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Measuring Service Convenience for Korean Retail Stores: Scale Development and Empirical Testing*

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Abstract

Purpose - This study aims to develop and empirically test a multi-dimensional service convenience scale with the dimensions and measurement items of service convenience perceived by Korean consumers in retail contexts.

Research design, data, and methodology - The study adopts the framework suggested by Berry et al. (2002) and conceptualizes service convenience as a second-order reflective construct comprising 31 items. Three department store chains (Hyundai, Lotte, and Shinsegae) and three discount store chains (E-mart, Homeplus, and Lotte Mart) were involved 510 valid responses were used for the empirical testing.

Results - The measurement model is acceptable for internal consistency, convergent validity, and discriminant validity. Further, the structural model results show that service convenience is positively related to satisfaction. Results of the rival model comparison indicate that the proposed second-order factor model provides a better fit to the data than both the five-factor and the one-factor model.

Conclusions - The multi-dimensional, second-order conceptualization of service convenience is robustly supported. This study provides psychometrically valid scales to measure service convenience in retail contexts as conceptualized by Berry et al. (2002).

Keywords: Service Convenience, Retail Store, Customer Satisfaction.

JEL Classifications: L81, M31.

1. Introduction

There is an acknowledgement of growing consumer demand for convenience brought about by socioeconomic change, technological progress and intensifying competition in business environments (Berry et al., 2002; Seiders et al., 2007). Much of the conceptual work in the area of service convenience has originated from researches conducted in the marketing field. Brown (1990), for example, suggested that convenience consists of the time and effort consumers expend on product and service acquisition and consumption. More recently, researchers have investigated how self-service technology may enhance convenience and increase consumer satisfaction with service encounters (Dabholkar et al., 2003; Meuter et al., 2000). However, Berry et al. (2002) posited that the literature still lacks a solid understanding of the conceptualization and measurement of service convenience, and they proposed a conceptualization of five different forms of service convenience. Colwell et al. (2008) suggested that future research should investigate other contexts outside of the cellular and internet services examined in this study and across a broader sample.

Retailers can concentrate their retail strategies on both store and sales service and service convenience is essential for the retailers in developing service delivery to consumers (Berry et al., 2002). Nevertheless, the service convenience scale has not been successfully adapted to and validated in a retail store environment. Especially, Korea is one of the few markets in the world in which local discounters outperform multinational firms (Jin and Suh, 2005). The urgent market environment forces both marketing academicians and practitioners to delve into the various factors affecting discount retail store satisfaction and loyalty in Korea. But relatively little research has directed its focus on the various Korea (Koo, 2003).

To date, little research has been conducted to measure and verify a multi-dimensional service convenience scale. In particular, no research has been applied in Korean retail settings. The development and empirical testing of the dimensions and the measurement items of service convenience perceived by Korean consumers in retail contexts is the primary focus of our research.

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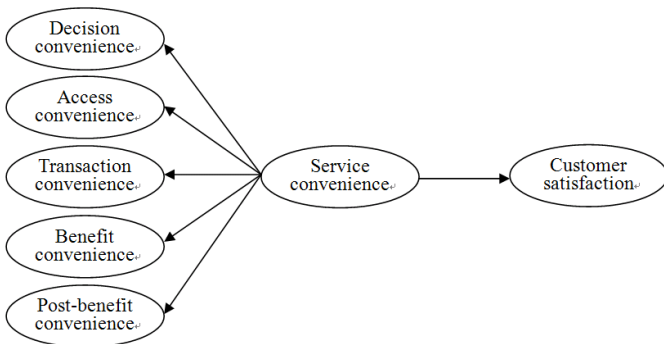
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2. Literature Review

Service convenience is defined as a customer's perception of the time and effort required to buy or use a service (Berry et al., 2002). Berry et al. (2002) propose that service convenience exists across five dimensions as follows: decision convenience, access convenience, transaction convenience, benefit convenience, post-purchase convenience. This conceptual framework serves as the basis for a conceptual exploration of convenience (Berry et al., 2002).

In spite of the numerous calls for empirical investigation into convenience, it is recently that any studies have taken place. Seiders et al.'s (2007) study represents the first rigorous empirical investigation into convenience which a 17-item scale called SERVCON emerged based on the Berry et al.'s (2002) conceptualization. The data were generated from an online survey with customers of a specialty retail chain in the United States. Colwell et al.(2008) conducted on customers of personal cell phones and internet provision and developed a different list of items with those of Seiders et al.'s (2007) study. Seiders et al. (2007) and Colwell et al. (2008) took the approach proposed by Berry et al. (2002) and developed the item scales from the five dimensions, which they originally laid out. The present study, therefore, adopts the framework suggested by Berry et al. (2002) and posits that service convenience can be better understood in terms of the five key dimensions. The present study conceptualizes service convenience as a second-order reflective construct. This suggests that customers evaluate service convenience of retail stores on the five basic dimensions but that they also view overall service convenience as a higher order factor that captures a meaning common to all the dimensions. A proposed model in this study is shown in Figure 1.



<Figure 1> Proposed model

Decision convenience is defined as the time and effort expended by consumers in making purchase decisions and/or choosing between service providers (Nguyen et al. 2012). Access convenience refers to how easy it is for the consumer to contact or reach the service provider's location (Nguyen et al. 2012). Transaction convenience reflects the time and effort the consumers spend to complete a transaction. Benefit convenience

refers to the benefits the consumers perceive that they receive due to the time and effort invested in the service. Lastly, post-benefit convenience refers to the customer's perceived time and effort expenditure when they try to maintain contact with a firm after consuming the main service.

To test the nomological validity of the service convenience scale, this study examines relationships between service convenience and customer satisfaction. Service convenience provides the means for decreasing time and effort costs in the acquisition and employment of a service, which in turn enhances customer satisfaction (Colwell et al., 2008). We, therefore, expect service convenience is related positively to customer satisfaction.

3. Methodology

3.1. Scale development and measures

Using convenience literature and the results of our content analysis, we specify potential scale items to measure the time and effort costs associated with each service convenience dimension. This process of scale development resulted in 33 measurement items, from Berry et al. (2002), Seiders et al. (2007) and Colwell et al. (2008).

To assess the content validity of the items, we asked a panel of experts, consisting of three faculty members from a large university in Seoul (Seiders et al., 2007). On the basis of the panel's categorizations and follow-up conversations, we modified several items and created a revised survey instrument with 38 items. As a result of this process, two items were removed; leaving 31 items measuring the five dimensions of service convenience.

The final measurement scales for service convenience consisted of seven items each for decision convenience and access convenience, six items each for transaction convenience and benefit convenience, and five items for post-benefit convenience. Customer satisfaction was measured using three items came from Westbrook and Oliver (1991). All items were measured on a seven-point Likert-type scale, ranging from strongly disagree (1) to strongly agree (7). The items are listed in Table 2.

3.2. Study contexts and samples

This study conducted in the distinct retail contexts of department and discount stores and 3 department store chains (Hyundai, Lotte and Shinsegae department Store) and 3 discount store chains (E-mart, Homeplus and Lotte mart) were involved. Each survey was carried out with willing respondents who had visited department stores or discount stores at least once in the past six months. For department and discount store survey, 231 and 279 usable replies out of questionnaires handed out, respectively. As a result, 510 usable responses were used to empirically test the service convenience measurement scale in the present study. A descriptive profile of the re-

spondents is shown in Table 1.

<Table 1> Sample characteristics (Total n = 510)

Variable	Department store		Discount store	
	Frequency	Percent	Frequency	Percent
Gender				
Male	75	32.5	130	46.6
Female	156	67.5	149	53.4
Age				
20-29	120	51.9	109	39.1
30-39	90	39.0	141	50.5
Over 40	21	9.1	29	10.4
Total	231	100.0	279	100.0

4. Results

4.1. Measurement model assessment

The first stage of measurement model assessment focused on internal consistency by conducting reliability analysis. As

shown in Table 1, 3 items from decision convenience, 3 items from access convenience, 2 items from transaction convenience, 2 items from benefit convenience and one item from post-benefit convenience exhibited lower item to total correlation coefficients than the suggested threshold of 0.40 (Hair et al., 2006). To increase the internal consistency of service convenience scales, these 11 items were excluded. Cronbach's alpha values of both service convenience dimensions and customer satisfaction exceeded the acceptable threshold of 0.7.

We assessed the measurement model for convergent validity and discriminant validity by conducting confirmatory factor analysis (CFA) using AMOS 7.0. The measurement model results and construct correlations are provided in Table 3 and 4. The results ($\chi^2=339.589(154)$ ($p<0.001$), GFI=0.940, AGFI=0.906, CFI=0.971, RMSEA=0.055) suggested a good fit of the model to the data (Hair et al., 2006). As shown in Table 3, for the five sub-dimensions of service convenience and two exogenous variables, all item loadings are statistically significant, and the composite reliability (CR) and the average variance extracted (AVE) values are greater than 0.70 and 0.5, respectively (Hair et al., 2006). This suggested that each construct is acceptable for the convergent validity. As shown in Table 4, the results of the correlations among first-order constructs of service convenience

<Table 2> Reliability analysis results

Construct	Items	Corrected item to total correlation	
Decision convenience ($\alpha=0.880$)	DC1	Deciding to shop at * is easy.	0.669
	DC2	I can easily determine prior to shopping whether * will offer what I need.	0.730
	DC5a	The information received from * made it easy for me to choose what to buy.	0.341
Access convenience ($\alpha=0.799$)	AC1a	* was available when I needed to talk to it.	0.387
	AC2	I am able to get to * quickly and easily.	0.668
	AC5	* offers convenient locations	0.631
	AC6a	* offers convenient parking.	0.397
	AC7a	* is accessible through various ways.	0.388
Transaction convenience ($\alpha=0.869$)	TC1a	I found it easy to complete my purchase with *.	0.386
	TC2a	I was able to complete the purchase of my service quickly.	0.393
	TC3	The procedure to pay for my purchase at * were convenient.	0.741
	TC4	I am able to complete my purchase quickly at *.	0.753
	TC5	There were no problems to deal with during the purchase that added to the purchase time.	0.778
	TC6	It takes little time to pay for my purchase at *.	0.609
Benefit convenience ($\alpha=0.857$)	BC1a	It is easy to find the products I am looking for at *.	0.310
	BC2	I was able to get the benefits from * with little effort.	0.621
	BC5a	The merchandise I want at * can be located quickly.	0.388
	BC6	The efforts required to receive the benefits of from * was appropriate.	0.669
Post-benefit convenience ($\alpha=0.917$)	PC1	It is easy to take care of returns and exchanges at *.	0.762
	PC2a	When I have questions about my service, *is able to resolve my problem.	0.385
	PC5	* made it easy for me to resolve my problem.	0.586
Customer Satisfaction ($\alpha=0.915$)	CS1	I am satisfied with my decision to visit *	0.808
	CS2	I believe that purchasing service from * was a wise choice.	0.856
	CS3	I was happy with my experience with *.	0.823

Notes: *= 'this retail store', a the eliminated item after reliability analysis

show that no pair of correlations was above 0.80, suggesting no multi-collinearity and the confirmation of discriminant validity (Hair et al. 2006).

<Table 3> Measurement model results

Construct	Item	Loading	t-value	CR	AVE
<i>Service convenience</i>					
Decision convenience	DC1	0.821		0.826	0.665
	DC2	0.924	25.991***		
	DC3	0.889	24.702***		
	DC4	0.581	14.291***		
Access convenience	AC2	0.876		0.860	0.540
	AC3	0.626	10.218***		
	AC4	0.531	12.497***		
Transaction convenience	TC3	0.789		0.871	0.634
	TC4	0.854	21.036***		
	TC5	0.838	20.727***		
Benefit convenience	BC2	0.687		0.840	0.594
	BC3	0.863	17.773***		
	BC4	0.816	16.71***		
Post-benefit convenience	PC1	0.908		0.876	0.708
	PC3	0.984	38.062***		
	PC4	0.760	23.068***		
Second-order construct	Decision convenience	0.621	9.677***	0.874	0.517
	Access convenience	0.723	10.469***		
	Benefit convenience	0.789	10.708***		
	Post-benefit convenience	0.715	10.252***		
Exogenous variables	CS3	0.872		0.908	0.747
	CS2	0.922	30.437***		
	CS1	0.854	27.444***		
Model fit	χ^2 (df)	GFI	AGFI	CFI	RMSEA
Suggested	339.589*** (154)	0.940	0.906	0.971	0.055
Recommended	p<0.05	> 0.9	> 0.9	> 0.9	< 0.8

Notes: N.A. = not applicable, CR=Construct Reliability, AVE=Average Variance Extracted, *** p<0.001

<Table 4> Intercorrelations and measurement statistics

First-order constructs of service convenience	1	2	3	4	5
1. Decision convenience					
2. Access convenience	0.231***				
3. Benefit convenience	0.458***	0.546***			
4. Post-benefit convenience	0.266***	0.410***	0.512***		

5. Transaction convenience	0.396***	0.465***	0.591***	0.524***	
Mean	4.549	5.009	4.799	4.844	5.033
S.D.	0.852	0.895	0.839	1.033	0.937
Latent constructs	1		2		
1. Service convenience (second-order)					
2. Customer satisfaction	0.692***				
Mean	-		4.962		
S.D.	-		0.887		

*** p<0.001

4.2. Structural model assessment

We assessed the relationship service convenience and customer satisfaction by structural equation modeling (SEM). The structural model results are provided in Table 5. As was expected, service convenience was positively related to satisfaction (path coefficient=0.708, t-value=11.583). Results of the rival model comparison, provided in Table 5, indicate that the proposed second-order factor model provides a better fit to the data than both the five-factor and the one-factor service convenience model.

<Table 5> Structural model results

	Proposed Model : Second-order factor model	Rival model1 : Five factor model	Rival model2 : One factor model
Standardized path coefficient (t-value)			
Decision convenience → Customer satisfaction	-	0.055 (1.269***)	-
Access convenience → Customer satisfaction	-	0.131 (3.047**)	-
Benefit convenience → Customer satisfaction	-	0.319 (5.436***)	-
Post-benefit convenience → Customer satisfaction	-	0.246 (5.223***)	-
Transaction convenience → Customer satisfaction	-	0.037 (0.701***)	-
Service convenience → Customer satisfaction	0.708 (11.583***)	-	0.694 (8.931***)
Model fit			
χ^2 (df)	577.988 (235)	794.061 (232)	1049.527 (240)
GFI	0.923	0.896	0.867
AGFI	0.893	0.843	0.801
CFI	0.967	0.946	0.922
RMSEA	0.055	0.069	0.083
$\Delta\chi^2$ (df)		216.073 (3)	471.539 (5)

Note: Rival model 1 is based on the premise that service convenience is not a second-order construct, but rather five separate constructs of convenience with each of the five constructs correlated to one another. Rival model 2 suggests that service convenience is a single-factor construct rather than a second-order factor with five underlying dimensions. *** p<0.001

5. Conclusion and Implications

This study aimed to develop and test of the dimensions and the measurement items of service convenience perceived by Korean consumers in retail stores such as department and discount stores. This study conceptualized service convenience as a second-order, five-dimensional construct that reflects consumers' perceived time and effort in purchasing or using a service in retail environments. Overall, the robust support for the hypothesized consequent effect validates our multi-dimensional, second-order conceptualization of service convenience.

At a theoretical level, this research contributes to the literature in two ways. First, this study provides psychometrically valid scales for measuring the service convenience dimensions in retail stores as originally conceptualized by Berry et al. (2002). Second, we provide a nomological test of these measures as antecedents to satisfaction in the context of retail stores.

The results of this study suggest that consumers positively related overall service convenience to satisfaction. It may be prudent, therefore, for managers to consider how they can improve customer satisfaction through increasing the convenience of their service. Furthermore, this research provides firms with a relatively simple tool that can be used to measure different aspects of the convenience of their offering. This tool enables managers to further investigate their own customers' needs and wants in relation to the acquisition and consumption of their service.

As with all research, this study has several limitations and future directions that need to be considered. The survey asked the respondents to report on both the service convenience and customer satisfaction within the same survey. As such, it is possible that the results may be subject to common method bias. Future research might consider replicating these results using multi-method approaches combining experimental and staged surveys. Furthermore, our research investigated service convenience within the department and discount store context, within one city, and within one country. Thus, there are risks associated with generalizing these results to other industries in other cities and countries. Future research should consider replicating and extending this research across cultures and industries such as convenience stores and category killers to provide for a more solid understanding of how service convenience influences consumers' evaluation of their services.

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