Leveraging Consumers' Showrooming Behaviour – A Supply Chain Perspective

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Abstract: *With the mushrooming of new technologies and changing customers' shopping habits, it becomes absolutely necessary to understand the reasons and appreciate the customers' needs and preferences in an optimal way. Showrooming and Webrooming are the new terms which are making rounds in the prevailing multi-channel customer centric business model. In both these cases, consumers can interact with retailers across channels anytime, anywhere and at their convenience. Due to adversity of products and brands, shoppers of today hardly make an instant purchase decision. They would rather search and evaluate products either online or in-store.*
Though intense research seems to be happening with the focus on identifying ways to curb this behaviour, it has actually become a challenge to the back-end players of the supply chain, mainly the physical distribution. This study attempts to understand those dimensions of service quality of physical distribution; the dimensions of service loyalty that has an influence on showrooming behaviour of consumers' of electronic goods in order to determine those factors of physical distribution service quality that has influence on service loyalty. The study is focused on the customers of electronic goods like mobiles, laptops and other electronic accessories.

Keywords : Physical distribution Service Quality, Service Loyalty, Showrooming

I. INTRODUCTION

The present changes in digital landscape and its leverage by organizations for their business excellence have led to a change in the behaviour of customers too who try to embrace these technologies to enhance their shopping behaviours. This necessitates a study for an immediate understanding of the cascading effect on the organizational effectiveness and hence, its profitability. Showrooming is one such customer behaviour that has brought in a change in the entire outlook of business after the rapid rise in smart-phone penetration. Showrooming is a behaviour wherein a customer visits a physical store and looks for the desired products and ultimately place their orders with other online retailers using smart-phones or other mobile devices. Although online retailing is showing an exponential development, retailing in

the brick-and-mortar stores still hold prevailing status. As per the study by e-Marketer (2017), retailing in brick-and-mortar stores still possesses 90% in worldwide. In addition to online and offline retailing, mobile retailing is also growing fast because of the penetration of smart-phones. The channels are different for different retailing modes. But the interesting fact is that consumers use these retailing modes in a combination instead of it being mutually independent. A 2014 Deloitte Report highlights that the consumers who shop using more than one channels spend almost more than twice those who only make purchases in traditional brick-and-mortar stores. The report emphasizes that consumers are channel nonbelievers, but their bouncing behaviour between online and offline throughout their purchasing and pre-purchase research process gives an interesting insight for the current study. To adapt to this change, retailers across the globe adopt the multichannel / omni-channel retailing strategy in order to satisfy ever changing demands of the customer. In order to satisfy today's consumers' who are not only sophisticated but also opportunistic, retailers must find different ways to deliver a consistent, convenient shopping experience across each touch point, as the customers navigate between store and online environments interchangeably to meet their shopping needs of the moment. Retailers are trying their best to adapt to the business changes wherein they try to leverage their presence by having physical stores and also by going online in order to persuade the showroomers. As per the study by IBM, online-only retailers account for one-third of showrooming purchases; and the demographics reveal that they are mainly composed of younger, male and affluent shoppers. Although it is a global phenomenon, it is interesting to note that China (26%) overtakes India (13%) and US (7%). With mushrooming of new technologies and changing customers' shopping habits, it becomes absolutely necessary to understand the reasons and appreciate the customers' needs and preferences in an optimal way. Showrooming and Webrooming are the new terms which are making rounds in the prevailing multi-channel customer centric business model. Showrooming refers to consumer behavior of searching and evaluating a product of interest in-store and, then, purchasing it online. Webrooming refers to the vice versa. In both these cases, consumers can interact with retailers across channels anytime, anywhere and at their convenience. Due to adversity of products and brands, shoppers of today hardly make an instant purchase decision. They would rather search and evaluate products either online or in-store. Moreover, these shoppers are influenced by price, so they are inclined to make comparisons for products and price. This behavior turns consumers into savvy shoppers by seeking the best deal to satisfy their needs.

Therefore, a new challenging retail trend threatens retailers with lower profits, close-down businesses and less loyal customers.Though intense research seems to be happening with the focus on identifying ways to curb this behaviour, it has actually become a challenge to the back-end players of the supply chain, mainly the physical distribution. There may not be many challenges for the suppliers and the manufacturers, but this behaviour poses a high challenge to the players in the physical distribution. Hence it deems to be important to study and identify ways to improve the service quality of physical distribution.This study attempts to understand those dimensions of physical distribution service quality; the dimensions of service loyalty that has an influence on showrooming behaviour of consumers' of electronic goods in order to determine those factors of physical distribution service quality that has influence on service loyalty. The study is focused on the customers of electronic goods like mobiles, laptops and other electronic accessories.

II. OBJECTIVES

The objectives are:

1. To understand and determine the latent factors of physical distribution service quality of retailers of electronic goods.

2. To examine the latent factors of service loyalty that influences the showrooming behaviour of customers

3. To determine a SEM Path Analysis for ascertaining and validating the relationship existing (if any) among the latent factors of service quality of physical distribution and service loyalty.

III. HYPOTHESIS

H0: There is no significant relationship between physical distribution service quality of retailers and service loyalty.

H1: There is a significant relationship between physical distribution service quality of retailers and service loyalty.

IV. LITERATURE REVIEW

With the current revolution in the retail mix, the existing business models of many retailers' are being affected (Sorescu et al. 2011) and their customers begin to act in a different way due to developments in digitization of purchase process. There is an immense pressure for improvements in business models which are believed to be crucial for building sustainable advantage in a marketplace. The authors identify the changes in three design components: organization of activities, execution of various types of activities and the level of engagement of the various actors performing those activities. The authors recommend six ways to innovate their business models and enhance value creation.To respond to this continued growth, many retailers have initiated multi-channel operational strategies. These strategies are primarily focussed on the decisions to add new channels to the mix of existing channels (Geyskens, Gielens, and Dekimpe 2002; Deleersnyder et al., 2002). These decisions have become a necessity to both brick-and-mortar players and online players as they face the issue of whether they should be present offline as well (Avery et al. 2012). This broadening of the scope of multi-channel retailing has, however seen as a key strategy on considering issues such as managing customers across channels and integrating the retail mix across channels (e.g., Neslin et al. 2006). The current move to the new phase in multi-channel retailing is further enhanced by digitalization in marketing (Leeflang et al. 2014).There is a continuous change in the retail landscape as a result of the increased usage of mobiles, tablets, social media and the integration of these new channels in online and offline retailing. Sonja Gensler et.al (2017) emphasizes the reasons that influence competitive showrooming, wherein the consumers initially visit an offline retail store to gather information but subsequently make their purchase online at a competing retailer. The authors describe the benefits and costs of showrooming behaviour and its influence on the consumer's decision to showroom. Though price was believed to be the main factor in showrooming, this study discovers that non-price factors like quality and waiting time for service also play an important role in consumers' showrooming decisions. The authors suggest that offline retail stores can curb showrooming by increasing the number of sales personnel available in-store instead of providing additional training to their current employees.

Rapp et.al (2015) compares showrooming behaviour of the customers' with the performance of in-store sales personnel. With customers continue to leverage the use of technology and showroom, the retailers must understand the changing role of the retail salesperson since they are now left without a clear roadmap of how to manage this change in the retailing landscape. This indicates that when confronted with showrooming, sales personnel tend to adapt themselves in a way that effectively decreases service quality. Thus the author suggests that quality of in-store salesperson is quite important to consider when examining showrooming decisions of the consumers'.Frambach et.al (2007), investigates and quantifies the consumer channel choices to understand the importance of costs and benefits of using a channel for search. This study focuses on the various stages of purchasing - pre-purchase, purchase, and post-purchase. Interestingly, the authors discover that there is a substantial difference in the levers of channel preference across the three buying stages as a result of (in) congruities between desirable channel benefits and capabilities offered by the channel.Heitz-Spahn et.al(2015) examines cross-channel free-riding, where there is substantial eroding of profit margins as a result of consumers switching to another channel for purchase after collecting necessary information from the primary channel. Free-riding is seen as an empowerment methodology of the consumer for investigating the motives of shopping and socio-demographic covariates. The authors highlight that this behaviour differ across product categories using a survey of decision-making behaviour. They also emphasize that cross-channel free-riders primarily seek to fulfil price comparison, convenience and flexibility needs.Lemon et.al (2016) focuses on customer experience and customer journey over a period of time. When customers interact with firms through various touch points in multiple channels and media, their experiences become more social in nature. These changes trigger firms to integrate multiple business functions including external partners, to create and deliver positive customer experiences.

The authors emphasize that a strong understanding of customer experience along the customer journey leads to better customer experience management.Mehraet.al (2013) emphasize the free-riding behaviour of customers as showrooming. The authors study three approaches to respond to the effect of showrooming that may improve profits for the brick-and-mortar stores - matching of price, making similarities in product harder between the traditional store and the online retailer, and also attach a cost for showrooming. According to the authors, only the last two strategies may improve profits of traditional retailers.Though there are plethora of studies in the area of retail, channels and the behaviour of customers, all these are finally integrated with the back-end process of physical distribution. In order that retailers become efficient in organizing and thus improving customers' overall shopping experience, they need to also focus on the quality of service of the physical distribution as well. Carol C. Bienstock et. al (1997) examine physical distribution and service quality and developed a valid and reliable instrument to understand the perceptions of service quality of physical distribution with three dimensions. This study uses these three dimensions as latent factors to measure physical distribution service quality.

Service loyalty is defined as the level to which a customer displays repeat purchasing behavior from a service provider; possess a positive attitudinal disposition toward the provider, and considers using only this provider when there is a need for this service. A construct used to examine service loyalty was developed by Sudhahar et al., 2006 based on seven latent dimensions based on a combination of services. The seven dimensions are behavioural, attitudinal, cognitive, conative, affective, trust and commitment. This study uses this construct to measure the latent dimensions of service loyalty.

V. RESEARCH METHODOLOGY

Data was collected for the study using a questionnaire from customers of electronic goods, during Sep-Nov, 2018 using convenience sampling. The data was particularly collected from customers who display showrooming behaviour and who purchased any electronic good(s) in the last six months. From a total of 720 surveys administered, 622 responses were received. On subsequent filtering, 578 were found to be complete. The descriptive analysis of the demographics is summarized in Fig.1. The respondents were mainly (about 64%) male and (34%) of the respondents are in some service. The age group 18-25 yrs (32%) and 26-35 yrs (27%) contributed their responses.

Gender Details

Sl No.	Description	Frequency	Percentage
1	Male	375	64.9
2	Female	203	35.1

Age Details

Sl No.	Description	Frequency	Percentage
1	Below 18	58	10
2	18-25	189	32.7
3	26-35	159	27.5
4	36-50	115	19.9
5	>50	57	9.9

Education Details

Sl No.	Description	Frequency	Percentage
1	Graduate	121	20.9
2	Postgraduate	153	26.5
3	Doctorate	221	38.2
4	Others	83	14.4

Details of Occupation

Sl No.	Description	Frequency	Percentage
1	Business	111	19.2
2	Service	198	34.3
3	Student	59	10.2
4	Home Maker	112	19.4
5	Others	98	17.0

Fig.1 Profile of Showroomers

VI. DATA ANALYSIS AND FINDINGS

The data was analysed systematically using a series of validated tools. First of all, degree of internal consistency was measured (Hair et al., 1998) using Cronbach's Alpha. In this study, all α coefficients were in the allowable levels; from 0.783 to 0.899 which indicates there is good internal consistency among the items. The α coefficients are given in Figure 2

Physical Distribution Service Quality Dimensions

Sl.No.	Dimensions	Number of Items	Alpha
1	Timeliness	6	0.856
2	Availability	5	0.783
3	Condition	4	0.787

Service Loyalty Dimensions

Sl.No.	Dimensions	Number of Items	Alpha
1	Behavioural Loyalty	4	0.864
2	Attitudinal Loyalty	4	0.839
3	Cognitive Loyalty	4	0.862
4	Conative Loyalty	2	0.815
5	Affective Loyalty	4	0.799
6	Trust Loyalty	4	0.888
7	Commitment Loyalty	4	0.893

Showrooming Dimension

Sl.No.	Dimensions	Number of Items	Alpha
1	Showrooming	10	0.899

Fig 2.Internal Consistency Values (Cronbach's Alpha)

A. Dimension Reduction using Factor Analysis

In order to measure how well the data is suited for factor analysis, Kaiser- Meyer-Olkin statistic was used. Figure 3 and 4 provides the output data for factor analysis using SPSS for physical distribution service quality and service loyalty. The KMO values are all greater than 0.6 and hence can be considered as adequate. (Kaiser and Rice, 1974).

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.830
Bartlett's Test of Sphericity	Approx. Chi-Square	3621.646
	Df	105
	Sig.	.000

Fig 3. KMO and Bartlett's Test – Physical Distribution Service Quality

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.850**
Bartlett's Test of Sphericity	Approx. Chi-Square	9927.139
	Df	325
	Sig.	.000

Fig 4. KMO and Bartlett's Test – SERVLOYAL

Exploratory factor analysis using principal component analysis with varimax rotation was performed to derive the factors for both service quality and service loyalty with a good level of variance explained. The degree of the variances explained in the current study are as follows:

Physical Distribution Service Quality – 58.82

Service Loyalty – 74.27 %

Using confirmatory factor analysis, the number of constructs was represented by the measured variables. The fit indices of the confirmatory factor analysis are shown in Figure 5 and 6.

Factors	Comparative Fit Index(CFI)	Goodness ofFitIndex (GFI)
Timeliness	.971	.972
Availability	.991	.99
Condition	.973	.982

Fig. 5 Confirmatory Factor Analysis – Physical Distribution Service Quality

Factors	Comparative Fit Index(CFI)	Goodness of Fit Index(GFI)
Commitment Loyalty	.956	.948
Trust Loyalty	.997	.994
Attitudinal Loyalty	.949	.956
Behavioural Loyalty	1.00	.999
Affective Loyalty	.911	.918
Cognitive Loyalty	.985	.980
Conative Loyalty	.943	.952

Fig. 6 Confirmatory Factor Analysis – Service Loyalty

Since the values of CFI and GFI are greater than 0.91, the uni-dimensionality of the latent factors are hereby confirmed.

For Physical Distribution Service Quality the values are given below:
Chi-square value for the overall model fit was 666.170 with 87 as degrees of freedom (p< 0.001). Fit indices - NFI = 0.818; CFI = 0.837; GFI = 0.860, RMSEA = 0.049.

For Service Loyalty
Chi-square value for the overall model fit was 2127.072 with 278 as degrees of freedom (p< 0.001). Fit indices - NFI = 0.879; CFI = 0.912; GFI = 0.824, RMSEA = 0.042.

Using Linear Regression the hypothesis was tested. Using Structural Equation Modelling, the relationship between physical distribution service quality and service loyalty was established.

H_0 : *There is no significant relationship between Physical Distribution Service Quality and Service loyalty*
H_1 : *There is a significant relationship between Physical Distribution Service Quality and Service loyalty and Service loyalty*

Dimension	R	R^2	Durbin Watson	F Value	Beta Value	Demographic Variable	Sig. Value
Commitment Loyalty	0.402	0.162	1.836	15.331	0.262	Timeliness	0.000
					0.306	Availability	0.000
Trust Loyalty	0.280	0.078	1.928	11.688	0.222	Timeliness	0.000
					0.117	Availability	0.004
					0.125	Convenience	0.002
Behavioural Loyalty	0.126	0.016	1.807	12.302	0.083	Timeliness	0.004
					0.089	Availability	0.003
Attitudinal Loyalty	0.290	0.084	1.792	2.134	0.246	Timeliness	0.000
					0.085	Availability	0.034
					0.127	Convenience	0.002
Cognitive Loyalty	0.231	0.053	2.08	5.714	0.116	Timeliness	0.008
Affective Loyalty	0.120	0.014	1.738	7.14	0.246	Timeliness	0.000
					0.085	Availability	0.034
					0.127	Convenience	0.002
Conative Loyalty	0.212	0.045	2.002	5.291	0.108	Timeliness	0.008
					0.172	Availability	0.000

Fig 9. Relationship between Physical Distribution Service Quality and Service Loyalty

From the values of R and R^2 values, it can be inferred that H_0 is rejected.

VII. CONFIRMATORY PATH MODEL USING SEM

A. Relationship between Physical Distribution Service Quality and Service Loyalty

The path model to establish and confirm the relationship between Physical Distribution Service Quality and Service Loyalty are shown in figure 10.

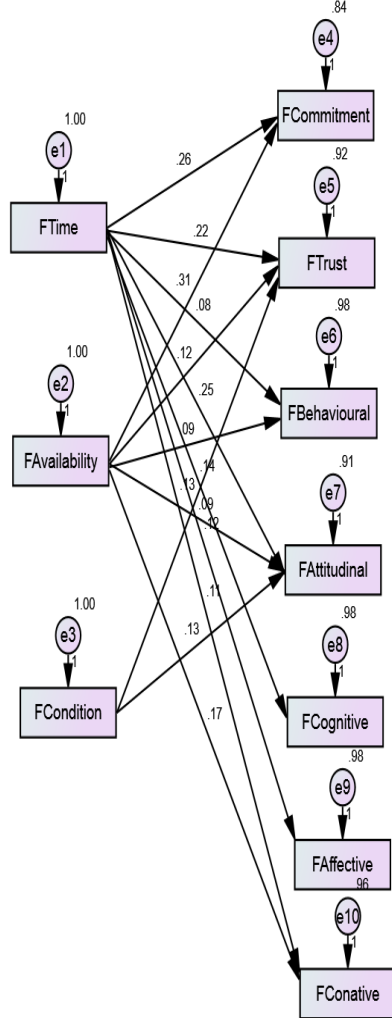Path Diagram - Physical Distribution Service Quality on Service Loyalty

Fig10. Path Model of Physical Distribution Service Quality on Service Loyalty

Chi-square value for the overall model fit was 69.711 for 31 degrees of freedom (p< 0.001). Fit indices for the above model were NFI = 0.903; NNFI = 0.907; CFI = 0.917; IFI = 0.923; GFI = 0.979; AGFI = 0.964; RMSR = 0.039; RMSEA = 0.047.

VIII. FINDINGS FROM THE PATH MODEL

The path model examined and confirmed the proposed relationship between physical distribution service quality dimensions and service loyalty dimensions. The path model established a statistically fit with Indices greater than 0.9 and the RMSEA less than 0.06. The findings from this study can be applied to the design and effective management of the supply chains of electronic products.

IX. RESEARCH IMPLICATIONS

This study is an initial effort at dealing with a concern that has significant implications for logistics and supply chain management practice. Any such attempt will have some limitations. It is important to acknowledge these limitations and also suggests new directions for future studies.

When consumers are engaged in showrooming, they are not only looking for accurate and accessible information or a good deal but are also looking to feel better about their purchase or to find a customized shopping experience. From a Supply Chain perspective, the customers are actually looking for high availability of a variety of items from which they could choose, along with fast and reliable delivery of purchases and a good return policy. This carries a reasonable level of service and customer experience.Therefore this study aims to provide insights to identify and improve those aspects of physical distribution service quality in order to have better service loyalty. This study has attempted to leverage the physical distribution service quality to control showrooming behaviour by focusing on their loyalty.

X. CONCLUSION

Showrooming behaviour has gained importance in the multi-channel environment. It may or may not be possible for retailers to regain their customers by offering discounted prices always. Therefore, this study focuses on the problem from the supply chain perspective. Since the physical distribution aspect of the supply chain is believed to be cost-oriented activity in the supply chain, it is important to identify ways and means to reorient the service quality of physical distribution by identifying the dimensions which influences the service loyalty of the customer. This in turn influences the showrooming behaviour. Previous studies have provided insights on identifying the factors of showrooming behaviour and ways by which retailers have to incentivise the customers. The main focus were on different stages of their shopping decision making process.But the underlying point of living with this showrooming behaviour by realigning the physical distribution strategies have not been dealt with.

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