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Retail Format Choice for Smartphone Purchase: Online Versus Offline

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ABSTRACT

Purpose – The purpose of this exploratory study is to identify and examine the buying motivation factors along with socio-demographics characteristics of smartphone buyers with respect to the retail format choice i.e. online and offline.

Design/methodology – The study includes responses from 533 individuals who had purchased smartphone in last one year. Binary logistic regression is employed to create a predictive model to predict the retail format choice of consumers based on the demographic and shopping motivation factors. Other behavioral aspects of smartphone purchase with respect to both set of customers is established using chi-square analysis.

Findings – The predictive model correctly classified 74.7% respondents based on retail format choice for smartphone purchase. Price, offers and discounts, product variety/availability of models, convenience, ease of product comparison and accessibility are the key motivational factors for online consumers. In case of offline buyers' factors like need for touch, salesperson assistance, after-sales service, trust and reliability are the key differentiators.

Research limitations/ implications - This study explored various factors and incorporated them into the predictive model, but there could be other factors which are yet to be explored. The scope of this study was limited to one state in India. Similar studies can be conducted across geographies and other product categories for generalizability.

Practical implications - Retailers and brands may find information on shopping motives in terms of retail format choice behaviour to be significant and valuable in developing strategies for channel diversity and expansion. Hence, this exploratory study can be of great importance from a marketing, sales and distribution perspective.

Novelty - As scarce literature exists on the prediction of store choice behaviour, this paper successfully attempts to provide a predictive model on retail format choice (Online or Offline) for smartphone purchase by differentiating channel users in Odisha, India.

Keywords: Smartphones, online retail, offline retail, Logistic regression

Introduction

India, in the last few years, has seen a tremendous growth in the number of smartphone user. Recent study has shown that close to 760 million people in India use smartphone (Statista Research Department, 2021). With smartphone penetration in India projected to reach 1.1 billion by 2022 (ICEA Report, 2021), it has become a necessity for almost all (Watkins *et al.,* 2012). The smartphone market is estimated to be INR 2 trillion (Business Standard, 2021) which is catching the eyeballs of smartphone brands across the globe. Multinational brands are investing in India to tap the consumers of rural and semi-urban population.

Organised retailing in India which is rapidly evolving has greatly diversified the choices available to consumers (Gupta and Shukla, 2015). The growth in e-commerce market is fueled majorly by the increasing smartphone usage (Richa and Vadera, 2019). The importance of smartphone has enhanced during the pandemic period where most of the classes and professional work shifted to digital medium. In India there are multiple options from where a consumer can buy a smartphone. The traditional mobile shops are no longer the only resort. Recent study shows that an increasing 47% of the Indian buyers prefer to buy smartphones online (*91mobiles Smartphone Buyer Insights Survey 2020: A Summary | 91mobiles.Com*, n.d.). Rest 28% still prefer offline and 25% buyers are not sure about their choice of retail format. Thus, exploration of the factors involved in selection of retail format is important from research perspective.

In the process of shopping (Peterson *et al.,* 1997), the choice of the retail format (Hsiao, 2009) is an important decision taken by consumers. Consumer behaviour is undergoing continuous transformation with the presence of multiple channels (Van Bruggen *et al.,* 2010). With the increasing number of retail format choices for consumers, the competition among retailers is also getting intense in consumer electronics (Carpenter and Balija, 2010). Online shopping has particularly gained popularity among young consumers (Sarkar and Das, 2017). In order to study channel choice behaviour, it is important to understand different retail format attributes because the internet has greatly influenced the buying pattern of consumers in India (Prasad and Raghu, 2018). Therefore, this paper focused on one particular product category (Kushwaha and Shankar, 2013) i.e., smartphones, so that the impact of attributes of different retail formats can emerge (Hsiao, 2009).

Researchers have observed that different retail channels involve different shopping motivational values (Wong *et al.,* 2018). Marketing scholars (Mokhlis and Salleh, 2009) and practitioners (Hong, 2015) try to understand and study these shopping motivational values and related buying behaviour. It is believed that this study on consumer channel preferences related to smartphone purchase to come up with better retail and marketing strategies (Rangaswamy and Van Bruggen, 2004). As scarce literature exists on the prediction of store choice behaviour (Choi and Park, 2006), this paper attempts to give a predictive model on retail format choice (Online or Offline) for smartphone purchase by differentiating channel users in Odisha, India.

Literature Review

Smartphone purchase

Product category has an impact on the retail channel choice (Balasubramanian *et al.,* 2005; Prasad and Raghu, 2018; Wong *et al.,* 2018). Although electronics products are generally categorized as utilitarian products by past literature (Haridasan and Fernando, 2018), the current usages of a smartphone make it more than just that. With the fast-growing Indian telecom sector, smartphones have become an essential part in one's personal and business life (Mohan, 2014). The frequency of smartphone purchase has increased overtime. Certain factors were identified as more important than others when customers buy tech-savvy electronic products like smartphone (Mohan and AK*,* 2015).

Salesperson assistance. Customer service in terms of interpersonal (Baker et al., 2002; Haridasan and Fernando, 2018) and information assistance (Haridasan and Fernando, 2018) at the time of purchase plays an important role in retail format selection especially for technically complex products (Bencic, 2017; Carpenter and Balija, 2010) like smartphones. It not only helps the consumer to make an informed decision, but also makes them feel special by catering to their hedonic needs (Haridasan and Fernando, 2018). Customer's loyalty towards an offline store is enhanced by a knowledgeable salesperson (Rabbanee *et al.,* 2012).

Availability of Models and Product Variety. Electronics manufacturers make their products available on specific online portals and not giving channel options to consumers (Sarkar and Das, 2017). Monopoly of certain smartphone brands held by online sellers adversely impact the businesses of offline (Gupta and Shukla,

2015). Online retailers offer a better variety of products (Sarkar and Das, 2017), which is particularly attractive to tier II and tier III cities of India as those products are not easily available in their local offline market (Richa and Vadera, 2019). Online customers seek product variety as compared to Offline customers (Choi and park, 2006; Donthu and Garcia, 1999; Haridasan and Fernando, 2018).

After-sales service. After-sales service plays a crucial role while purchasing smartphone (Kaushal and Rakesh, 2016). Sands *et al.* (2016) found that after-sales service is a deciding factor in the retail channel choice. Issues related to after-sales or post-purchases services deter consumers from online shopping (Richa and Vadera, 2019).

Demographic differentiators – online vs offline

Literature suggests that demographics characteristics have an impact on retail format choice behaviour (Choi and Park, 2006; Gillett, 1976; Jasper and Lan, 1992; Wright, 1996). Although several studies have investigated the relationship between demographics and channel choice behaviour, the findings observed were inconsistent (Choi and Park, 2006) and inconclusive.

Thus, it is important to study the impact of socio-demographic factors on retail choice behaviour for smartphone purchase.

Channel differentiators – online vs offline

Channels working with different modus operandi, attract different consumer groups with not only their products, but with the 'package of services' they offer (Furey and Friedman, 2012). Consumer behaviour studies in retailing have identified relationships between retail format choice and shopping motivations (Dawson *et al.,* 1990). Based on product category consumers look for different benefits from the channel they shop (Haridasan and

Table 1. Literature review of demographic characteristics

Socio-demographic factors	Key-findings	Source
Gender	Women are more inclined to purchasing online	Ding and Lu (2017), Maat and Konings (2018)
	Men are more inclined to purchasing online	Choi and Park (2006), Farag *et al.,* (2006b) & (2007); Crocco *et al.,* (2013); Akhter (2003)
	Men are more likely to choose online channel for purchase of electronics than women	Zhen *et al.,* (2016)
	Gender has no significant impact on online shopping behaviour	Beldona *et al.,* (2011), Lee *et al.,* (2015); Gupta and Shukla (2015)
Age	Age negatively impacts online shopping behaviour	Choi and Park (2006), Farag *et al.,* (2007), Crocco *et al.,* (2013), Zhou and Wang (2014), Ding and Lu (2017), Maat and Konings (2018)
	For electronic goods, higher age group shoppers tend to purchase online	Donthu and Garcia (1999)
	The relationship between age and online shopping behaviour is non-linear	Farag *et al.,* (2006B), Zhen *et al.,* (2018), Beldona *et al.,* (2011)
	Channel choice behaviour across age groups differs significantly with regards to Consumer durables	Gupta and Shukla (2015)
Income	Income positively impacts online shopping behaviour	Donthu and Garcia (1999), Farag *et al.,* (2007), Blasio (2008), Cao *et al.,* (2012) & (2013), Crocco *et al.,* (2013), Zhou and Wang (2014), Zhen *et al.,* (2016) & (2018)
	Income has no significant impact on shopping behaviour	Farag *et al.,* (2006b), Ding and Lu (2017)
Education	Education positively impacts online shopping behaviour	Farag *et al.,* (2006b) & (2007), Blasio (2008), Cao *et al.,* (2012), Zhou and Wang (2014), Zhen *et al.,* (2018)
	Education has no significant impact on online shopping behaviour	Ding and Lu (2017); Beldona *et al.,* (2011)
	Educational qualification has a significant impact on decision making while purchasing	Kizgin *et al.,* (2021)
Occupation	Type of work has a significant impact on online shopping behaviour	Ren and Kwan (2009), Cao *et al.,* (2013)
	Occupation has no significant impact on store choice behaviour	Gupta and Shukla (2015)

Fernando, 2018). This is because of the complex nature of shopping activity (Hsiao, 2009) in various contexts (Dellaert *et al*., 2008).

Price. Price charged against the purchase of a product or service (Kotler & Armstrong, 2010) is a significant factor (Lin & Lin, 2007) which has an impact on customer purchase intention at the time of buying a smartphone (Tran, 2018). Extant literature tends to indicate that the offline prices are higher than online prices (Hsiao, 2009; Rotem-Mindali & Weltevreden, 2013) and hence consumers choose to purchase from online (Jasrotia *et al.,* 2019; Koyuncu and Bhattacharya, 2004).

Offers and discounts. Consumers prefer online channel for the offers and discounts they get (Sarkar and Das, 2017). In Indian online shopping scenario, retailers give offers and discount to gain more market share (Richa and Vadera, 2019). Deep discounts offered by online retails make the competition tough for offline mobile stores (Gupta and Shukla, 2015). Individuals pick online channel due to an assortment of utilitarian and hedonic factors; out of which rebate and exclusive offers is one of the significant factors (Liu and Xiao, 2008).

Need for touch. The experience of touch and feel of the products (Chiang and Dholskia, 2003; Lynch *et al.,* 2001) before purchasing is more important to offline shoppers than online shoppers (Bagga *et al.,* 2013; Choi and Park, 2006; Li *et al.,* 1999). Offline shoppers get a superior multisensory experience of products (Hsiao, 2009; Nelson, 1974). It helps consumers to validate products (Spangenberg *et al.,* 2006). While some researchers argued that the physical verification of the product in offline stores is substituted by the information available by online stores (Athapaththu and Kulathunga, 2018) but no significant evidence was found in case of electronics/smartphone purchase.

Convenience. Robinson *et al.,* (2007) and Chocarro *et al.,* (2013) found that convenience is the most important motivational factor for online purchase due to around-the-clock availability and delivery services. The shoppers who look for saving time (Akaah *et al.,* 1995) and convenience prefer online shopping channels (Beldona *et al.,* 2011; Choi and park, 2006; Donthu and Garcia, 1999; Haridasan and Fernando, 2018; Li *et al.,* 1999). It is more convenient to obtain product information online compared to offline channels and it helps online shoppers to avoid salespersons and hassle of shopping in crowded places (Grewal *et al.,* 2003).

Ease of Product Comparison. Shopping online enables consumers to compare products (Bagga *et al.,* 2013; Farag *et al.,* 2007) and services providing additional information (Huang, 2000). Online channel permits buyers to look for product description, analyse costs, and make fast buys (Beldona *et al.,* 2011).

Accessibility. Although, a few studies in past had shown lack of impact of accessibility on online shopping (Krizek *et al.,* 2004), but a good amount of literature is available which shows that accessibility has an impact on retail choice decision (Farag *et al.,* 2006b; Farag *et al.,* 2007; Srinivasan and Bhat, 2004). With respect to online shopping, novelty, product information, accessibility (Zhang *et al.,* 2010), availability of internet (Cude, 2000) and speed of internet connection encourages purchase (Farag *et al.,* 2006a; Farag *et al.,* 2007; Swinyard and Smith, 2003). Restriction on traditional store opening hours is also a major driver of online purchase decisions (Chocarro *et al.,* 2013).

Social influence. Previous studies found that social influence has a greater impact on consumer's purchase intention (Lin and Lin, 2007). Recommendation from relative, friends and colleagues have a significant impact on attitude, purchase intention in the context of both online and offline buying behaviour. Sometimes it becomes more influential than the other factors (Román and Cuestas 2008). Offline consumers are more likely to be influenced by the recommendation of family and friends (Nelson and McLeod, 2005) than anything else (Kulkarni *et al.,* 2012; Prasad and Raghu, 2018).

Trust and reliability. Trust (Haridasan and Fernando, 2018) and reliability (Athapaththu and Kulathunga, 2018) are common factors anticipated in both the channels. Distrust acts as a barrier for the choice of a particular format (Prasad and Raghu, 2018). Perceived risk due to inability to see the actual product (Bhatnagar *et al.,* 2000) can be a key determinant for retail format choice (Sarkar and Das, 2017). Haridasan and Fernando (2018) found that consumers felt safer paying for electronics products like mobiles in retail stores. Trust and relative advantage between the consumer & retailer are a major determinant of consumers' online or offline purchase decisions (Al-Debei *et al.,* 2015; Wong *et al.,* 2018).

Thus, the determinants of retail format choice should be explored in various contexts (Shi *et al.,* 2019).

Objectives of the Study

1) To identify and assess the motivational factors that influence the purchase of smartphones.

2) To create a predictive model to forecast the likelihood of smartphone buyers seeking online or offline retail platforms.

3) To distinguish the buying benefits looked for by the offline and the online purchaser of smartphones.

Methodology

For the exploratory study a mixed-method approach was adopted. The qualitative approach was considered to triangulate the factors identified from literature review and to generate new factors related to smartphone purchase channel choice behavior. It was then followed by creating a study instrument for quantitative methodology.

Qualitative study

Twenty semi-structured interviews were conducted during the month of June 2021 using an interview guide to understand the process of buying and different factors influencing the retail choice decision. A convenience sampling design was adopted to select the respondents. Out of the 20 respondents, 14 were consumers (online and offline combined) who had purchased a new smartphone within the last 12 months. These respondents were chosen from different genders (10 males and 4 females), age groups (22 to 50 years old), geographies (4 urban, 7 semi-urban, 3 rural) and occupations. Interviews were also conducted with 2 mobile retail shop owners (1 urban and 1 semi-urban), 3 company employees (1 regional sales head, 1 consumer sales trainer and 1 online marketing associate) working with smartphone brands and 1 retail store salesperson. These interviews helped in validation and triangulation of selected factors and identification of one new factor i.e., importance of finance options while buying a smartphone and choosing the retail format which was incorporated in the study instrument.

Quantitative study

The study instrument was designed taking into consideration the factors identified from literature review and semi-structured interviews. The respondents were asked to participate only if they belong to the state of Odisha and had purchased a smartphone within last one year.

The instrument had altogether 34 items which were divided into 4 sections. The first section comprised of 6 socio-demographics related items, followed by second section which had 12 shopping motivation factors designed on 5-point Likert scale where the respondents were asked to rate the importance of the factor during their smartphone purchase on a scale ranging from strongly disagree = 1 to strongly agree = 5. The next section contained 6 items relating to information regarding their last smartphone purchase. And the last section was branched to set of five different questions separately for online consumers and retail store consumers based on their last smartphone purchase channel. The instrument was validated by academic experts for face validity before collecting data from respondents. Pilot study was done with 50 responses to check for multi-collinearity among selected variables.

Sampling and data collection

Non-probability sampling with a convenience sampling technique has been adopted. Collection of data was done through both online and physical form mode. The study instrument was presented in both English and Odia language to eliminate the language barrier among semi-urban and rural respondents. The final sample consisted of 533 responses out of which 260 responses were from online smartphone buyers and 273 were from offline buyers. The collected data was then subjected to analysis.

Data Analysis and results

Profiling the smartphone consumers

Data was collected from 533 respondents and was analyzed for the objectives of the study. Samples were collected from 28 out of 30 districts of Odisha. 243 females and 290 males participated in the survey contributing to 45.6% and 54.45% respectively. Age of the respondents was captured in 4 age brackets i.e., 14-25 years (35.1%), 26-35 years (32.6%), 36-50 years (21.6%) and >50 years (10.7%). Educational qualification and annual family income of the respondents were also captured in the questionnaire and presented in Table 2. Occupation of the respondents was converted to binary variable i.e., job holders and no job holders for analysis. In order to obtain statistical difference between groups of social-demographic variables and retail format choice, chi-square analysis was performed and the result is summarized in Table 2.

Table 2. Demographic Profiling

Variables	Online		Offline (Retail store)		Total		Chi-square
Retail format choice	**Frequency (n = 260)**	**%**	**Frequency (n = 273)**	**%**	**Frequency (n = 533)**	**%**	
Gender							11.554**
Female	99	38%	144	53%	243	46%	
Male	161	62%	129	47%	290	54%	
Total	260	100%	273	100%	533	100%	
Age							19.320**
14-25	84	32%	103	38%	187	35%	
26-35	108	42%	66	24%	174	33%	
36-50	45	17%	70	26%	115	22%	
>50	23	9%	34	12%	57	11%	
Total	260	100%	273	100%	533	100%	
Educational Qualification							8.471
Primary Education	2	1%	3	1%	5	1%	
Matriculation	4	2%	6	2%	10	2%	
Higher Secondary	24	9%	41	15%	65	12%	
Diploma	4	2%	7	3%	11	2%	
Graduation	106	41%	111	41%	217	41%	
Post - Graduation	104	40%	84	31%	188	35%	
Doctorate Degree	16	6%	21	8%	37	7%	
Total	260	100%	273	100%	533	100%	
Annual Family Income							19.657**
< 2 Lakhs	61	23%	103	38%	164	31%	
2- 5 Lakhs	52	20%	63	23%	115	22%	
5 Lakhs - 10 Lakhs	85	33%	71	26%	156	29%	
5 Lakhs - 10 Lakhs	62	24%	36	13%	98	18%	
Total	260	100%	273	100%	533	100%	
Occupation							12.724**
Not a Job Holder	88	34%	134	49%	222	42%	
Job Holder	172	66%	139	51%	311	58%	
Total	260	100%	273	100%	533	100%	

Note(s): **Significant at 0.05 level

There was no significant difference between groups with respect to educational qualification. However, there was significant difference among the groups with respect to gender (χ^2 = 11.554), age (χ^2 = 19.320), annual family income (χ^2 = 19.657) and occupation (χ^2 = 12.724).

90.1% of the respondents purchased smartphone for themselves and rest (9.9%) purchased for others (their relative, friends and colleagues). And there is no significant difference between online and offline purchase groups (χ^2 = 1.975, p > 0.05). Although, 77.1% of the respondents bought one smartphone in last one year and rest 22.9% had bought more than one smartphone in last 1 year. But statistically there is no significant difference between online and offline smartphone buyers (χ^2 = 0.263, p > 0.05).

Building a predictive model – Online versus offline smartphone consumers

Binary logistic regression was used to create the predictive model for retail format choice behaviour (Ben-Akiva and Lerman, 1985). The model would classify smartphone consumers into online vs. offline consumers based on socio-demographic factors and 12 shopping motivation factors. Hence, the dependent variable is the place of purchase:

0 – Online consumers

1 – Offline (Retail store) consumers

The independent variables were tested for reliability and multi-collinearity. The results showed that the scale was reliable (Cronbach's α = 0.925). The values of VIF and tolerance levels were well within acceptable range indicating that multi-collinearity was negligible and the independent variables could be used for binary logistic regression.

The expression for logistic regression is:

$$In\left(\frac{p}{1-p}\right)=\alpha_0+\alpha_1X_1+\alpha_2X_2+\cdots+\alpha_kX_k \quad (1)$$

Where P is the probability of the consumer being classified as offline smartphone shopper and (1-P) is the probability of the shopper being an online consumer. The socio-demographic variables used for regression are gender (G), age (A), educational qualification (E), annual family income (I) and occupation (OP). Based on equation (1), along with these socio-demographic variables, twelve shopping motivation factors were taken (X_1 to X_{12}) into consideration to generate the following logistic regression equation:

$$\begin{aligned}In\left(\frac{p}{1-p}\right)&=1.571-0.370G+0.251A-0.022E\\&-0.445I-0.474OP-0.256X_1+0.588X_2+0.286X_3\\&-0.571X_4+0.053X_5-0.052X_6+0.562X_7+0.475X_8\\&+0.570X_9-0.350X_{10}-0.332X_{11}-0.052X_{12}\end{aligned} \quad (2)$$

Table 3. Independent variables – binary logistic analysis

Variables in the equation	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the respondent	0.251	0.122	4.248	1	0.039*	1.285
Gender of the respondent (1)	-0.370	0.215	2.967	1	0.085	0.691
Occupation of the respondent (1)	-0.474	0.232	4.172	1	0.041*	0.622
Educational qualification of the respondent	-0.022	0.097	0.053	1	0.818	0.978
Annual family income of the respondent	-0.445	0.114	15.398	1	0.000*	0.641
X_1-Importance of price of the smartphone	-0.256	0.124	4.284	1	0.038*	0.774
X_2-Importance of Need for Touch and Feel	0.588	0.123	23.047	1	0.000*	1.801
X_3-Importance of Salesperson Assistance while buying a smartphone	0.286	0.116	6.044	1	0.014*	1.331
X_4-Importance of offers and discounts while buying a smartphone	-0.571	0.147	15.121	1	0.000*	0.565
X_5-Importance of financing options while buying a smartphone	0.053	0.112	0.226	1	0.635	1.055
X_6-Importance of Influence of relatives/friends/colleague while buying a smartphone	-0.052	0.105	0.248	1	0.618	0.949
X_7-Importance of after-sales service while buying a smartphone	0.562	0.152	13.661	1	0.000*	1.753
X_8-Importance of Availability of different Models or Product Variety while buying a smartphone	-0.475	0.154	9.483	1	0.002*	0.622
X_9-Importance of Trust & Reliability on the channel from where I am buying smartphone	0.570	0.145	15.446	1	0.000*	1.768
X_{10}-Importance of convenience while buying a smartphone	-0.350	0.169	4.292	1	0.0388*	0.705
X_{11}-Importance of Ease of product comparison while buying a smartphone	-0.332	0.156	4.549	1	0.033*	0.717
X_{12}-Importance of Accessibility of point of purchase while buying a smartphone	-0.052	0.147	0.124	1	0.725	0.950
Constant	1.571	0.645	5.933	1	0.015*	4.810
-2 Log likelihood	552.198	(P<0.001)				
Cox & Snell R square	0.295					
Nagelkerke R square	0.394					

Note(s): *Significant at 0.05 level

Statistical values related to each variable are reported in Table 3.

Based on the above logistic regression equation, if the calculated P value of a particular respondent is > 0.5, then the consumer is more likely to be buying his/her smartphone from a retail store (offline). And, if the probability (P) value is found to be < 0.5, then the respondent is more likely to be an online consumer.

The goodness-of-fit of the model was tested using Omnibus test and Hosmer & Lemeshow test statistics. Both the tests indicated that the model has a good fit.

Among the socio-demographic variables, gender and educational qualification were not found to be significantly impacting the retail format choice decision. Other variables like age (B = 0.251, Exp. B = 1.285), occupation (B = -0.474, Exp. B = 0.622) and family income (B = -0.445, Exp. B = 0.641) were found to be significant predictors in the model. A positive coefficient for age suggests that with increasing age, consumers are more likely to choose offline channels for smartphone purchase. In case of occupation, the coefficient is negative suggesting that a non-job holder is more likely to shop for smartphone online by ($e^{-0.474}$) 0.622 times than a job holder. Similarly, as the annual family income increases the likelihood of purchasing smartphone online increases.

Analysis of shopping motivation factors indicated that X_5 (finance options), X_6 (influence of family, friends and colleagues) and X_{12} (accessibility of point of purchase) were insignificant in predicting the retail format choice. X_2 (need for touch and feel), X_3 (salesperson assistance), X_7 (after-sales service) and X_9 (trust and reliability) were found to be significant predictors with positive coefficient in the model suggesting that when these factors go up by one unit, the odd ratio in favor of offline retail purchase go up by ($e^{0.588}$) 1.801, ($e^{0.286}$) 1.331, ($e^{0.562}$) 1.753 and ($e^{0.570}$) 1.768 units respectively. Contrarily, X_1 (price), X_4 (offers and discounts), X_8 (product availability and variety), X_{10} (convenience) and X_{11} (ease of product comparison) were found to have negative coefficient in the predictive model suggesting that one unit increase in these factors increase the odd ratio in favor of online smartphone purchase by ($e^{-0.256}$) 0.774, ($e^{-0.571}$) 0.565, ($e^{-0.475}$) 0.622, ($e^{-0.350}$) 0.705 and ($e^{-0.332}$) 0.717 units respectively.

The model could correctly classify 74.7% of the observations. 72.7% of online consumers and 76.6% of offline consumers were classified correctly by the predictive model. With significant goodness-of-fit, predictive capabilities and chi-square statistics, the model can be considered as a reliable predictive model.

Analysis of online consumers

The responses from online consumers were separately assessed by a dedicated section in the instrument. 75.4% of the online respondents would prefer buying their next smartphone online. Only 2.7% would like to switch their channel to retail store for their next smartphone purchase and 21.9% respondents are not sure about their next purchase channel. Out of 260 online shoppers of smartphone, only 19 respondents (7.3%) responded by saying that they would have bought their phone from retail store if there was no lockdowns and shutdowns due to covid-19 pandemic. Few statements related to online smartphone purchase driver were asked to respondents and assessed using one-sample t-test to find out their importance to online consumers (Table 4). The important factors identified were online reviews, return & exchange facilities provided by online retailers, special discount

Table 4. Online consumers: n = 260

One-sample statistics	Mean	T
I look for customer review online and it is important to me before purchasing a smartphone	4.485	77.594**
The product exchange and return facility offered by online platforms is important for me while buying my smartphone	4.542	83.656**
I wait for online special discount days/sales offers (e.g., Big Billion Day, Great Indian Festive Sale etc.) to buy my smartphone	4.081	55.866**
I like the overall shopping experience online when I purchase from online platforms	4.404	85.996**

Note(s): **Significant at 0.05 level

Table 5. Offline consumers: n = 273

One-sample statistics	Mean	T
I generally research online about smartphones before purchasing from store	4.366	67.213**
I like the prompt service retail store owners and store sales personnel provide	4.231	67.880**
I know the mobile store owner/sales person personally and I am a regular customer of the	3.117	33.729**
Buying from retail store (offline) gives me a better bargaining power compared to online purchase	3.418	38.590**
I like the overall shopping experience when I purchase from retail store	4.242	68.583**

Note(s): **Significant at 0.05 level

days or sales offers like Big Billion Day and the overall online shopping experience.

Analysis of offline (retail store) consumers

When offline buyers were assessed separately, it was found that only 54.6% of the respondents would prefer to buy their next smartphone from a retail store. 15.4% would switch to online channel and 30.0% are not sure about the choice of channel for their next purchase. Responses of five statements related to offline smartphone purchase were collected from retail store buyers exclusively and analyzed using one-sample t-test to find out their importance (Table 5). The test results indicated that all the factors were important for offline smartphone buyers, i.e., researching online before purchase, prompt service of the retailers, personally knowing the retail store owner/being a regular customer, better bargaining power and overall retail store shopping experience.

Discussion and Conclusion

This research study attempted to identify and assess various demographic and shopping motivation factors responsible for choice of online or offline retail format for buying smartphones. It was found that there is a significant difference between motivational factors of different retail channels. The study generated a predictive model to predict the retail format choice of consumers based on the demographic and shopping motivation factors. One of the interesting observations made in the study is that although the retail store buyers like the overall smartphone shopping experience, but close to half of them would either switch to online or not sure about their next smartphone purchase. The implications of the empirical study are discussed below.

Theoretical implications

This paper endeavors to add valuable insights to marketing theory in several ways. Unlike many studies earlier that have attempted to investigate the retail format choice in various product categories viz. Premium brand apparel (Basu and Sondhi, 2021), travel industry (Beldona *et al.,* 2011), grocery shopping (Huyghe *et al.,* 2017), consumer durables (Gupta and Shukla, 2015) this study makes an effort to explore between virtual markets and brick-and-mortar markets when consumers are planning to buy a smartphone. This exploratory study has also outlined the crucial factors based on critical literature review that need to be considered while predicting consumers' behavioural intentions that have a bearing upon their retail channel choice. The demographic factors were found to have some significant contribution in the choice of retail format for smartphone purchase. A handful of channels differentiating behaviour studies about specific products earlier have tried to find the impact of demographics on retail format choice.

The younger buyers are more likely to opt for online channels as they are considered as more tech-savvy (Eastman and Liu, 2012). Job holders are more likely to be inclined to physical in-store smartphone purchase compared to non-job holders (students, home-makers, retired personnel and unemployed consumers). Consistent with various western and Asian studies, income is positively related to online shopping behaviour (Zhou and Wang, 2014). Consumers with higher family income would opt for online channels for smartphone purchase (Blasio, 2008).

The study also explored and examined the shopping motivation factors which differentiate the store choice behaviour across channels. The logit regression model evaluated the purchase triggers for both online and offline channels. Price, offers and discounts, product variety/availability of models, convenience, ease of product comparison and accessibility are the key motivational factors for online consumers which is consistent with previous studies (Farag *et al.,* 2007). In case of offline buyers' factors like need for touch, salesperson assistance, after-sales service, trust and reliability are the key differentiators. These factors were identified from extent literature and their evaluation gave results consistent with global literature. The uniqueness of this study is that these factors were never assessed together in a channel choice behaviour study. Thus, the findings of the study pertinent to smartphone purchase can be extrapolated to a larger Indian consumer and to some extent Asian consumers due to homogeneity in retail market conditions and shopping habits.

Managerial Implications

Information related to shopping motivations with respect to retail format choice behaviour may be important and useful (wong *et al.,* 2018) to retailers and brands for devising strategies pertinent to channel diversification (Fornari *et al.,* 2016) and channel expansion (Hamzah *et*

al., 2014). Hence, this exploratory study can be of great importance from a marketing, sales and distribution perspective. Although, in emerging markets like India there is a shift in trend towards online shopping, offline shopping still holds grit among buyers. Online marketers and retailers should focus on developing a trust with consumers by their communications and processes so that consumers across demographics consider it reliable for higher priced consumer durables like smartphones. Given the size of smartphone market in India and increasing frequency in smartphone purchase by consumers, online players can start offline after-sales service centers in demanding places which could serve three purposes i.e., service point, point of smartphone exchange and an informal retail display store where consumers can touch and feel the smartphone before placing their order online. For retailers, the competition from online players can get fierce in coming years (Dixon and Marston, 2002).

Retailers need to maintain a good variety of inventory in order to keep the customer in the store for longer duration. Matching the online price would be a challenge for brick-and-mortar retailers but it can be compensated by a knowledgeable and polite salesperson and good after-sales service. The convenience and accessibility aspects of online can be taken care of to some extent by the extra services like dummy models for touch and feel, providing covers for smartphones, home deliveries in rural markets and below-the-line marketing activities. Smartphone brands should also support and promote the offline retailers to establish and strengthen their presence across demographics.

Limitations and future research

This study explored various factors and incorporated them into the predictive model, but there could be other factors which are yet to be explored. The scope of this study was limited to one state in India. Similar studies can be conducted across geographies and phone categories (basic phones and feature phones) for generalizability. Some finer aspects of smartphone shopping behaviour like searching offline and buying online and vice-verse can be explored in future studies. Including various smartphone brands in the study as channel differentiator is an area of exploration. Lastly, similar studies can be conducted on different product categories like home appliances, grocery, apparel sector and service industry to contribute towards retail format choice behaviour.

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