

Why Customers Buy Online: Measuring the Underlying Dimensions of Online Shopping Convenience

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ABSTRACT

Consumers increasingly make use of online shopping for benefits such as saving time and energy, convenience, competitive prices, broader selection of merchandise and more access to information. Convenience is the greatest motivator for online shopping. Researchers define convenience as the consumer's time and effort perceptions related to buying or using a service. Service convenience is often thought of as a means of adding value to consumers, by decreasing the amount of time and effort a consumer must expend on the service. Keeping this in mind, the purpose of this study is to report on the development and validation of service convenience scale in the online retailing context in India. The study identifies six dimensions of online shopping convenience in India using exploratory and confirmatory factor analysis. The multidimensional scale (23 items) evidenced reliability and convergent validity. Results of the study, managerial implications and future research directions are discussed.

Key Words: Internet, Online Shopping, Service Convenience, India

1. Introduction

The changing lifestyle of the urban population has also resulted in many people relying on the internet for their shopping needs. One of the key reasons for using the Internet for shopping is convenience. The convenience of shopping from the comfort of one's home while having a broader selection of merchandise to choose from, competitive prices and more access to information has brought about an increased reliance on the online medium. Online retail is the fastest growing channel globally (Planet Retail 2014). The Indian online market is growing rapidly. A joint study by Assocham and Grant Thornton (2015) has indicated that, online shoppers are expected to increase from 20 million in 2013 to 40 million in 2016, with majority of them coming online through smartphones. According to Accel Partners Report (2014), 35 percent of online sales in 2016 will be influenced by women, a growth of 24X compared to 2012 levels.

2. Need of Study

Since convenience is a context-based concept, consumers' perceptions of convenience vary from one setting to another (Jiang, Yamg and Jun 2013). Prior research has investigated the multidimensional view of service convenience within a brick-and-mortar service setting (Berry et. al., 2002; Seiders 2000; Seiders et. al., 2007; Colwell et. al., (2008)). Beauchamp and Ponder (2010) report different perceptions of retail convenience for both in-store and online shoppers. The growing importance of convenience construct necessitates the need to have new business models to deliver hassle-free service and maintain loyal customer base. According to KPMG (2104)

Report on Emerging Consumer Segments in India, successful e-retailers have to transform their brand into a lifestyle focused on catering to the needs, desires and whims of customers, wherever and whenever they are.

Much research on the measurement of service convenience, its antecedents and outcomes has been carried out in Western countries. Despite the increased significance of e-retail in India, not much research has been done in this field. The studies conducted have focused on understanding consumers' attitude towards online shopping. There is lack of research in the Indian context specifically examining the dimensions of service convenience in online shopping. Thus, empirical investigation aimed at measuring and validating dimensions of service convenience is of utmost importance for online retailers to develop strategies to increase margins. The purpose of this study is to propose online service convenience as a multidimensional construct that is conceptualized by the six dimensions: access, search, transaction, evaluation, possession and post-benefit. The purpose of this study is to describe the development and refinement of a scale for measuring online shopping convenience. Specifically, our key objectives are (a) to provide a conceptualization of online shopping and its dimensions, (b) to develop a scale for measuring service convenience and its dimensions and (c) to assess reliability of the measures.

The paper is organized as follows. First, we provide the theoretical background of the convenience construct. Next we briefly discuss the construct of online shopping convenience. Then the research methodology for the

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paper is described, followed by the discussion of study results and limitations of the study.

3. Review of Literature

The concept of convenience has been discussed in the marketing and consumer behavior literature over the last century. In the marketing literature, the concept of convenience was introduced by Copeland (1923), who initiated the classification of convenience goods. Copeland (1923) defines convenience goods as "intensively distributed products that require minimal time and physical and mental effort to purchase" (Berry et. al. 2000). Most of the early studies in marketing have used the convenience construct as product classification schema, focused only on convenience goods (Bucklin, 1963; Murphy and Enis, 1986). Brown (1990) suggested that convenience consists of the time and efforts used in purchasing a product rather than a characteristic or attribute of a product. The early marketing usage of convenience has revealed that consumers' time and effort costs are important in purchasing a product or service (Kotler and Zaltman, 1971, Etgar, 1978; Yale and Venkatesh, 1986).

Recent research in the conceptualization and measurement of convenience represent service convenience as multi-dimensional construct (Berry et al., 2002; Seiders et. al., 2007). In a retailing context, Seiders (2000) developed a convenience framework for retail. They defined retail convenience as the ease and speed of shopping. Berry et. al. (2002) coined the term "service convenience" and defined it as time and effort perception of customers related to their purchase and usage of service. In a conceptual study they proposed five types of service convenience viz. decision convenience, access convenience, transaction convenience, benefit convenience and post benefit convenience. They further suggested that the above service convenience types will have a significant positive impact on positive outcomes viz. service quality, service fairness and customer satisfaction. Seiders et. al. (2007) developed the SERVCON scale and empirically validated the service convenience construct in the context of traditional service consumption. Colwell et. al. (2008) developed and validated scale for the measurement of service convenience in the personal cellular telephone and internet usage context. Furthermore, Moeller, Fassnacht and Ettinger (2009) found that service convenience types has a significant positive impact on customers' behavioural loyalty (share of wallet and share of visits) and a significant negative impact on their exit intentions. In the Indian context, Aagja, Mammen and Sraswat (2011) have found that access, benefit, and decision convenience dimensions are more important whereas dimensions like transaction and post-benefit convenience are less relevant.

4. Online Shopping Convenience

Prior literature on online shopping has focused on measuring the quality of website. Online shopping convenience is the speed and ease with which buyers can do shopping on the internet. Very few studies have examined the convenience construct in the online context. Beauchamp and Ponder (2010) empirically examined consumer perceptions of retail convenience for in-store and online shoppers. They found that online shoppers have more favorable perceptions of access convenience, search convenience, and transaction convenience than in-store shoppers. Jiang, Yang and Jun (2013) identified key dimensions of convenience and their associated sub-dimensions specific in the context of online shopping. The reported five dimensions of online shopping convenience are: access, search, evaluation, transaction, and possession/post-purchase convenience.

5. Research Methodology

The empirical phase of the study is aimed at identifying the dimensions of online shopping convenience in the Indian context. The research method is explained in detail below.

5.1 Measurement Instrument

The survey instrument for the study was developed after following recommendations of Churchill (1979), Gerbing and Anderson (1988) and Saxe & Weitz (1982) for measure development. An extensive literature survey was carried out and all the dimensions of online shopping convenience were conceptually defined and their domain was specified. To generate a large pool of items for measurement of various constructs, we carried out an extensive literature survey and conducted interviews with several customers. This process resulted in generation of 35 items. The selected items are shown in the Annexure I. A questionnaire was developed in which each item was measured on a 7-point Likert Scale ranging from "very strongly agree" to "very strongly disagree".

5.2 Assessment of Content Validity

The assessment of content validity serves as a pretest, permitting the deletion of items that are deemed to be conceptually inconsistent (Hinkin 1998). Content validity is ensured to the extent that expert judges agree that these items are reflective of the overall construct and are representative of the domain and facets of the construct (Netemeyer et. al., 2003). A panel of three marketing judges evaluated the items for content validity and suggested the removal of some items they considered to be redundant, double-barreled and ambiguous. This process resulted in elimination of 8 items, leaving a pool of 27 items for further analysis.

5.3 Sample and Data Collection

Respondents selected for the study were screened with a criterion of having buying experience online of at least six months. The study sample consisted of students studying in a major university of Punjab. Data was collected using self-administered questionnaire. Respondents were selected randomly. Of the 235 completed questionnaires, 203 were usable, resulting in a response rate of 86%. Respondents were mostly male (67%) and were dominantly in the age group of 20-24 years (75%). About 48% of the respondents had total monthly family income greater than Rs. 25,000.

6. Data Analysis and Results

Data analysis proceeds in three stages. The first stage is to conduct initial item analyses to determine which items are to be eliminated from or retained in the item pool (Clark and Watson 1995). Next an exploratory factor analysis was performed using the principal component analysis with Varimax rotation. In the third stage, confirmatory factor analysis was performed to confirm that factor structure.

6.1 Item Analysis

We used item-total correlation and corrected item-to-total correlation for item analysis. First, the correlation of each item with the total score for each construct was computed and items with low correlations with the total score were eliminated from the scale (Ruekert and Churchill, 1984). In the second stage, items in each construct were correlated with total score of other constructs. Items that did not have statistically higher correlations with the dimension to which they were hypothesized to belong in comparison with item correlations with remaining dimensions total scores were deleted (Ruekert and Churchill, 1984; Bearden, Netemeyer and Teel, 1989). Thirdly, corrected item-to-total correlations were examined for each construct. Items with high corrected item-to-total correlation have more variance relating to what the items have in common and add more to the test's reliability than items with low corrected item-to-total correlation (Nunnally and Bernstein, 1994). Items that had corrected item-to-total correlations more than or equal to 0.35 were retained and rest were deleted (Saxe and Weitz, 1982). These analyses resulted in a reduced scale with 23 items to measure various dimension of online shopping convenience.

6.2 Exploratory Factor Analysis

Exploratory factor analysis was conducted. We used principle component factor analysis followed by Varimax rotation to identify the number of dimensions. Six components with eigen values greater than one were extracted from the data. Together, these six components

explain 67.66 percent of the total variance. Reliability of the factors was calculated using Cronbach alpha. Table 1 depicts the reliability alphas for various constructs. As can be seen, the coefficient alphas for all the six dimensions are above .60 which is an acceptable limit for early stages of basic research (Nunnally and Bernstein, 1994).

6.3 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was employed to assess the latent factor structure. Confirmatory factor analysis using AMOS 18.0 was used to test the measurement model.

6.4 Model Fit

Model fit determines the degree to which the structural model fits the sample data. AMOS output yielded a Chi-square value (χ^2) of 276.725 with 215 degrees of freedom. The CMIN/DF (minimum discrepancy divided by degrees of freedom) ratio was 1.287, which is within the recommended range of less than 5, which are indicative of an acceptable fit between the hypothetical model and the sample data (Carmines and McIver, 1981). The root mean square error of approximation (RMSEA) was .030, which falls within cutoff value of 0.06 (Hu and Bentler, 1999). The Tucker-Lewis Index (TLI) was .972 while the Comparative Fit Index (CFI) was .976. The Bentler-Bonett normed fit index (NFI) was .903 and Bollen's incremental fit index (IFI) was .916. The values for fit indices are shown in Table 1 and all exceed the recommended level of 0.90, suggesting that the hypothesized model represented an adequate fit to the data.

6.5 Composite Reliability

Composite reliability is a measure of the internal consistency of the construct indicators, which depicts the degree to which the items indicate the common latent (unobserved) construct (Hair et. al., 1998). Even a perfectly unidimensional scale will be of little practical use if the resultant composite score has unacceptably low reliability (Anderson and Gerbing, 1988). Highly reliable constructs are those in which the indicators are highly inter correlated, indicating that they are all measuring the same latent construct (Koufteros, 1999; Lu, Lai and Cheng, 2007). Table 1 shows the composite reliability for various dimensions. All constructs had composite reliability above the recommended level of 0.70 (Hair et. al., 1998).

6.6 Scale Validation

Once the reliability and the structure of the scale are supported, the validity of the instrument has to be assessed.

Convergent Validity

A measure is said to possess convergent validity if independent measures of the same construct converge, or

Table1: Online Shopping Convenience Scale Results

Item	Alpha	Component						CFA Results		
		1	2	3	4	5	6	Standardized Factor Loading	Critical Ratio ^b	Composite Reliability
AC1	.765				.682			.556	- ^a	.775
AC2					.836			.835	7.328	
AC3					.837			.796	7.320	
AC4					.690			.508	5.632	
SC1	.682						.531	.532	- ^a	.714
SC2							.828	.661	5.931	
SC3							.628	.615	5.731	
SC4							.654	.594	5.628	
TC1	.829			.870				.871	- ^a	.836
TC2				.741				.643	9.260	
TC3				.824				.762	11.149	
TC4				.812				.705	10.297	
EC1	.801					.966		.998	- ^a	.943
EC2						.967		.997	20.046	
EC3						.600		.638	20.046	
PC1	.901	.840						.768	- ^a	.901
PC2		.888						.843	12.550	
PC3		.896						.879	13.109	
PC4		.878						.843	12.543	
PBC1	.862		.798					.683	- ^a	.863
PBC2			.794					.800	9.923	
PBC4			.817					.837	10.265	
PBC5			.799					.805	9.968	
		Variance Extracted = 67.66% KMO Statistic = .737 Varimax Rotation						Overall Fit Statistics X2=276.725, 215df, p=0.00; CMIN/DF = 1.287 RMSEA=0.03; NFI=0.903, TLI=0.972 CFI=0.976, IFI = .961		

n = 203

^a Indicates a parameter fixed at 1.0 in the measurement model.

^b All Critical Ratios (t-values) are significant at 0.05.

are highly correlated (Netemeyer et. al. 2003). Convergent validity can be examined from the measurement model by determining whether each indicator's estimated pattern coefficient on its posited underlying factor is significant or not (Anderson and Gerbing, 1988). In the AMOS output file, the t-value is the critical ratio, which represents the parameter estimate divided by its standard error (Netemeyer et al. 2003). As can be seen in Table 1 all the factor loadings are significant at 0.05 significance level, which supports the convergent validity.

7. Discussion and Implications

In the long term, the most successful online retailers will be those that continually strive to enhance the quality of their customers' interactions with their Web sites, and the outcome of their retail transactions and successful resolution of problems when they occur (Collier and Bienstock 2006). This study contributed to the existing literature by studying the online shopping convenience construct in the Indian context. The second contribution of this study is empirical validation of online shopping convenience as a multidimensional construct including access convenience, search convenience, transaction convenience, evaluation convenience, possession and post-benefit convenience.

Catering to the specific requirements of time-starved consumers requires a different level of service delivery and supply chain scalability (KPMG 2014). The multidimensional view of service convenience will help online retailers to identify which dimensions of service convenience are more important and accordingly develop strategies to enhance loyalty and hence profits. By better understanding the forms of convenience and how they work together, retailers can formulate convenience strategies that support lasting customer relationships and raise their competitiveness to new levels (Seiders, Berry and Gresham 2000). The e-retailers generally focus on the product features, price, and delivery in their marketing strategy. Since the scope for product differentiation is limited in online shopping, an understanding of factors which drive customer loyalty is beneficial for customer relationship managers to develop and reinforce marketing strategies to increase retention. Therefore, providing convenience to time starved consumers may enable a competitive advantage. The dimensions of online shopping convenience can be used to identify segments based on the consumers' perceptions of service convenience towards an online retailer.

8. Limitations

Since the study has been carried out using student sample

only from one Indian city, so the generalizability of the study is a issue of concern. Future research may test dimensions of online shopping convenience for the different online retailers. Another research direction could be the examination of linkage between dimensions of online shopping convenience on one side, and satisfaction on the other.

References

- Aagja, J.P ., Mammen, T., and Saraswat, A. (2011). Validating Service Convenience Scale and Profiling Customers: A Study in the Indian Retail Context. *Vikalpa*, Vol. 36, No. 4, pp. 25-49.
- Accel Partners (2014). How Indian E-Commerce Industry is Shaping Up. pp 1-33.
- Assocham and Grant Thornton (2015). Law and Technology: Evolving Challenges as a Result of Fraud in E-commerce Sector, pp. 1-24.
- Bearden, W. O., Netemeyer, R. G., and Teel, J. E. (1989). Measurement of Consumer Susceptibility to Interpersonal Influence. *Journal of consumer research*, pp. 473-481.
- Beauchamp, M. B. and Ponder, N. (2010). Perceptions of Retail Convenience for In-Store and Online Shoppers. *Marketing Management Journal*, Vol. 20, No1, pp.
- Berry, L. L., Seiders, K. and Grewal, D. (2002). Understanding Service Convenience. *Journal of Marketing*, Vol. 66, No. 3, pp. 1-17.
- Brown, L. G. (1990). Convenience in Services Marketing. *Journal of Services Marketing*, Vol. 4, No.1, pp. 53-59.
- Bucklin, L. P. (1963). Retail Strategy and the Classification of Consumer Goods. *Journal of Marketing*, pp. 50-55.
- Carmines, E. G., and McIver, J. P. (1981). Analyzing Models with Unobserved Variables: Analysis of Covariance Structures. *Social Measurement: Current Issues*, pp. 65-115.
- Churchill Jr, G. A. (1979). A Paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research*, pp. 64-73.
- Clark, L. A., and Watson, D. (1995). Constructing Validity: Basic Issues in Objective Scale Development. *Psychological Assessment*, Vol. 7, No. 3, pp. 309-319.
- Colwell, S. R., Aung, M., Kanetkar, V., and Holden, A. L. (2008). Toward a Measure of Service Convenience: Multiple-Item Scale Development and Empirical Test.

Journal of Services Marketing, Vol. 22, No. 2, pp. 160-169.

Copeland, M. T. (1923). Relation of Consumers' Buying Habits to Marketing Methods. *Harvard Business Review*, Vol. 1, No. 3, pp. 282-289.

Etgar, M. (1978). The Household as a Production Unit. *Research in Marketing*, Vol. 1, pp. 79-98.

Gerbing, D. W., and Anderson, J. C. (1988). An Updated Paradigm for Scale Development Incorporating Unidimensionality and its Assessment. *Journal of Marketing Research*, pp. 186-192.

Hair, J. F., Anderson, R. E., Tatham, R. L., and William, C. (1998). *Black (1998), Multivariate Data Analysis*. New Jersey: Prentice-Hall.

Hinkin, T. R. (1998). A Brief Tutorial on the Development of Measures for Use in Survey Questionnaires. *Organizational Research Methods*, Vol. 1, No. 1, pp. 104-121.

Jiang, L., Yang, Z., and Jun, M. (2013). Measuring Consumer Perceptions of Online Shopping Convenience. *Journal of Service Management*, Vol. 24, No. 2, pp. 191-214.

Kotler, P., and Zaltman, G. (1971). Social Marketing: An Approach to Planned Social Change. *Journal of Marketing*, pp. 3-12.

Koufteros, X. A. (1999). Testing a Model of Pull Production: A Paradigm for Manufacturing Research Using Structural Equation Modeling. *Journal of Operations Management*, Vol. 17, No. 4, pp. 467-488.

Lu, C. S., Lai, K. H., and Cheng, T. E. (2007). Application of Structural Equation Modeling to Evaluate the Intention of Shippers to Use Internet Services in Liner Shipping. *European Journal of Operational Research*, Vol. 180, No. 2, pp. 845-867.

Moeller, S., Fassnacht, M., and Ettinger, A. (2009). Retaining Customers with Shopping Convenience. *Journal of Relationship Marketing*, Vol. 8, No. 4, pp. 313-329.

Murphy, P. E., and Enis, B. M. (1986). Classifying Products Strategically. *Journal of Marketing*, pp. 24-42.

Netemeyer, R. G., Bearden, W. O., and Sharma, S. (2003). *Scaling Procedures: Issues and Applications*. Sage Publications.

Nunnally, J. C., and Bernstein, I. H. (1994). *Psychometric Theory*, New York MCGraw-Hill.

Planet Retail, Deloitte (2014). *Online Retail in India Clicking Towards Growth*, pp. 1-15.

Ruekert, R. W., and Churchill Jr, G. A. (1984). Reliability and Validity of Alternative Measures of Channel Member Satisfaction. *Journal of Marketing Research*, 226-233.

Saxe, R., and Weitz, B. A. (1982). The SOCO Scale: A Measure of the Customer Orientation of Salespeople. *Journal of Marketing Research*, pp. 343-351.

Seiders, K., Berry, L. L., and Gresham, L. G. (2000). Attention, Retailers! How Convenient is Your Convenience Strategy? *MIT Sloan Management Review*, Vol. 41, No.3, pp. 79.

Seiders, K., Voss, G. B., Godfrey, A. L., and Grewal, D. (2007). SERVCON: Development and Validation of a Multidimensional Service Convenience Scale. *Journal of the Academy of Marketing Science*, Vol. 35, No. 1, pp. 144-156.

Yale, L., and Venkatesh, A. (1986). Toward the Construct of Convenience in Consumer Research. *Advances in Consumer Research*, Vol. 13, No.1, pp. 403-408.

Annexure

Dimension	Item Label	Item
Access Convenience	AC1	I could shop anytime I wanted.
	AC2	I could order products wherever I am.
	AC3	I was able to find the website quickly.
	AC4	The website is always accessible.
Search Convenience	SC1	It was easy to navigate the website.
	SC2	The product classification on website was easy to follow.
	SC3	The website provided useful information.

	SC4	The website provides variety of search options to find the same product.
	SC5	It was easy to get information I needed to make my purchase decision.
	SC6	I could find what I wanted without having to look elsewhere.
Transaction Convenience	TC1	The checkout process was fast.
	TC2	My purchase was completed easily.
	TC3	The online payment method was simple.
	TC4	The online retailer provides flexible payment options.
	TC5	It didn't take a long time to complete the purchase process.
Evaluation Convenience	EC1	The online retailer provides product specifics.
	EC2	The website uses both text and graphics of product information.
	EC3	The online retailer provides sufficient information to identify different products.
Possession Convenience	PC1	I was delivered undamaged goods.
	PC2	I got exactly what I wanted.
	PC3	My order was delivered on time.
	PC4	I was properly notified of my order status.
Post-Benefit Convenience	PBC1	It was easy to return unwanted goods.
	PBC2	Prices were identical to those on the order form.
	PBC3	I received all the items I ordered.
	PBC4	The online retailer provides liberal exchange policy
	PBC5	After purchase problems are resolved quickly.

Dimensions of Online Shopping