes towards the website are directly related to the quality of the service and system that the web site provides. But it can be said that users' prejudices about shopping from the internet are influential on their attitudes towards the site. The aim of this research is to demonstrate this relationship among these factors. The proposed model is thought to contribute to electronic commerce literature. Because the mediator role of attitude toward site has been found statistically significant.

2. Background

Risk perception consists of two dimensions as product risk and financial risk. The product risk perception refers to the perception that the consumer already has about the product that he has not bought yet and that it is related to shopping on the internet. This dimension is not related to the site, but rather refers to the general perception of shopping on the internet that consumers have before shopping on any site. The Product risk perception is mainly caused by the fact that the consumer cannot have a close look at the product during shopping on the internet. The financial risk perception, which is another sub-dimension of the risk perception dimension, refers to the general perception of the security of the consumers who are shopping on the internet without any site specificity. Generally referring to, consumers are disturbed by sharing their credit card information and personal information on the internet. Belief of consumer that online shop may not send product is one of the factors that cause this problem (Çemberci, Sözer, & Civelek, 2013).

Benefit perceptions consists of two dimensions, shopping flexibility and product selection. Shopping flexibility refers to general perception regardless of any site. This perception is about the users think that they can shop on internet whenever and wherever they want. Product selection dimension refers to the general perception that users are more independent of shopping on the Internet than in any other shopping area, and that product variety is higher than in classical shops (Çemberci, Sözer, & Civelek, 2013). Attitude toward the site dimension is defined by Chen et al. Based on the Technology Acceptance model proposed by Wixom and Todd: Attitude toward the site refers to the intention of using the site and shopping on the site (Wixom & Todd, 2005). As this research is based on B2C sites, attitude toward the site dimension must be understood as the customers' intention to make purchases from the site (Chen, Rungruengsamrit, Rajkumar, & Yen, 2013). The net benefit is defined by Wu and Wang as the perceived benefit of the site generated by the user (Wu & Wang, 2006). According to Seddon, the net benefit relates to the value judgments of the users. It is essentially the difference between the cost and the user's future benefit expectation (Seddon, 1997).

3. Hypothesis Development and Conceptual Model

3.1. The Effect of Product Risk and Attitude toward Site on Net Benefit
One of the factors which are playing role on the purchase decision of the consumers through internet is risk perception (Civelek & Sözer, 2003). Risk perception consists of product and financial risk perceptions (Bianchi & Andrews, 2012). Attitude toward site refers to behavioural intention to use the web site (Chen, Rungruengsamrit, Rajkumar, & Yen, 2013). There is negative relation between product risk and intention to shop online (Çemberci, Sözer, & Civelek, 2013). Therefore, the following hypothesis is developed:

H_1: Attitude Toward Site plays mediator Role in the Relation between Product Risk and Net Benefit.

3.2. The Effect of Financial Risk and Attitude toward Site on Net Benefit
Financial risk has an effect on the purchase decision of the customers on internet (Civelek & Sözer, 2003). There is negative relation between financial risk and intention to shop online (Çemberci, Sözer, & Civelek, 2013). Therefore, the following hypothesis is developed:

H$_2$: Attitude Toward Site plays mediator Role in the Relation between Financial Risk and Net Benefit.

3.3. The Effect of Shopping Flexibility and Attitude toward Site on Net Benefit

There is a relation between benefit perception and online shopping intention (Chen-Yu & Seock , 2002). Benefit perception composed of shopping flexibility and product selection (Szymanski & Hise, 2000). Shopping flexibility positively affects intention to shop online (Çemberci, Sözer, & Civelek, 2013). Therefore, the following hypothesis is developed:

H$_3$: Attitude Toward Site plays mediator Role in the Relation between Shopping Flexibility and Net Benefit.

3.4. The Effect of Product Selection and Attitude toward Site on Net Benefit

Product selection has positive effect on the purchase decision of the customers on internet (Civelek & Sözer, 2003). Product selection positively affects intention to shop online (Çemberci, Sözer, & Civelek, 2013). Therefore, the following hypothesis is developed:

H$_4$: Attitude Toward Site plays mediator Role in the Relation between Product Selection and Net Benefit.

Figure 1. Conceptual Model
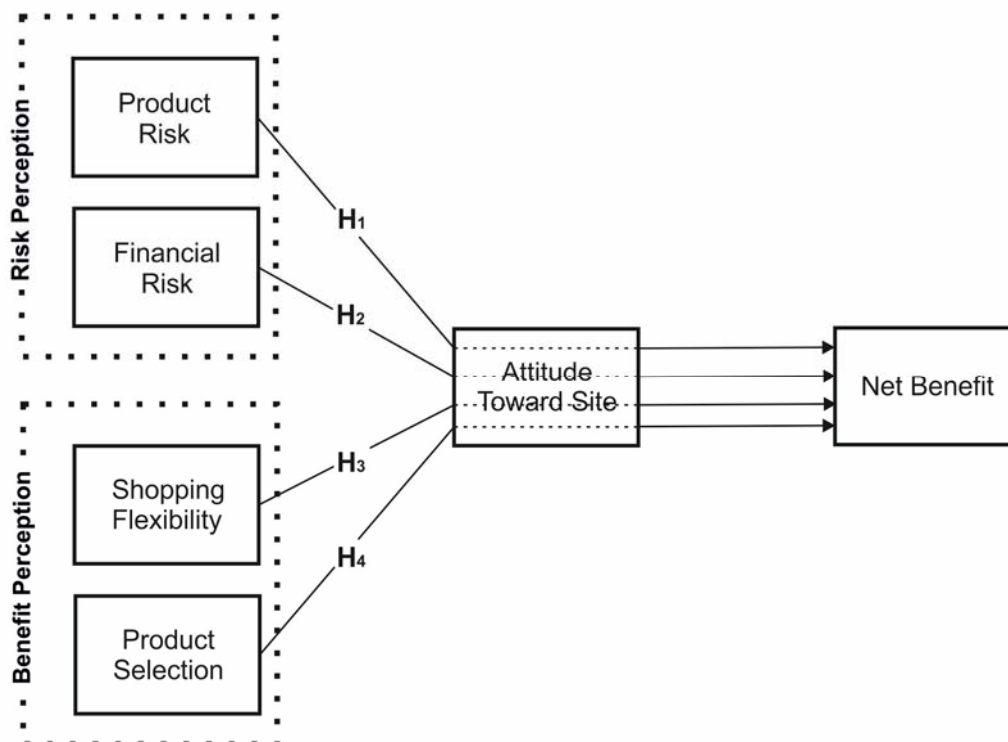
4. Research Methods

In this research quantitative data was used and five point Likert scale survey was conducted. Firstly the validity and reliability of the scales were determined. Confirmatory factor analysis (CFA) was used to analysis of the convergent validity. In order to assess discriminant validity, average variance extracted values (AVE) were calculated. Cronbach alpha and composite reliability (CR) values were found to analyse the reliability of the scales. Structural equation model which is a multi-variable statistical method was used to test the hypotheses put forward in the conceptual model. Structural equation model

was used due to clarifying direct and indirect relationships between variables in a single model (Meydan & Şeşen, 2011). This method is good for eliminating measurement errors (Byrne, 2010). AMOS and SPSS statistics programs were used for analyses.

4.1 Measures and Sampling

The scales adopted from prior studies were used for the measurement of dimensions. Six dimensions was measured by using 5 point Likert scales ranging from strongly disagree to strongly agree. The scale developed by Chen et al. (2013) was used for Attitude Toward Site (Chen, Rungruengsamrit, Rajkumar, & Yen, 2013). The scale which was developed by Wu and Wang (2006) was used for Net Benefit dimension (Wu & Wang, 2006). The scale which was developed by Forsythe et al. (2006) was used for product risk, financial risk, shopping flexibility and product selection dimensions (Forsythe, Liu, Shannon, & Gardner, 2006).

The data was collected through online survey. The sample of the research consists of 407 people who purchase goods or services from e-commerce web sites. Frequency of the demographic variables are as follows: 54.8 % of the respondents are female, 40.2% of them have university degree and 41.5% of them are between 25-35 years old.

4.2 Construct Validity and Reliability

After the data purification process 17 items were included in the confirmatory factor analysis. Confirmatory factor analysis was performed on the scales by using AMOS 23 for assessing convergent validity (Anderson & Gerbing, 1988). CFA results indicated that the model was an adequate fit: $\chi 2/DF$ =2.805, CFI=0.950, IFI=0.950, RMSEA= 0.067. CMIN is the likelihood ratio chi-square test. CMIN/DF ratio is under the threshold level of 3 (Bagozzi & Yi, 1990). This shows the conformity of the initial model and acquired model. Furthermore, other fit indices exceeded their recommended thresholds.

Table 1. Confirmatory Factor Analysis Results

Variables	Items	Standardized Factor Loads	Unstandardized Factor Loads
Product Risk	PR3.3	0.884	1
	PR2.2	0.745	0.838
Financial Risk	FR8.5	0.736	1
	FR7.4	1.075	1.435
Shopping Flexibility	SF12.4	0.707	1
	SF11.3	0.911	1.050
	SF10.2	0.873	1.100
	SF9.1	0.793	0.974
Product Selection	PS14.2	0.782	1
	PS15.3	0.796	0.917
Attitude Toward Site	AT53.5	0.683	1
	AT52.4	0.696	1.102
	AT51.3	0.879	1.209
	AT50.2	0.774	1.177
Net Benefit	NB61.4	0.829	1
	NB60.3	0.679	0.998
	NB58.1	0.572	0.788

p<0.05 for all items

Confirmatory Factor Analysis Results are shown in Table 1 and standardized factor loads of each item are larger than 0.5 and significant. These values show the convergent validity of the scales. To assess discriminant validity, average variance extracted values were calculated. Results are close to or beyond the threshold level (i.e. 0.5) (Byrne, 2010). Reliability of each construct individually calculated. Composite reliability and Cronbach α values are close to or beyond the threshold level (i.e. 0.7) (Fornell & Larcker, 1981). Descriptive statistics of the constructs, composite reliabilities, average variance extracted values, Cronbach α values and Pearson correlation coefficients are shown in Table 2. Additionally, in Table 2. The diagonals indicate the square root of AVE values of each variable.

Table 2. Construct Descriptives, Correlation and Reliability

| Variables	1	2	3	4	5	6
1.Product Risk	(.817)					
2.Financial Risk	.177*	(.921)				
3.Shopping Flexibility	-.254*	.057	(.824)			
4.Product Selection	-.315*	.019	.634*	(.789)		
5.Attitude Toward Site	-.259*	-.065	.475*	.436*	(.762)	
6. Net Benefit	-.226*	-.086	.474*	.405*	.651*	(.701)
Composite reliability	.800	.916	.894	.767	.846	.739
Average variance ext.	.668	.849	.680	.623	.581	.492
Cronbach α	.794	.883	.886	.764	.848	.733

*p < 0.05

Note: Diagonals show the square root of AVEs.

4.3 Test of Hypotheses

Conceptual model was analyzed by using AMOS 23. The absolute and relative goodness-of-fit indices of the structural model were evaluated. In this analysis, the following indices were used: The absolute goodness of fit indices are the root mean square error of approximation (RMSEA) and the χ2 goodness of fit statistic. The relative goodness of fit indices are the comparative fit index (CFI) and the incremental fit index (IFI).
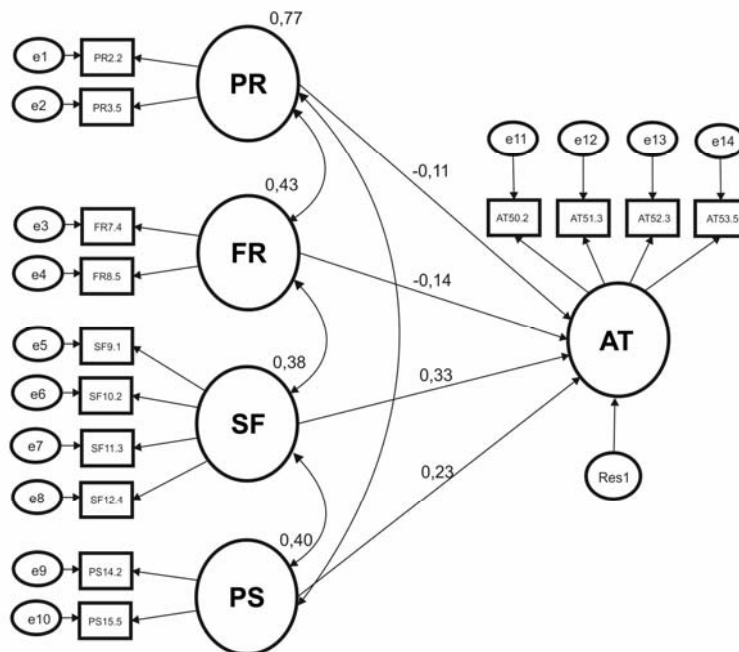
Figure 2. Model 1 SEM Analysis Results
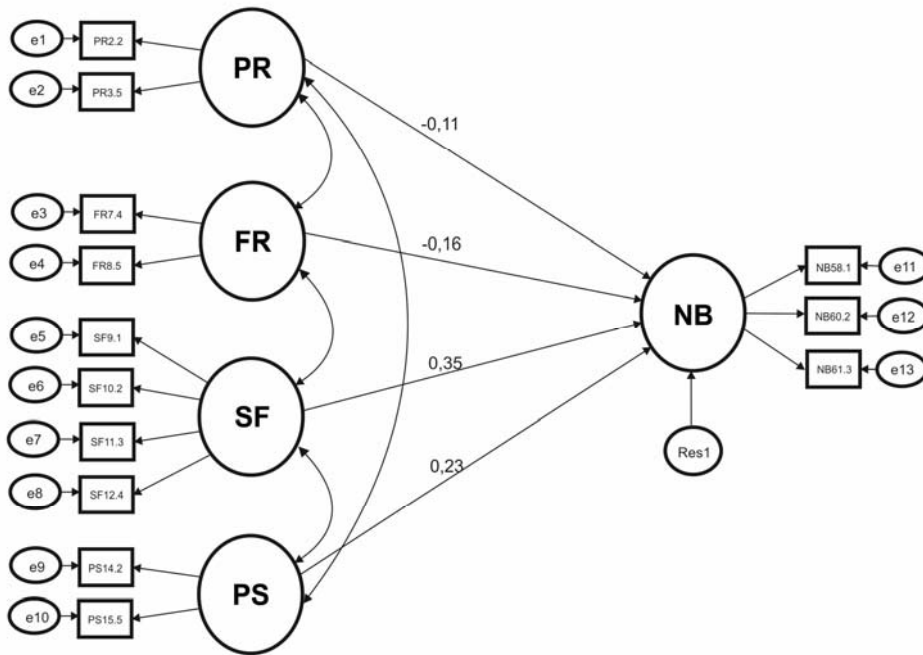
Note: χ2/DF = 2.901, CFI = 0.961, IFI = 0.961, RMSEA= 0.068

As shown in Figure 2, structural model fit indices adequately indicate model fit. χ2/DF value is 2.901 and under threshold level (i.e. under 3). CFI and IFI values are 0.961 and 0.961 respectively. RMSEA is 0.068.
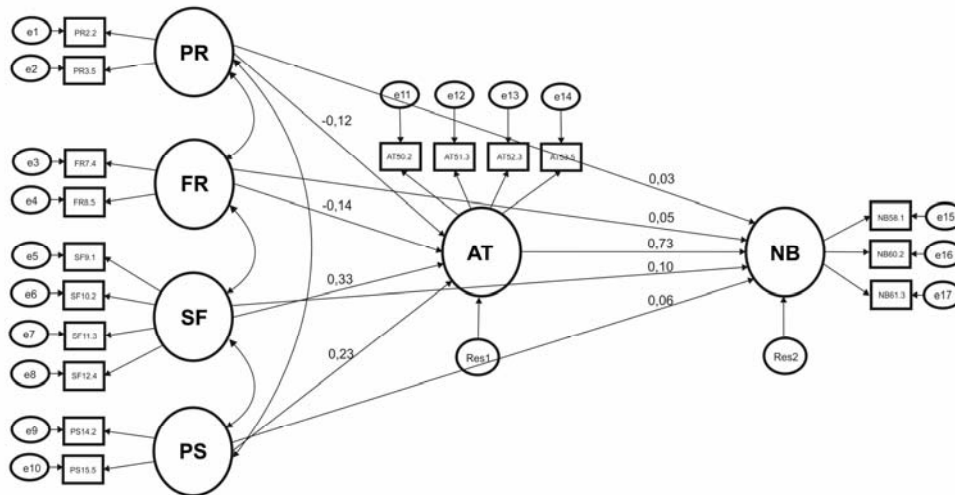
Figure 3. Model 2 SEM Analysis Results

Note: χ2/DF = 2.567, CFI = 0.965, IFI = 0.966, RMSEA= 0.062

As shown in Figure 3, structural model fit indices adequately indicate model fit. $\chi2$/DF value is 2.567 and under threshold level (i.e. under 3). CFI and IFI values are 0.965 and 0.966 respectively. RMSEA is 0.062.

Figure 4. Model 3 SEM Analysis results

Note: $\chi2$/DF = 2.747, CFI = 0.951, IFI = 0.951, RMSEA= 0.066

As shown in Figure 4, structural model fit indices adequately indicate model fit. $\chi2$/DF value is 2.747 and under threshold level (i.e. under 3). CFI and IFI values are 0.951 and 0.951 respectively. RMSEA is 0.066.

As shown in Table 3; H_1, H_2, H_3 and H_4 are accepted. These results of the hypothesis tests indicate significant negative relationship between product risk and attitude toward site and between financial risk and attitude toward site.

Table 3. Hypotheses Test Results

Relationships	Model 1	Model 2	Model 3
Product Risk → Attitude Toward Site		-0.106**	-0.123*
Financial Risk → Attitude Toward Site		-0.136*	-0.143*
Shopping Flexibility → Attitude Toward Site		0.330*	0.329*
Product Selection → Attitude Toward Site		0.227*	0.230*
Attitude Toward Site → Net Benefit			0.730*
Product Risk → Net Benefit	-0.150*		-0.032
Financial Risk → Net Benefit	-0.206*		-0.048
Shopping Flexibility → Net Benefit	0.367*		0.100
Product Selection → Net Benefit	0.186**		0.058
Model Uyum İndeksleri	$\chi2$/df=2.901, CFI=0.961, IFI=0.961, RMSEA=0.068	$\chi2$/df=2.567, CFI=0.965, IFI=0.966, RMSEA=0.062	$\chi2$/df=2.747, CFI=0.951, IFI=0.951, RMSEA=0.066

Note: Path coefficients are standardized.
*$p<0.05$
**$p<0.10$

As shown in Table 3., the coefficients of the relationships between product risk and net benefit, financial risk and net benefit, shopping flexibility and net benefit, product selection and net benefit turned to

insignificant after attitude toward site was included into the model (model 3). According to Baron and Kenny, the mediator role of attitude toward site in these relationships has been proved. Consequently results of the hypotheses test indicate the mediator role of attitude toward site is statistically significant.

5. Conclusion

Net benefit perception is very important for the preferences of the customer in B2C web sites. Risk and benefit perceptions of the customers about internet exert influence on the benefit perceptions of the customers. But the mediator role of attitude toward site is found statistically significant in the analysis. This is the important finding of this paper. The managerial contribution of the findings for the web site managers is to provide a better understanding of the shopping experience of their customers. Scientific contribution is to better understand the relationship among the dimensions related to web site success.

REFERENCES

- Anderson, J., & Gerbing, D. (1988). Structural Equation Modelling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*.
- Bagozzi, R. P., & Yi, Y. (1990). Assessing Method Variance in Multitrait-Multimethod Matrices: The Case of Self-reported Affect and Perceptions at Work. *Journal of Applied Psychology, 75*(1), 547-560.
- Bianchi, C., & Andrews, L. (2012). Risk, trust, and consumer online purchasing behaviour: a Chilean. *International Marketing Review, 29*(3), 253-275.
- Byrne, B. M. (2010). *Structural Equation Modeling with AMOS.* New York: Routledge Taylor & Francis Group.
- Chen, J., Rungruengsamrit, D., Rajkumar, T., & Yen, D. (2013). Success of Electronic Web Sites: A Comparative Study in Two Countries. *Information & Management, 50*(6), 344-355.
- Chen-Yu, J., & Seock , Y. (2002). Adolescents' clothing purchase motivations, information. *Family and Consumer Sciences Research Journal, 31*(1), 50-77.
- Civelek, M. E., & Sözer, E. G. (2003). *İnternet Ticareti: Yeni EkoSosyal Sistem ve Ticaret Noktaları.* İstanbul: Beta Basım.
- Çemberci, M., Sözer, E., & Civelek, M. (2013). The Determinants of Intention to Shop Online and Effects of Brand Equity on e-Store Patronage. *The Determinants of Intention to Shop OnliJournal of Global Strategic Management, 13*(1), 125-145.
- Delone, W. H., & McLean, E. (2003). The DeLone and McLean Model of Information Systems Success: a Ten-Year Update. *Journal of Management Information System, 19*(4), 9-30.
- Fornell, C., & Larcker, D. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, 18*(1), 39-50.
- Forsythe, S., Liu, C., Shannon, D., & Gardner, L. (2006). Development of a Scale to Measure the Perceived Benefits and Risks of Online Shopping. *Journal of Interactive Marketing, 20*(2), 55-75.
- Petter, S., DeLone , W., & McLean, E. (2008). Measuring Information Systems Success: Models, Dimensions, Measures, and Interrelationships. *European Journal of Information Systems, 3*(17), 236-263.
- Seddon, P. B. (1997). A Respecification and Extension of the DeLone and McLean Model of IS Success. *Information Systems Research, 8*(3), 240-253.
- Szymanski, D., & Hise, R. (2000). E-satisfaction an initial examination. *Journal of Retailing, 76*(3), 309-322.
- Wixom, B. H., & Todd, P. (2005). A Theoretical Integration of User Satisfaction and Technology Acceptance. *Information Systems Research, 16*(1), 85-102.
- Wu, J.-H. W., & Wang, Y.-M. (2006). Measuring KMS Success: A Respecification of the DeLone and McLean's Model. *Information & Management, 43*, 728-739.