

In-Store Technology for Store Positioning and Store Loyalty

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Abstract

Purpose: Store positioning via technology and retail image are the factors that influence store loyalty and the success of the retail. The objective of this study is to assess the relation between positioning via in-store technology, store image and store loyalty in Indian retail fashion outlets. Furthermore the mediation affect of store image on the in-store technology and store loyalty relationship is analyzed.

Design/Methodology/Approach: On a sample of 284 customers, structural equation modelling via Amos has been employed to test the proposed hypotheses. Convenience sampling has been used for data collection.

Findings: The results reveal that the in-store technology positively influences store image which further positively impacts customer loyalty towards the store. Finally store image partially mediates the relationship between in-store technology and store image.

Originality: The study has empirically tested the relation and provided evidence that in store technology is an important dimension, which shoppers consider to position stores in their minds.

Key words: In-store retail technology, Positioning, Store image, Store loyalty



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1. Introduction

Over the years, technology has revolutionized our world and daily lives and has become an important driver of economic growth. The technological innovations are continually reforming many industries and retailing is no exception where it has played a big role in reviving the retail sector by offering assistance to retailers to become highly advanced and equipped in the way they enhance customer's experience. The technology like artificial intelligence-powered recommendation engines, in store stylist robots, virtual shopping assistance, in store beacons etc has touched every aspect of business for both brick and mortar stores and e commerce sites altering the dynamics of retail drastically.

Indian retail also has travelled through different phases over the years and is ranked as the fifth largest preferred destination in the retail market globally with the unorganised retail dominating the trade in contrast to the developed countries. However, Internet penetration has changed consumer shopping behaviour by creating many touch points and has created challenges for retail traditionalists. It has further created many opportunities for unorganised retailing by offering them access to large population, without the need of having physical store. The products offered by them now compete with the national and international brands and have made the competition even tougher.

Retailers today deal with increasingly more demanding and sophisticated customers. With the rapidly changing needs of Indian consumers, increased competition from e commerce and influx of international brands there is a pressing need for brick and mortar to evolve. Though online spending is increasing every year but e commerce still forms the small portion of the traditional brick and mortar retail in India. Within this process of retail transformation, retailers have realised that in order to stay relevant brick and mortar can only survive by adopting new strategies effectively. To achieve differentiated image through positioning is one such strategy that has become important for sustained competitive advantage (Davies, 1992)

Retailers have developed positioning strategies as a result of the investigation into store image, which have helped them differentiate in terms of services, products, prices etc (Birtwistle & Shearer, 2001). The hypothesis that conformity between the goals of positioning strategies and shoppers' perceptions of the store's image results in store loyalty is the economic basis for retailers to create positive and strong positioning (samli & Lincoln, 1989). Retailers are striving to attract shoppers to their stores with the image created by stressing on different attributes like service, merchandise, store atmosphere, physical facilities, advertising, price etc (Bruce et al. 2004). Technology based service delivery is one of the factor that is implemented by retailers to position themselves that has an impact on store image and customer loyalty. Retailers are using number of technologies in store



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like barcode scanners, video carts, self scanning, smart shelves, mobile apps, scan and go, que vision etc (Inman & Nikolova, 2017) to achieve a competitive edge by enhancing service delivery processes or by differentiating their service offering from their rivals by adding value to existing services (Fleming, 1991).

The paper empirically studies the impact of positioning via in-store technology on store loyalty in Indian retail fashion outlets through store image. Although brand positioning and store image have been extensively studied in marketing but there is almost no study that has empirically tested the relationship between in store technology, store image and store loyalty. As with store image there is very little substantiation for its relationship with in store technology and loyalty, so it is a new line of research with significant challenges. Also if the retailers are to realize a competitive advantage from positioning via technology they must understand the technology impact an existing market structure and changes that can be implemented to gain a competitive advantage, outlining the relevance of the study.

2. Literature Review

2.1 Retail Positioning

Retail positioning is defined as the perceived space a store occupies in the given market by the target customers or group. It is how a potential buyer sees a store and something that is done in the minds of target market. It is about creating an image of a store in relation to the competitor (Sudhakar, 2012). He also pointed that retail outlet is positioned and perceived based on the number of touch points about which a shopper can form an opinion and combined view of all the touch points experienced at a store. According to Newman (2015) the aim of retail positioning is to provide a competitive advantage to a retailer by differentiating him from his competitors through an offering that appeals to the shoppers and is readily identifiable by its target group. The main concern of the positioning strategy is identification of dimensions of the image that add unique value in the eyes of target shopper group (Wortzel, 1987). The four aspects on which the success of positioning depends are : clarity (position must be apparent in the minds of the target group by the means it is communicated to the shoppers and in a certain way it provides a distinct advantage), consistency (timely communication), credibility (customers must believe in brand positioning) and competitiveness (two important factors for retailers: the need for better image and need to have better reputation for product quality) (Jobber, 2001). Positioning based on price, service, and product differentiation has become a critical component of numerous retailers' competitive strategies (Walters & Laffy, 1996). They argue that in order to achieve a particular differentiation retailer must place emphasis on one or two component areas of positioning strategy. Since successful positioning has been related to better corporate success, it is critical to ensure that retail strategy is



well designed, executed, and controlled. (Davies & Brooks, 1989) and shapes the perception of image of the store. According to Sayman et al. (2002) every store enjoys a position in minds of the shoppers whether such positioning is deliberate or not. The advantages of customer focused positioning strategy have been well established. The way a store is positioned and perceived depends on various touch points about each of which a shopper can form a judgement and build an image in his mind. The two factors that affect store success and customer loyalty are store image and store positioning. There are number of attributes that form a store image and retailers can create positioning strategies to differentiate themselves from their competitors based upon those attributes (Gundala, 2010) and implementing in - store technology can be one such attribute that might appeal the shoppers and frame a positive image of the store in shoppers mind. According to Bruce et al. (2004) if a retailer makes use of a strategy with store positioning criteria which is different from the selection criteria of the consumers, sales may decrease and market budget wasted. The intention of retailers to position their store is not always the same as perception of consumers and the retailers should identify the opinion of the targeted market. He also argues that it is also imperative for retailers to identify the attributes of image that are demanded by customers to ensure positive image and successful market positioning suggesting that the study is relevant.

2.2 Positioning via in-store technology

Changes in technical advancement characterised the late 19th and early 20th centuries. Despite the fact that many of these advances did not emerge in the retail world and were not specifically designed to change it, retailers were often the first to embrace technological innovations. Historically retailing and technology have been inextricably linked, in terms of development, their ability to facilitate visibility and trial ability and deliver unique advantages to the customers (Varadarajan et al., 2010). Technological innovations have been the game changer in the retail sector that are simultaneously providing benefits to the retailers as well as the shoppers. With the help of technology customers are able to make better decisions, receive more advantageous and targeted offers and faster services. Due to technologically created efficiencies retailers are able to speed up the processes and get cost saving benefits (Grewal, Roggeveen & Nordfalt, 2017). Varadarajan et al. (2010) in their study broadly classified technologies as: transportation infrastructure technologies (Electricity, Elevators, Escalators, Automobiles, Railroads), Communication technologies (Telephones, Radios, Televisions, Catalogs, Newspapers and billboards) and interactive technologies (E-mails, metadata technologies, search engines, Instant messaging, Access technologies like dial up, Wi-fi etc, Cell phones with web browsing capabilities, GPS technologies, search technologies, social networking, Bookmarking/ information organization technologies like Google) which highlight the considerable



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long term impact of technology on retail sector and the mechanisms through which the retailers capabilities can be enhanced. In the retail world, technological advancements have applications in the areas like supply chain management and logistics, customer management, and retention (Dunne et al., 2002). Renko and Druzijanic (2014) concluded that technology on one hand facilitates retailers by improving services to customers, reducing cost etc. On the other hand it brings advantages to the shoppers related to short lines at the check outs, no pricing errors, higher speed in providing services in-store etc. The findings of the paper also reveal that technologies help customers to make intelligent shopping decisions whereas better understanding of the shopper's goals and related stored data in turn help retailers in developing successful marketing strategies to compete. Pantano and Naccarato (2010) observed that the advances in technologies (RFID, shopping assistant systems and smart mirrors) also modify the retail store appearance and the customers' in-store behaviour. The possibility to achieve quick information on customers' behaviour, the improvement of the point of sale by using new entertaining technologies and the positive effect on customers shopping experience were the important aspects of the study. Clodfer (2010) in his study states that "retailers must understand under what circumstances and to what extent shoppers will be willing to use POS technology" which clearly points to the fact that retailers before implementing technologies must be clear about the relative advantages offered by innovative technologies in their store as well as in their relationships with the suppliers.

It is further to mention that customers can be given extended and additional services, convenience and control, access to data, more reliable information delivery and other support services which otherwise were not available. Technological innovations on one side can be used to permit faster responses to shopper's problems and enquiries, to increase productivity and improve efficiency, reduction in labour cost and to get various distinctive and differentiating competitive advantages (Walker & Craig-Lees, 1999). In literature, various theories and models are developed for the understanding of customers behaviour towards the technological solutions and many of the research studies have focused on adoption and usage of self service technologies (Hossain, Prybutok, & Radiofrequency, 2008; Meuter et al., 2005). The theory of planned behaviour, Technology acceptance model, theory of adoption of innovation, the perceived risk perspective and the trade off/transaction costs perspective are the five main perspective considered on the consumer behaviour (Kotler et al., 2010). In a certain way each of the term mentioned above has similar terms of references. However in the research methodology of the study the scale of technology usage comprises of technology usefulness/benefits not ease of use, as the widely used technologies in the Indian fashion outlets are not self service technologies. Thus from the backdrop it can be interpreted that the technology has played significant role of primary enabler of change in the retail environment by making their systems more



efficient and effective. However the adoption of new technologies has been limited due to factors like perception of customers, privacy concerns, deployment costs etc. Technology has also become one of the important factors that have improved shopping activities by making stores more comfortable and affecting their shopping experience.

2.3 Store image

To develop, maintain and communicate a positive store image has become important for the maintenance of sustained competitive advantage (Walters, 1988). Martineau (1958) in his study argued that retail outlets so far as shoppers are concerned is a personality which is composed of psychological and functional attributes and the companies projecting an image which is close to the targeted customers self image will generate loyalty towards the store. According to him image of the store is the way in which the store is defined in the customers mind partly by the aura of functional attributes and partly by the psychological attributes. Most of the people from scientific community believe that the image of the store is expressed by customer's evaluation of attributes of store (Devlin, Birtwistle & Macedo, 2003). Bloemer and Ruyter (1998) preferred defining store image as the complex of shopper's perceptions of a store on various (salient) attributes. However over the years many researchers have distinguished different store characteristics or attribute that form the store image. Lindquist (1974) incorporated numerous models from various studies in his research on store image literature and came up with different attributes of store image like merchandise, clientele, comfort, store atmosphere, service, institutional satisfaction and post-transaction specific satisfaction. For instance Bearden (1977) in his study suggested following five characteristics: price, assortment, atmosphere, location, quality of merchandise and friendly personnel. While developing the construct further Ghosh (1990) explained store image is comprised of various elements of retail mix. These eight elements are merchandise, location, atmosphere of the store, service provided to the customers, price, advertising, sales incentive programs and personal selling. Amongst all, merchandise was considered as the most important retail element mix according to the study of Ghosh (1990). According to (Amirani & Gates, 1993) in the retail sector, store image is considered one of the most significant determinant of success. A distinct store image is one of the retailers most important assets of marketing providing a competitive advantage that is difficult to match. Bloemera and Odekerken-Schroder (2002) in their study also mentioned that, since image perception can have different meanings for different customers, evaluating a store's image is a multifaceted operation. Different people may be exposed to the same stimuli and obvious circumstances, but how shoppers identify, choose, arrange, and perceive them based on individual processes is determined by their beliefs and expectations for each of them. From the above literature it can be interpreted that the technology can be important factor in determining store image by offering advantages



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like improved retail service quality, better experience to shoppers, improved store atmosphere etc which consumers consider to position stores in their minds. Thus the hypothesis framed is as follows

H1: In-store technology usage has positive affect on store image.

2.4 Store image and store loyalty

Customer's patronage behaviour towards a specific store is based on the image of that store. The more positive a store's image is, the more loyal customers become to that store. The image of the store according to Varley (2005) is the evaluative criteria that consumers use in the decision making process when selecting the retail store for shopping.

Bloemer and De Ruyter (1998) in their study revealed the fact that there is a direct positive relation between store image and loyalty and an indirect relationship, where by customer satisfaction acts as a mediator between the two. Shamsher (2015) analysed the framework of store image and its influence on consumer behaviour and concluded that the overall store image eventually has an influence on customers' choice, purchase intention, store satisfaction and loyalty towards the store. Yo and Chang (2005) in their research studied the effect of store image attributes like quality, assortment, promotion, advertisement, convenience, store facilities, sales person service, brands, and atmosphere. Among all the attributes store atmosphere was found to have largest impact on the store loyalty and all other attributes had the meaningful impact. In a survey based study, conducted by Martenson (2007) in Sweden about corporate brand image, its effect on satisfaction and store loyalty showed the indirect relation between corporate brand image and store loyalty through customers satisfaction. Koo (2003) in his study conducted in retail stores in Korea studied the relation between the overall attitude towards the retail stores, customer's satisfaction and loyalty. The findings showed that the overall store image had the strong influence on satisfaction and loyalty and the impact on loyalty was stronger than customers' satisfaction. Thus from the above literature it is hypothesised that

H2: Store image positively affects the store loyalty.

H3: Store image mediates the relation between in- store technology usage and store loyalty.

3. Research Design

3.1 Measures and Questionnaire

The survey instrument of the study consisted of the three sections. Section A was designed to get the demographic profile of the respondents, section B consisted of



the technologies (EPOS, Digital signage, Personalised promotions, Mobile wallets, Sensor doors) with their brief descriptions where as the third part gathered information on technology usage(benefits derived from the technologies while shopping in-store), store image and loyalty. The items of the third section were developed from the scales carefully selected, tested and modified according to the study (see Annexure A). All the items were scored on seven point likert scale (from 1 indicating Completely Disagree to 7 indicating Completely Agree). Technology usage (benefits/usefulness) scale included seven indicators (TUG1-TUG7) (Renko & Druzianic, 2014; Venkatesh & Davis, 2000; Zielke, Toporowski & Kniza, 2011).The store image scale (SI1-SI) was based on the contribution from Chowdhury et al. (1998) and Bao and Sheng (2011). Store loyalty scale consisted of 5 items (L1-L5) (Zeithaml et al., 1996).

A pilot test of the instrument was conducted in two stages. Firstly the questionnaire was given to 4 scholars in marketing and 3 marketing experts to check the ambiguous wordings or expressions and based upon their feedback, the statements were changed and modified according to the context. This helped in verifying the sensitivity of the questionnaire. At the second stage the questionnaire was distributed to the 100 shoppers who have shopped at the retail outlets recently using in-store technologies. For primary examination of the scales, the measurement items were subjected to reliability analysis and series of factor analysis using SPSS 21.0. The values of Cronbach's alpha for the items under respective constructs were found to be greater than the thresh hold value of 0.60 (Malhotra, 2015). All the scales provided satisfactory reliability and none of the item was removed. Further EFA (Exploratory factor analysis) was done to check the factor loadings and cross loadings of the statements. All the statements/items considered, loaded on their respective constructs with the values of factor loadings greater than 0.50 and the Eigen values greater than 1 and none of the item cross loaded on the different construct (Hair et al., 2006).

3.2 Sample and Data collection procedure

Convenience sampling (non probability sampling) was used for collecting information. It is more appropriate where sampling frame is unavailable. The questionnaire was distributed to 320 shoppers who have shopped at the Indian retail fashion outlets using in-store technologies as a positioning strategy in the areas of Punjab, Jammu and Kashmir and Delhi. The in-store technologies taken in the questionnaire were EPOS (Electronic point of sales), Digital signage, Automatic sensor doors, mobile wallets, personalised promotions through e mail, telephones, mobile messages etc. Descriptions of technologies were also provided for the better understanding of the respondents (see Annexure B). Out of the total 320 questionnaires, 11 were not returned and 25 were incomplete which were not used in the analysis. Thus 284 questionnaires were finally used for the analysis.



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3.3 Analysis and Results

The demographic profile of sample respondents is shown in the Table 1

Please refer to Table-1 at the end of the paper

Data analysis was carried by using SPSS AMOS 21 software for structural equation modelling that is used to examine the relationship between the exogenous and endogenous variables. To confirm the reliability and validity of the scale and to test the hypotheses SEM was used. The dimensionality and reliability of the scale was studied using EFA (exploratory factor analysis) and calculation of cronbach's alpha. The range of cronbach's alpha value was from 0.80 to 0.87 which were greater than the thresh hold value of 0.6 (Hair et al., 2006) and all the items loaded considerably on the projected constructs with values greater than 0.5 (see Table1) (Hair et al., 2006). In addition the validity of construct was analysed by CFA (confirmatory factor analysis) by following recommendations of Hair et al. (2006). During CFA the factor loadings ranged from 0.57 to 0.82 which were greater than 0.50. The convergent validity of the scale was examined by calculating AVE values for each construct. A good rule of thumb is that AVE that is average variance extracted equal to 0.50 or higher shows adequate convergent validity but AVE value of the technology usage scale was found to be less than 0.50, therefore composite reliability the three constructs were examined as AVE is the more conservative measure than CR and in case the values of $AVE < 0.50$, on the basis of composite reliability alone the convergent validity is confirmed. The CR values of all the constructs were found to be greater than 0.70 and ranged from 0.83 to 0.88 which confirmed the convergent validity of the constructs (see Table 2). With regard to the divergent validity the correlation values between each pair of construct was found to be less than the square root of the Average variance extracted (AVE) values of the constructs. The values shown in the diagonal of Table 3 represent the square root of AVE values and the values lying below the diagonal represent the correlation values.

Please refer to Table-2 at the end of the paper

Please refer to Table-3 at the end of the paper

After examining the reliability and validity of the measurement scales, Structural equation modelling was used to empirically test the theoretical relationships between technology usage, store image framed in the minds of customers and customer's loyalty towards the store which were translated into hypotheses. Table 4 presents standardised path coefficients along with t values. As shown in the Table 4 the hypothesis 1 in-store technology usage is positively related to store image is supported ($\beta = 0.62, p < 0.01$) and hypothesis 2 in-store technology has positive impact on customer's loyalty is also supported ($\beta = 0.70, p < 0.01$). Hypothesis 3 store image mediates the relation



between in-store technology usage and customer's loyalty was tested by implementing the procedure of boot strapping in Amos. Sobel (1982) formula was used to test the significance of mediation effect mathematically. The test statistically determines the influence of mediator variable (store image) on the relationship between positioning via in-store technology (independent variable) and loyalty (dependent variable). First the direct effect of the independent variable (technology usage) on dependent variable (customer's loyalty) was found to be significant ($\beta = 0.42, p < .01$). Then after that in the presence of store image as a mediating variable the direct effect and the indirect effect between the technology usage variable and the customer's loyalty was found to be significant (see Table 5). This finding depicts the case of partial mediation (Preacher & Hayes, 2008) and supports hypothesis 3.

Please refer to Table-4 at the end of the paper

Please refer to Table-5 at the end of the paper

4. Discussion

The objective of the current research study was to proceed with the understanding in the unique context of Indian retail sector following the introduction of widely used shopper facing in-store technology. Providing services through technologies is becoming significant differentiator for increasing customer's satisfaction and loyalty. The present research corroborates the proposed framework providing evidence about the role of in store-technology positioning. The study has empirically tested the relation and provided evidence that in store technology is an important dimension, which shoppers consider to position stores in their minds. The findings are consistent with the research conducted by Davis (1989) which propounded that the attributes of the system has an influence on the behavioural outcomes through shopper's evaluation of technology considered.

The study has focused on the effect of in-store technology on store image. The literature on store image and its effect on satisfaction and loyalty is extensive but there is almost no study that examined the relation between technology, store image and loyalty. The results suggest that in store technology has positive influence on store image. This finding corroborates with the researches of Dabija (2008) and Liebman (2008) investigating the constituents of successful positioning strategy, which were conceptual in nature. Also store image formed due to implementation of technology was found to have positive effect on customers' loyalty which agrees with the observations of Koo (2003). As per the results store image was found to be the partial mediator between technology and loyalty. Thus study provides evidence for the process through which positioning via technology can help retailers develop competitive advantage. Retailers are installing various technologies in-store that provide numerous service dimensions to create different kinds of shopping



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experiences for shoppers (Roy, 2017) which create a better image of the store in the minds of shoppers and is perceived as the indicator of customer decision because of its ability to reduce purchase risk (Delgado, 2014). The results also suggest that technology can be considered as an important positioning strategy as the study has analysed the perception of shoppers towards the attributes offered by technologies installed in-store. Also the findings hold a greater relevance due to the fact that the data has been collected from three different geographical areas of Northern India with different levels of retail expansion. The proliferation of organised retail differs in the three regions considered like in J&K, the organised retail is slowly emerging, in Punjab the sector is seeing the rapid growth whereas Metropolitan capital Delhi has well developed organised retail sector. Thus the study presents a holistic picture of positioning via in-store technology in retail fashion.

5. Managerial Implications

The study has relevance for retailers since many retail outlets in India have started implementing technological innovations. Thus positioning via technology is an important question retailers need to consider for successful application of in-store technology. When adopting strategy of positioning the store via technology, instead of just introducing the technology, retailers must tell overall benefits the consumers will receive from installed technologies. The research empirically provided evidence of the effect of positioning via in-store technology on store image and store loyalty suggesting that retailers must feel confident in positioning themselves by implementing in-store technologies to gain customers loyalty. In particular, the study confirms at academic level the relationship between in-store technology, store image and loyalty that have been little studied in the literature. Firms should also invest in smart technologies like digital mirrors, augmented realities etc that may improve store image and generate customer loyalty.

6. Limitations and Future Research Directions

Like all other research studies this study also has series of limitations that offer opportunities for further research. In this study only fashion retail outlets have been considered for data collection whereas other retail formats like hypermarkets, departmental stores, electronic appliance stores, discount stores, convenience stores, warehouse stores, etc (Wang, 2011) which are new emerging formats are worth investigating in future research. The study presented the holistic view of the relationship between the three constructs (in-store technology usage, store image and loyalty). In future a comparative analysis can be done to study how the relationship varies with variation in retail expansion in different geographical areas. Furthermore the research can be conducted including innovation, value and satisfaction, word



of mouth, intention to repurchase as other variables. It would be interesting to find that these new relations differ based on the commercial formats or sector of activity. Finally the research study was conducted in particular geographical areas which limit the generalisation of the results. In the study store image emerged as a mediator ~~between technology usage and loyalty. In future moderating role of experience can be~~ analysed. The link between in-store technology usage and store image needs further investigation to find the variables that may act as moderator on the relationship. Also other questions like how well the retailers can sustain the image of the store and what different options are available if they lose position? Can be addressed, in future research. Furthermore field experiments can be performed to extend the model by linking store image to other outcome variables like sales, performance, profits, excellence, effectiveness etc. Finally a comparative study on what retailers try to offer via in-store technology and what consumers receive in return can give a more vivid picture of effectual retail positioning.

Please refer to Annexure-A at the end of the paper

Please refer to Annexure-B at the end of the paper

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Table 1. Demographic Profile

Gender	Percentage
Males	51.4%
Female	48.6%
Qualification	
Undergraduates	24.6%
Graduates	44.4%
Post Graduates	25.7%
Higher education	5.3%
Technologies faced by shoppers	
Electronic point of sale	99.3%
Mobile wallets	85.6%
Digital signages	81%
Sensor doors	95%
Promotional tools (messages, telephone, e-mails etc)	92.6%



Table 2. Results of Measurement Model

Construct	Mean	SD	CFA	EFA	Alpha	AVE	CR
Technology usage					0.83	0.42	0.83
TUg1	5.68	1.04	0.64	0.71	0.81		
TUg2	5.41	1.03	0.66	0.72	0.81		
TUg3	5.38	1.04	0.75	0.77	0.80		
TUg4	5.38	1.12	0.68	0.73	0.81		
TUg5	5.76	0.95	0.59	0.67	0.82		
Tug6	5.49	1.03	0.60	0.66	0.82		
Tug7	5.65	0.95	0.61	0.69	0.81		
Store Image				0.63	0.88		
SI1	5.52	1.01	0.74	0.64	0.86		
SI2	5.33	0.94	0.59	0.63	0.85		
SI3	5.34	0.97	0.64	0.69	0.86		
SI4	5.45	0.88	0.66	0.70	0.86		
SI5	5.51	0.95	0.59	0.65	0.86		
SI6	5.46	0.85	0.58	0.62	0.87		
SI7	5.51	0.90	0.57	0.63	0.85		
SI8	5.39	0.95	0.74	0.75	0.86		
SI9	5.58	0.85	0.60	0.66	0.83		
SI10	5.55	0.90	0.70	0.71	0.86		
SI11	5.65	0.87	0.57	0.63	0.84		
Loyalty				0.77	0.88		
LOY1	5.37	1.06	0.76	0.82	0.86		
LOY2	5.44	0.95	0.78	0.83	0.85		
LOY3	5.48	0.97	0.82	0.85	0.83		
LOY4	5.56	0.89	0.79	0.83	0.86		
LOY5	5.65	0.87	0.72	0.79	0.87		

Source: The authors

Table 3.			
Discriminant Validity	1	2	3
1 Technology usage	0.64	-	-
2 Store image	0.60	0.63	-
3 Loyalty	0.53	0.61	0.77

Source: The authors

Note: Diagonal values are the square root Of AVE (Average variance extracted) values.



Table4. Hypotheses Testing

Hypothesis	Path Relationship	Path Co-efficient	t-value	p-value	Inference
H1	TUg→SI	0.62	6.65	<.01	Supported
H2	SI→LOY	0.70	8.15	<.01	Supported

Source: The authors

Table 5. Result of Mediation

Hypothesis 3	Direct Effect (Technology usage→ Store image)	Indirect Effect	Inference
Technology usage→ Store image →Loyalty	$\beta = 0.19, p < * \text{ (significant)}$	$\beta = 0.34, p < *$	Partial mediation

Source: The authors

Note: * = $p < .05$

Annexure A. Main Constructs and Measurement items

In- store Technology usage

- It is useful for shopping (TUg1)
- It makes shopping faster (TUg2)
- It adds value to the shopping experience (TUg3)
- It leads to shorter lines at the store (TUg4)
- It provides easy access to information (TUg5)
- Avoids pricing error (TUg6)
- Waiting time reduced (TUg7)



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Store Image (formed in the minds of customers)

- Customer service is enhanced (SI1)
- Store has come close to my ideal store (SI2)
- Loyalty programs are managed effectively (SI3)
- Store provides better shopping experience (SI4)
- Check out system becomes faster (SI5)
- Store provides information and assistance (SI6)
- Store provides excellent services (SI7)
- Store is able to provide good value for money (SI8)
- Well organised store (SI9)
- Convenient place to do shopping (SI10)
- Over all favourable view of the store (SI11)

Loyalty

- It is the first choice for shopping (LOY1)
- I would shop again in the store (LOY2)
- I would recommend the store to others for shopping (LOY3)

Annexure A Continued

Construct

I would speak good/positive about the store (LOY4)

I feel Loyal towards the store (LOY5)

Source : The authors

Annexure B. Shopper Facing Technologies With Brief Descripti



Electronic point sales (EPOS)

It improves the point of service by offering greater accuracy, detailed customer receipt, enables customers to use different payment types (credit cards, debit cards etc)

Digital signage (projectors, LED, LCD etc)

It reduces the waiting time by displaying information about products, offers etc.

Mobile wallet

It offers convenience to customers by making fast payments, reduces the fear of theft of cash. Mobile wallets are used by retailers to provide personalised coupons to shoppers, helps them to provide access to their loyalty awards and also provide updated offers to customers.

Sensor doors

It provides convenience to shoppers and creates a feeling of welcome. There is no manual effort needed to open it and also avoids collision among shoppers.

Personalised promotions by using e-mail, telephones, mobile messages etc

Shoppers are greeted by retailers on their special occasions by retailers and they also get information about their favourite brands.

Source: The authors



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