Factors shaping online consumer decisions in fmcg products: A comprehensive study

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ABSTRACT

Technology breakthroughs and the widespread use of the internet have caused the constantly changing digital landscape, which has drastically changed the traditional marketplace into a cutthroat online setting. The benefits of online shopping have been recognized more quickly in India as a result of recent economic reforms, and customers are rapidly embracing the convenience and variety that digital platforms provide. As a result, foreign retailers seeking to increase their market share find India to be a very appealing market. Online sales have increased as a result of the nation's expanding Internet user base, underscoring the potential of ecommerce in India. Businesses looking to improve their strategies and promote increased customer involvement with online shopping must comprehend the elements that impact online purchase behaviour in light of this development. In order to figure out how to encourage Indian consumers to shop more on online platform, it is crucial to know the factors that influence their online purchasing behaviour. Hence this study focused into the connections between different aspects of online buying and buyer behaviour. This is an analytical study based on 258 valid responses. In addition to examining online shopping preferences for the FMCG product category, this study attempt to identify the factors influencing online consumer buying behaviour.

Key Words: Online Shopping, Consumer Buying Behaviour, FMCG.

INTRODUCTION

Our daily lives have undergone tremendous change as a result of digitalization, and shopping does not constitute an exception. Digitalization has led to a transformation in the retail sector in recent years. Shopping habits have changed as a result of the development of e-commerce, mobile commerce, social commerce, and the usage of digital technologies like artificial intelligence, augmented reality, and virtual reality. E-commerce has become a more widely used method of shopping as a result of the growth of the internet and the widespread usage of mobile devices. Consumers can compare prices and goods from numerous stores while also benefiting from the ease and accessibility of online purchasing. M-commerce refers to the exchange of goods and services using mobile platforms. As technology advances, customers now spend more time connecting with one another via mobile phones, mobile apps or websites that are mobile-friendly internet is widely used to communicate the ideas and information rising

popularity of smartphones and tablets (Srivastava and Tiwari, 2021)ⁱ. Through mobile apps or websites that are mobile-friendly, customers may explore, evaluate prices, and make purchases. With the ability to purchase anytime, anyplace, and on the go, mobile commerce offers consumers ease and accessibility. Through social media sites like Facebook, Instagram, and Twitter, people may purchase and sell goods and services. Social media platforms may be used by merchants to reach and interact with their customers, and social commerce enables users to shop within their social media feeds. Consumers benefit from a more seamless and customized buying experience because of social commerce, which gives companies a new channel to reach customers and boost sales. The Internet has grown into a sizable worldwide marketplace for the exchange of goods and services during the last few decades. The forces of globalization, enhanced IT, and the spread of internet services have increased the prominence of online shopping as a phenomenon in consumer culture and hence this research will make an attempt to do in-depth study on impact of the online shopping on consumer buying behaviour.

Our daily lives now include considerable online purchasing. Consumers can conduct informational searches and make purchases of goods or services by interacting directly with the online retailer in the Internet-based electronic commerce environment. According to Bhatti and Rehman (2020)ⁱⁱ, online buying is "the means that allows the consumer to buy directly from the seller without any third person¹ on an Internet browser." The Internet has become a popular medium in a number of developed countries, providing a huge selection of products with round-the-clock accessibility and extensive geographic coverage. (Sylke, Belanger, and Comunale, 2002) ⁱⁱⁱResearch interest is growing, particularly in regards to the nature of internet information and how it affects purchasing habits. In addition to this phenomenal expansion, the peculiarities of the global electronic industry represent a singular opportunity for businesses to replace traditional retail stores with online enterprises in order to more effectively reach both current and potential clients. Companies face numerous physical challenges when they try to access international markets. As a result, the World Wide Web (WWW) gives companies the opportunity to tap into untapped markets.

Online shopping in India

Numerous considerations suggest that online shopping in India has the potential to grow rapidly. There are many factors that contribute to the e-commerce sector's growing expansion. The expansion of digital sales in India was encouraged through a variety of factors, including the digitization of the economy and the availability of affordable internet to the general public. India's e-commerce industry is extremely competitive. As per report Published by A. Minhas, Jan 5, 2023 There are a lot of domestic and international businesses competing for the largest market share. Amazon India was the top online retailer in the nation as of April 2017, with sales of over \$500 million USD. In the local market, the two biggest firms were Flipkart and Myntra^{iv}. As per report published by A. Minhas, Jan 5, 2023, "owing to the increasing internet user base and favourable market conditions, India has a lot of potential in the e-commerce industry. Growing at an exponential rate, the market value of the e-commerce industry in India was approximately 22 billion U.S dollars in 2018. This number was estimated to reach 350 billion U.S. dollars by 2030."

India's e-commerce market size from 2014 to 2018, with projections out to 2030

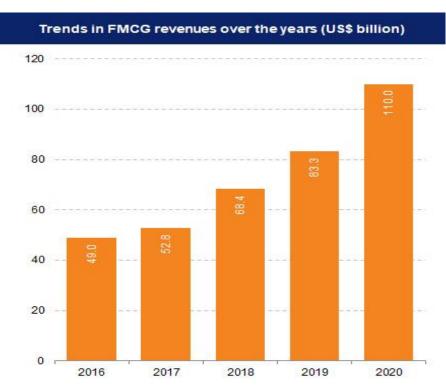
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Source: <u>file:///C:/Users/Ram%20Prosad%20Haldar/Downloads/India_%20e-</u>commerce%20market%20size%202030%20 %20Statista.html

Fast Moving Consumer Goods (FMCGs)

The primary industry responsible for the production, distribution, and marketing of fast-moving consumer goods is the consumer-packaged goods (CPG) industry. In terms of economic output, FMCG is India's fourth-largest sector. India has a middle-class population that is larger than the entire population of the USA, making it a country that no FMCG company can afford to ignore. As more people begin to climb the ladder of economic success and the public gains access to the advantages of economic advancement, the FMCG market in India keeps expanding. As per report by IBEF "E-commerce now accounts for 17% of the overall FMCG consumption among evolved buyers, who are affluent and make average spends of about Rs. 5,620 (US\$ 68). India's e-commerce industry recorded a 36.8% year-on-year growth in 2022. Indian e-commerce market is anticipated to reach a value of Rs. 26,459.18 billion (US\$ 319.3 trillion) by the end of 2027, expanding at a CAGR of ~26.71% during the 2022-27 period."



Source: https://www.ibef.org/industry/fmcg

Literature Review

Consumer buying behaviour

The American Marketing Association (AMA) defines consumer behaviour as "dynamic interaction of cognition and affect, environmental and behavioural events with which the human beings conduct exchange aspects of the lives". According to Schiffman and Kanuk (2007)^{vi}, study on consumer behaviour helps forecasting and understanding of topics including buying patterns, reasons for making purchases, and the subject of those purchases. The path that customer behaviour is anticipated to go, favoured trends in product development, characteristics of alternative communication methods, etc., are all revealed by consumer behaviour analysis. Analysis of consumer behaviour sees the consumer as an additional uncontrollable element in the marketing process who will construe the good or service based on its image, not just its physical attributes, but also on the social and psychological characteristics of the specific consumer or group of consumers. One of the fundamental tenets of consumer behaviour research is that people frequently buy things for their professed beliefs rather than for their main purposes (Stávková, Stejskal, and Toufarova, 2008)^{vii}

The Theory of planned behaviour (TPB)

The Theory of Planned Behaviour (Azjen, 1985, 1991) is an expansion of the Theory of Reasoned Action (TRA) (Azjen and Fishbein, 1980), which was required because the older model couldn't explain activities over which people have only partial volitional control. The Theory of Planned Behaviour (TPB) describes actions over which people have a limited amount of voluntary control. (Azjen, 1985^{viii}, 1991; Azjen & Fishbein 1980^{ix}). The Theory of Planned Behaviour states that human behaviour is determined by three types of considerations: behavioural beliefs, normative beliefs, and control beliefs. Behavioural beliefs are beliefs about

the likely outcomes of the behaviour, normative beliefs are beliefs about what other people would expect of you in a given situation. (Bosnjak, M., Ajzen, I., & Schmidt, P. 2020)^x

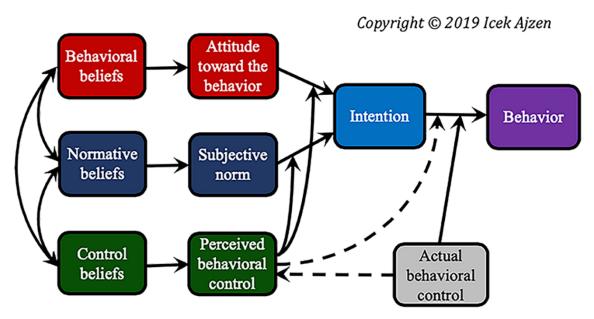


FIG: Graphical portrayal of the theory of planned behaviour (https://people.umass.edu/aizen/tpb.diag.html)^{xi}.

Online shopping

The internet is altering the way people shop and purchase goods and services, and it has quickly spread throughout the world. Shopping is the act of purchasing products and services from online retailers. Customers visit online retailers because of their value and beneficial effects. Over the past few years, a number of researchers have attempted to look at how customers see the barriers preventing the growth of online purchasing. According to Zhang and von Dran's (2000)xii research, some aesthetic components of a website are thought to be motivators for making a purchase, while other aesthetic components are hygiene criteria (i.e., needs) in eretailers' decision-making. It has also been discovered that colour and background graphics on websites influence consumer preference. Tractinsky and Rao (2001)^{xiii} made the case that users of computers, particularly those looking for online alternatives to the actual experience of buying, will value aesthetic designs just like buyers of other goods. The screen resolution and the hardware that is present at the consumer end of the channel are frequently tied to online restrictions. With symbolic, nonverbal elements—which can be made by images, colours, typefaces, movies, and music—the hedonic factors in building the website interface can be strengthened. According to Zeithaml (2002)xiv, great website design, efficient shopping, and on-time delivery are all essential for e-tailing to succeed. The additional e-store offerings include real-time delivery, a return and replacement process, a time limit for filling out an online order form, and a quick turnaround on client questions. Rabinovich (2004) and Cao and Zhao (2004)xv have identified the challenges of e-tailing industry. This challenge begins with the response time of the web-server; moves to the amount of time the customer must wait until the order ships, and also includes the time the shipping process takes. Online and traditional retail services were contrasted in a study by Bauer et al. (2006)^{xvi}. They have concluded that there are two clearly distinct phases to online retail services: the online customer engagement phase and

the offline fulfilment phase. A high-quality website must include both hedonic and utilitarian components, as they have already highlighted.

Perceived risk

Innovative customers are typically seen as having a broad personality attribute and being quite abstract. (Im, Bayus & Mason, 2003)^{xvii}. Online buying is anticipated to develop significantly in the future due to its many advantages over traditional retail, but there are also growing drawbacks to this mode of purchasing. (Ko et al., 2004)^{xviii}. Although there are many benefits that customers believe the Internet offers, it also exacerbates some of the uncertainties that come with making any kind of transaction. When making purchases on the Internet as opposed to traditional retail forms, consumers perceive a higher amount of risk. (Lee and Tan, 2003)^{xix}. Increased risk perception among consumers serves as a disincentive to make purchases. Numerous writers have noted that attitudes about usage, online shopping habits, and the intention to embrace e-commerce are all negatively impacted by the perceived danger associated with e-commerce (Zhang et al., 2012). xx Online shoppers may be reluctant to give credit card details to any commercial website, and they may not have enough faith in the majority of these websites to conduct business with them in exchange for money. Customers' disengagement from electronic transactions stems from their perceived risk, which makes them reluctant to use credit card information online (Hoffman et al., 1999). xxi But not every customer perceives risks and expenses in the same way. While some consumers view online shopping as unsafe and costly, others like its benefits, which include how simple it is to compare items and prices and get information. In any case, it is conceivable that customers' perceptions of threat will cause them to take into account various cues when determining how they feel about a website (Martin and Camero, 2009). xxii

Financial risk

Return policy

According to Narayan Janakiraman's $(2016)^{xxvi}$ research, return policy leniency may be classified along five dimensions: time, money, effort, scope, and exchange. Furthermore, there are differences between the return policy characteristics that affect purchases (money and effort leniency boost buy) and those that affect returns (scope leniency improves return while time and exchange leniency reduce return). Decisions about the return policy are mutually beneficial and complement approaches to price and product quality. (YongjianLi et.al 2013). **xxvii** The

well-known no-fault found phenomena, which can be brought on, for example, by a loose connection between parts or simple human mistake, was described by Shaomin Wu (2014)^{xxviii} as a realistic warranty services management issue. Faults may not always be identified in claimed items by warranty service agents. Further mentioned were the three warranty return rules, which determine whether or not new products should be shipped to customers making warranty claims. The best warranty durations under supply chain scenarios are then determined by calculating and contrasting the estimated costs of the policies.

Perceived behaviour control

By including a new construct called "perceived behavioural control" as a factor that affects both intention and conduct, Ajzen and Madden (1986)^{xxix} expanded the TRA as the Theory of Planned conduct (TPB). Customers' opinions about their capacity to perform a certain action are referred to as perceived behavioural control. TPB makes it possible to forecast actions over which individuals have only partial volitional control. Perceptions of both external (such as resource availability) and internal (such as self-efficacy) behavioural restrictions are reflected in perceived behavioural control. Planned behavioural control, or PBC, has been shown to have a direct impact on online buying behaviour (George, 2004).^{xxx} As an expansion of Fishbein and Ajzen's (1975)^{xxxi} Theory of Reasoned Action (TRA), Icek and Ajzen (1985)^{xxxii} introduced the theory of planned behaviour (TPB) for circumstances in which individuals lack total control over their actions.

Subjective norm

According to Taylor and Todd (1995)^{xxxiii}, when consumers have little practical knowledge to base their opinions on, subjective norms are more likely to have an impact during the early phases of innovation implementation. Online merchants have the ability to affect consumers' inclination to make purchases at this point in the evolution of attitudes (Yu & Wu, 2007)^{xxxiv}.

Delivery risk

Dan et al. $(2007)^{xxxv}$ discussed the possibility of a delivery loss resulting from misplaced, damaged, or shipped products after shopping to the incorrect location. Customers worry that a variety of factors could cause delivery delays, such as improper packaging and handling during transit, the delivery company not meeting their delivery window, or an unexpected delay in the goods' arrival (Claudia, 2012)^{xxxvi}.

Product risk

Similar to any other kind of online purchasing, the Internet makes it challenging for customers to inspect actual goods; instead, they must rely on the limited information and images displayed on computer screens (Jarvenpaa and Tractinsky, 1999)^{xxxvii}. According to Kim et al. (2008)^{xxxviii}, product risk is the belief that a product may not perform as planned after purchase. And the difficulty of consumers to fairly assess the product's quality online accounts for a major portion of the loss experienced when a brand or product does not live up to expectations (Bhatnagar et al., 2000)^{xxxix}.

Attitude

Lian and Lin (2008)^{xl} conducted a study on four distinct items, namely computer games, TV gaming systems, books, and online periodicals. The outcomes of the study indicated that customer views regarding online book purchases were adversely affected by personal privacy

concerns. The analytical findings showed that opinions toward online purchasing of TV gaming systems were significantly impacted by personal privacy concerns. According to Pratminingsih et al. (2013)^{xli}, student loyalty toward online buying is significantly impacted by satisfaction, trust, and commitment. In the words of Faqih & Khaled (2013)^{xlii}, customers' behavioural intention to utilize an online channel for purchase is directly influenced by their perceptions of risk, usefulness, and convenience of use.

Convenience risk

Customers' perceptions of difficulties placing an order, their inability to cancel an order once it has been placed, and the possibility of delays in product delivery or return are all considered convenience risks (Forsythe, Liu, Shannon, & Gardner, 2006)^{xliii}. Because of a dearth of information and a poor literacy rate, around 43% of purchases fail because the buyer is unable to locate the proper products or cannot finish the online transaction (Adnan, 2014)^{xliv}. Regretfully, the majority of people cannot understand English, and fewer than 1% of the population is internet literate (Aijaz & Butt, 2009)^{xlv}. However, according to some research, convenience risk has minimal impact on internet purchasing (Moshrefjavadi et al., 2012)^{xlvi}.

Technology innovation

Purchase intentions will suffer if information security measures are absent. Customers can discover the worth of products by utilizing website characteristics including efficient service quality, transaction and delivery capabilities, and high-quality product information. If online retailers can live up to the expectations of their customers in the virtual buying environment, this information security element will be sufficiently leveraged (Chang and Chen, 2008)^{xlvii}. Authentication security, information integrity, communication of non-repudiation, protection of personal privacy, and IT efficacy are all aspects of website security and privacy that many academics stress should be included. These aspects are all related to the features of websites. (Shin, 2010)^{xlviii}

OBJECTIVES OF THE STUDY:

- To identify the factors influencing consumers' online buying behavior.
- To explore the key FMCG product categories opted by online consumers.
- To study the usage of digital payment method in online shopping.

RESEARCH METHODOLOGY

METHODS

To determine the variables influencing the behavior of Indian online shoppers, a survey was constructed. The following variables are examined: perceived risks, perceived behavior control, technology specific innovation, demography, and service and infrastructure aspects. The questions were taken from earlier research. The item scales ranged from strongly agree (1) to strongly disagree (5). The survey was created in online google form.

PILOT STUDY

A small group sample (n = 20) was used for the survey's pilot testing, which was done in English. The subjects had no trouble understanding English. The pre-test's goal was to check the survey's content for comprehension and clarity. All parts that were either unclear, hard to

understand, or perplexing were to be flagged by the students. On the basis of the input from the pretest, the survey was revised.

PROCEDURE FOR COLLECTING DATA

An online survey was made in order to obtain the data. Questionnaire was created on google forms. As identified in literature review there is an enormous increase internet user base in recent years and therefore the researcher has opted to gather data in online mode.

The sample for this study was collected from Lucknow city of Uttar Pradesh, India. A total of 258 usable survey were obtained.

ANALYSIS

SPSS 20 was used to analyse the data. Using Varimax Rotation and Kaiser Normalization, Principal Component Analysis (PCA) was carried out on online shopping behaviour measures. The present study was conducted using a reduction technique. There was total 60 items measuring 9 variables other than the item asking for internet usage, FMCG product preference, pattern and demographic detail (17 items). The observed linked variables have been factored together using principal component analysis. Some items have been removed in light of the PCA results as a result of the items' cross-loading on other components. After rotation, components with absolute values more than 0.55 and eigenvalues above 1.00 were identified and given labels. Then, validity and reliability tests were carried out. Six factors were generated. The reliability test result indicated that as the construct measures are reliable with Cronbach's alpha over 0.80 except for subjective norm (0.777) and technologic specific innovativeness (0.787).

RESULTS AND DISCUSSIONS

Table 1: Distribution of respondents as per their background characteristics

AGE (IN YEAR)									
UNDER 21	21-30	31-40		41-50		50 ABOVE	TOTAL		
22 (8.5%)	149 (57.8 %)	70 (27.1%)		9 (3.5%)					258 (100%)
GENDER									
MAL	MALE FE				IALE	TOTAL			
187 (72	187 (72.5%)			71 (27.5%)					
		FAMI	LY SIZE						
LESS THAN 3	03-04	04-06		06- 08	08- 10	ABOVE 10	TOTAL		
18 (7%)	97 (37.6 %)	7' (29.5		40 (15.5 %)	12 (4.7 %)	14 (5.4%)	258 (100%)		
OCCUPATION									

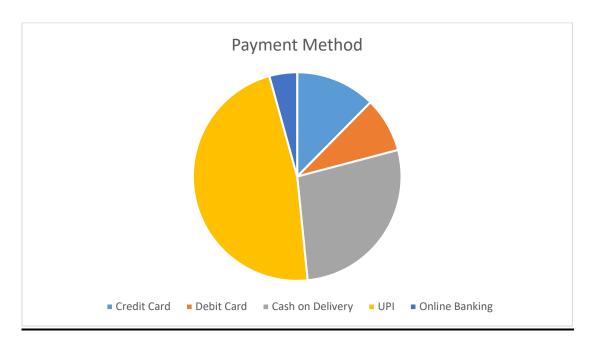
STUD ENT	PROFESSIO BUSINE		SERV	VICE	HOME MAKER	OTHER	TOTAL
85	65		91		8	9	258
(32.9%	(25.2%))	(35		(3.1%)	(3.5%)	(100%)
,			EDUCATION LEVE		EL		
HIGH SCHO OL	INTERMED	TERMEDIATE		UG		Ph.D.	TOTAL
7	8		14		89	12	258
(2.7%)	(3.1%)		(55	,	(34.5%)	(4.7%)	(100%)
	MADDI	ED	MARITA	L STATI			TOTAL
	MARRI	ED			UNMARRIEI)	TOTAL 258
	107 (41	.5)			151 (58.5)		(100%)
]	MONTH	LY FAMII	LY INCO	ME (IN INR)		/
BELO W 10000	10000-20000	20000 - 30000	30000-40000		40000- 50000	ABOVE 50000	TOTAL
22	17	24	28		30	137	258
(8.5%)	(6.6%)	(9.3%)	(10.9%)		(11.6)	(53.1%)	(100%)
	EXPER	IENCE ()F INTER	NET SHO	PPING (IN YE	CARS)	
<1	1 YEAR	01-02	03-	-04	04-05	MORE THAN 05	TOTAL
	20	23	4	5	54	116	258
((7.8%)	(8.9%)	(17.		(20.9%)	(45%)	(100%)
	MONTHLY	EXPEN	DITURE C	ON ONLIN	NE SHOPPING	` ′	
LESS	THAN 500	500- 1000	1000-	-2000	2000-4000	ABOVE 4000	TOTAL
	31 (12%) 43 (16.7 %) 68 (26.4%)		42 (16.3%)	74 (28.7%)	258 (100%)		
		ONI	LINE PAY	MENT M	ETHOD		
CRED IT CARD	DEBIT CARD	CASI	H ON DEL	IVERY	UPI	ONLIN E BANKI NG	TOTAL
32	22	71 (27.5%)		122	11	258	
(12.4%	(8.5%)		(27.5%)		(47.3%)	(4.3%)	(100%)

WEBS ITE	TV ADVERTIS EMENT	FRIE NDS	RELAT IVES	MAGA ZINE	NE WS PAP ER	EM AIL	SOCI AL MED IA	BO OK	TOT AL
87		37			11	1		1	258
(33.7%	23	(14.3	11	3	(4.3	(0.4	84	(0.4	(100
)	(8.9%)	%)	(4.3%)	(1.2%)	%)	%)	(32.6)	%)	%)

Sample and characteristics: The respondents' distribution according to their background characteristics is displayed in the table. It indicated that the total number of valid responses obtained were 258 out of which 72.5 % (187) were male and 27.5 % (71) were female. Out of 258 respondents 57.8% (149) respondents belong from 21-30 age group followed by 27.1% (70) from age group 31-40, 8.5% (22) from age group under 21, 3.5% (9) from 41-50 age group, and 3.1% (8) from age group above 50. And majority of respondents i.e.55% (142) are under graduate (around 55%). Out of total respondents 93% (240) of the respondents belong to household with 3 or more than 3 people. As far as respondent's household income is concerned around 65% (168) of respondent's household income above 40000 INR.

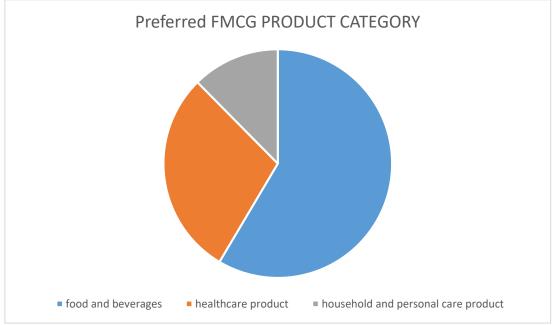
Online shopping experience and usage: Nearly 45% (116) of the respondents had been shopping online for more than five years, 38.3% (99) for three to five years, and only 43 (16.7%) were shopping for less than two years, and from the above table it can be said that that majority of respondents (around 66%) are using internet for shopping from more than 4 years. Out of all respondents—45% (106)—said that they spend more than Rs. 2000 INR online each month, followed by 26.4% (68) who spend more than Rs. 1000, 16.7% (43) who spend more than Rs. 500, and 12.4% (32) who spend less than Rs. 500. Of all respondents, 33.7% (87) learnt about online shopping from websites, and 32.6% (84) learned about it through social media. which in some ways highlights the significance of social media in marketing.

Preferred mode of payment in online shopping: The results reveal that the majority of respondents i.e. around 52% (47.3% (122) use UPI, and 4.3% (11) use online banking) use digital payment methods for online purchasing. Followed by cash on delivery 27.5% (71), credit card 12.4% (32) and debit card 8.5% (22).



Preferred FMCG product category over internet (0nline shopping):

FMCG Products are basically classified in three categories, that are (i) food and beverages (Cereal, bakery product, snacks, chocolates, ice-cream, tea/coffee/soft drink, processed fruits, dairy product, branded flour etc.) (ii) Healthcare product (Over the Counter Medicine, OTC), ethical drugs (range of pharmaceutical product),(iii) Household and personal care product (oral care, hair care, skin care, cosmetics / deodorants, perfumes, feminine hygiene and paper products, Fabric wash, household cleaners, etc.). Researcher has made an attempt to study which of this category is preferred while online shopping. From the finding it can be observed that the majority of respondents prefer to buy house hold and personal care product over internet 58.5% (151) followed by food and beverages 29.1% (75), and healthcare product 12.5% (32).



Factors affecting online buying behaviour of consumers: Descriptive statistics

Descriptive Statistics

	N	Minimum	Maxim	Mean	Std.
			um		Deviatio
					n
Perceived risk	258	12.00	55.00	30.8527	8.62681
Return Policy	258	3.00	15.00	6.3876	2.45365
Subjective Norm	258	4.00	20.00	9.9806	3.08688
Perceived Behaviour Control	258	4.00	20.00	12.2868	4.58163
Satisfaction	258	10.00	40.00	22.1899	6.18071
Technology Specific Innovation	258	4.00	18.00	9.4109	2.78996
Valid N (listwise)	258				

An overview of descriptive statistics for each of the variables being studied is provided in the initial output of the analysis. Here, information about the survey's mean, standard deviation, and number of participants (N) is provided. The most typical response in the given dataset is characterized by its mean value. As an outcome, there is no minimum quantity needed. Considering an analysis of the mean values in the above table, it can be concluded that the factor most influential in online buying behaviour of consumer is "perceived risk." The respondents' apparent substantial disagreement on the cost of the product role is indicated by the lowest number for "return policy," 6.3876. The functions that each variable plays in customers' decisions to purchase a product may all be understood in a similar manner.

Kaiser Meyer Olkin (KMO) and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Adeq	.881	
Bartlett's Test of Sphericity	Approx. Chi-Square	9028.591
	Df	1275
	Sig.	.000

In factor analysis, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity are crucial preliminaries that establish if the data is appropriate for revealing hidden variables. In order to assess the degree of correlation between the variables in the dataset, the KMO value looks at the percentage of variance that might be attributed to underlying causes. Since the KMO rating in this instance is 0.881, it falls into the "good" category by conventional standards. This suggests that the dataset's variables have enough variation in common to form meaningful groupings when factor analysis is performed.

However, Bartlett's Test of Sphericity looks at whether the correlation matrix differs considerably from an identity matrix, which is a matrix with no correlation between any of the variables. There may be sufficient correlations between the variables to move further with factor analysis if the test result is significant. With 1275 degrees of freedom, your data indicate an estimated chi-square value of 9028.591 and a p-value of 0.000.

Strong evidence that the variables in the dataset are associated is indicated by the p-value, which is significantly below the conventional cutoff of 0.05.

While Bartlett's Test of Sphericity verifies adequate correlations between variables, the KMO score of 0.881 demonstrates good sample adequacy. The dataset's appropriateness for factor or main component analysis is confirmed by these results.

Cronbach's alpha and factor loading from Principal Component Analysis

Latent variable		Constructs	Factor loading	Cronbach's alpha
	Financial risk	I'm concerned that if I shop online, my credit card information could be stolen and used fraudulently.	.700	.912
		If I shop online, the retailer may charge me more because they have my credit card information.	.617	
		I fear that the shop may have compromised the personal information I provided for the transaction.	.617 .768 .736 .762 .718 .701 .566 .664	
	Product risk	It's possible that my internet purchase will not arrive as planned.	.736	
		It's possible that I'll receive defective goods.	.617 .768 .736 .762 .718 .701 .566 .664 .682 .583 .757	
Perceived Risk		Evaluating the quality of items via the internet can be challenging.	.718	
	Convenience risk	Online product searches might be challenging.	.701	
		I can't wait for the merchandise to come if I order online.	.566	
		When I shop online, I can't check the product.	.664	
		When I shop online, I think it will be hard to resolve conflicts.	.682	
		Online shopping makes it difficult to cancel orders.	.583	
Return pol	icy	If a free return shipping option is not offered, I won't make an online purchase.	.757	.811
		I only shop online when I can return the item without any additional fees or requirements.	.798	
		If there isn't a money-back guarantee, I won't make an internet buy.	.797	
Subjective	norm	I enjoy going shopping with friends and family.	.623	.777

	I consider my friends' opinions to be crucial while making purchases	.675	
	I'll stand out if I use internet product reviews to share my experience.	.619	
Perceived Behavior	Since I don't have a computer at home, I don't shop online.	.820	.937
Control	I don't own a smartphone thus; I don't shop online.	.780	
	Since I don't own a computer with an Internet connection, I don't shop online.	.822	
	I don't use credit cards thus I don't shop online.	.795	
	The payment process is safe.	.577	.901
Satisfaction	The payment process is easy to use.	.574	
	Prompt delivery.	.701	
	The delivery fee is affordable.	.620	
	There are several distinct products to choose from	.704	
	The desired products are in stock.	.781	
	You may save time and money by shopping online.	.746	
	The post-purchase services meet expectations	.726	
	The product's packaging is adequate.	.791	
Technology specific innovativeness	I typically test out new technology before anyone else in my group does.	.664	.787
	When they need to attempt anything new, my peers come to me for advice.	.711	
	Despite the lack of assistance, I am comfortable making purchases online.	.636	
	After witnessing someone else use the Internet for purchasing, I feel comfortable doing the same.	.646	

This study explores a number of latent variables and the constructs that go along with them in order to better understand how consumers behave when they purchase online. These variables include perceived risk, return policy, subjective norms, perceived behavioural control, satisfaction, and technology-specific innovativeness. Cronbach's alpha values and factor loadings for each construct have been supplied, enabling us to evaluate their dependability and contribution to the corresponding latent variables.

SPSS 20 was used to analyse the data. Using Varimax Rotation and Kaiser Normalization, Principal Component Analysis (PCA) was carried out on online shopping behaviour measures. The present study was conducted using a reduction technique. There was total 77 items in the questionnaire out of which 17 items were asking for internet usage, FMCG product preference,

pattern and demographic detail and rest 60 items were measuring 9 variables. The observed linked variables have been factored together using principal component analysis. Some items have been removed in light of the PCA results. As a result of the items' cross-loading on other components. After rotation, components with absolute values more than 0.50 and eigenvalues above 1.00 were identified and given labels. Then, validity and reliability tests were carried out. Six factors were generated, after removing item which were cross loading, six factors were generated. They include: (i) Perceived Risk (ii) Return Policy (iii) Perceived Behaviour Control (iv) Satisfaction (v) Subjective Norm and (vi) Technology Specific Innovativeness.

Here is a summary of the results, their ramifications, and the study's future directions.

Perceived Risk

- Perceived Risk includes, financial risk, product risk, and convenience risk constructs.
- High Cronbach's alpha (0.912) indicates strong reliability in capturing perceived risk.
- Major customer issues are highlighted by constructs such as the fear of credit card fraud (.700), defective goods (.762), and the difficulty of resolving disputes online (.682).

Return Policy

- Constructs such as the importance of free return shipping (.757) and a money-back guarantee (.797) were assessed.
- A Cronbach's alpha of 0.811 indicates adequate reliability. Consumers highly value flexibility and guarantees when shopping online.

Subjective Norm

- Constructs like influence from friends (.675) and sharing experiences (.619) underscore the role of social interactions in shaping online shopping decisions.
- With a Cronbach's alpha of 0.777, the subjective norm is moderately reliable but points to social factors' influence on purchasing behavior.

Perceived Behavioural Control

- Barriers like lack of computers (.820), smartphones (.780), and credit cards (.795) directly hinder online shopping.
- A Cronbach's alpha of 0.937 shows very high reliability, emphasizing control over resources and access as pivotal determinants.

Satisfaction

- Constructs such as delivery timeliness (.701), product availability (.781), and post-purchase services (.726) strongly contribute to customer satisfaction.
- A Cronbach's alpha of 0.901 highlights the importance of these factors in retaining online shoppers.

Technology-Specific Innovativeness

- Early adoption of technology (.664) and comfort with self-directed online purchases (.636) reveal consumer openness to new technologies.
- With a Cronbach's alpha of 0.787, it is a reasonably reliable measure of technological readiness among shoppers.

FUTURE SCOPE OF THE STUDY

• Expanding Constructs and Latent Variables

A more sophisticated understanding of customer behaviour in the context of online buying is possible by extending constructs and latent variables. For example, psychological risks—the emotional strain or remorse that customers may experience if their expectations are not fulfilled—can be included in the scope of perceived risk. Similar to this, security risks—like worries about identity theft, account hacking, or the abuse of private information—can provide more in-depth information on what obstacles stand in the way of online transactions. Beyond perceived risk, examining concepts like customer loyalty is essential to comprehending longterm engagement and repeat purchase behaviour. Value-added services, consistent quality, and customized experiences are some examples of factors that impact loyalty and can shed light on client retention tactics. Furthermore, as it influences customers' confidence in the legitimacy of products, safe payment options, and dependable delivery, investigating trust in e-commerce platforms is essential. Last but not least, a brand's reputation—developed by favourable reviews, recommendations, and moral behaviour—can have a big influence on consumers' decisions to buy, underscoring the significance of credibility and dependability in creating a competitive edge for internet merchants. These enlarged constructions offer practical advice for creating e-commerce ecosystems that are more secure, dependable, and emotionally fulfilling.

• Cross-cultural comparison

Understanding the varied interests, behaviours, and perceptions of online shoppers across continents and cultural contexts requires cross-cultural comparisons. Certain consumers may favour convenience, trust e-commerce platforms, or perceive dangers differently depending on their cultural norms and beliefs. For instance, those who live in collectivist cultures—where social peace and community are valued—may be more influenced by subjective norms when it comes to internet purchasing since they are more likely to rely on friend and family recommendations. The influence of subjective norms may be lessened in individualistic cultures, on the other hand, where consumers may place greater emphasis on their preferences, independence, and advantages. Furthermore, customers' perceptions of security and financial risks can be influenced by cultural factors like uncertainty avoidance; societies with high levels of uncertainty avoidance are more likely to be sceptical about online transactions. Researchers can get important insights into how societal values impact categories like perceived risk, satisfaction, and loyalty by looking at these cultural differences. This can assist e-commerce companies adjust their tactics. This information can help localization efforts to improve consumer trust and engagement globally, including creating region-specific features, personalized suggestions, and culturally relevant marketing messaging.

• Impact of Emerging Technologies

Emerging technologies that address major customer concerns and improve satisfaction, such as blockchain, augmented reality, and artificial intelligence (AI), are completely changing the online shopping experience. Chatbots, sentiment analysis, and personalized suggestions are examples of AI-powered solutions that increase consumer engagement by offering immediate assistance and customized purchasing experiences. To increase customer satisfaction and decrease decision-making time, AI-powered recommendation systems, for example, assist customers in finding products that suit their tastes. Through the ability to see things in real-world settings, such as visually trying on clothing or observing how furniture fits in their house, augmented reality (AR) helps consumers bridge the gap between digital and physical purchasing, reducing product risk and increasing confidence in purchases. By enabling transparent and impenetrable transactions, guaranteeing product authenticity, and streamlining

return procedures, blockchain technology improves security and trust. By resolving frequent issues, these developments not only increase customer happiness but also promote technological innovation by empowering users to boldly embrace new tools and platforms. As these technologies develop further, their combination has the potential to completely transform e-commerce by establishing safe, engaging, and highly customized purchasing experiences, which will eventually spur industry innovation and customer loyalty.

• Integration with Marketing Strategies

Using research findings to develop focused marketing campaigns can greatly lower perceived risks and improve online shoppers' satisfaction. One successful strategy is personalized marketing, which makes use of customer information to provide content, promotions, and recommendations that are specifically catered to each individual. By emphasizing reliable companies, safe payment options, and user ratings that suit a customer's tastes, personalization can reduce perceived risks. For example, showcasing validated customer reviews and providing real-time support via chatbots can allay worries about product and financial hazards. Furthermore, convenience risks can be immediately addressed and perceived behavioural control can be enhanced by putting in place customized return policies, such as free returns, extended return windows, or hassle-free procedures. Given that they have options in case the product does not live up to expectations, these policies provide customers greater confidence in their purchases. Additionally, by demonstrating how other members of a consumer's social circle or community value the brand, targeted ads that prioritize community-oriented messaging—such as using social proof from influencers or user-generated content—can reinforce subjective standards. In an increasingly competitive e-commerce landscape, these tactics promote a great purchasing experience, repeat business, and long-term loyalty by lowering obstacles and establishing trust.

• Environmental and Ethical Considerations

Online consumers are increasingly being influenced by ethical and environmental factors as they grow more aware of social responsibility and sustainability. Nowadays, a lot of consumers consider the environmental effects of their purchases, like shipping-related carbon emissions and unnecessary packaging waste, when choosing where and what to buy. These ecologically sensitive customers can be attracted to retailers who use eco-friendly procedures, such as providing recyclable or biodegradable packaging and employing carbon-neutral delivery techniques. Furthermore, highlighting the availability of ethically sourced and fair-trade items builds confidence by tying the brand to the principles of social impact, transparency, and justice. By giving customers, the guarantee that their purchases benefit society and the environment, these methods not only lower perceived risks associated with ethical issues but also increase customer pleasure. Stronger emotional bonds with customers can be achieved by effectively communicating such initiatives through marketing, such as by emphasizing sustainability certifications or sharing anecdotes about the ethical creation of goods. E-commerce companies may stand out from the competition, encourage customer loyalty, and draw in a growing market of socially and ecologically conscious consumers by giving ethical and environmental issues top priority.

• Longitudinal studies

A dynamic method for comprehending how customer behaviour and views change over time is provided by longitudinal research, especially in the rapidly evolving field of online buying.

Researchers can spot patterns, changes, and causal links in attitudes, preferences, and behaviours by following the same individuals or consumer groups over time. Longitudinal research, for example, may show how technology developments—like the incorporation of augmented reality or AI-powered personalization—gradually affect perceived risk or customer pleasure. It can also evaluate how outside influences, like as shifts in the economy, social movements, or world events (like pandemics), affect priorities and purchasing behaviours. When examining generational disparities, such as how younger customers embrace cutting-edge technologies in contrast to older populations, these studies are very useful. Furthermore, longitudinal data can shed light on how publicized security breaches or steady service quality affect the development or decline of trust in e-commerce platforms over time. In addition to assisting companies in adjusting to new trends, this type of research enables them to predict future customer demands, create pre-emptive plans, and cultivate enduring client loyalty. E-commerce platforms can maintain their agility and competitiveness in a market that is continuously changing by comprehending these changing dynamics.

CONCLUSION

The data analysis yields important information about the elements affecting consumers' online purchasing decisions. According to the descriptive statistics, perceived risk has the greatest influence on customer decisions, as seen by the wide range of responses and the highest mean value (30.85). To foster confidence and promote online buying, e-commerce platforms must handle issues with financial, product, and convenience risks. On the other hand, the return policy has the lowest mean value (6.39), indicating that although it is significant, it could not be the main motivator in comparison to other aspects.

The Bartlett's Test of Sphericity (significant at p < 0.001) and the KMO measure of 0.881 attest to the sample's sufficiency and the suitability of factor analysis. Strong sampling adequacy is demonstrated by this high KMO score, guaranteeing the accuracy of the findings. Excellent internal consistency is indicated by the Cronbach's alpha values for all latent variables; the most reliable are perceived risk (0.912) and behavioural control (0.937). The constructs are further validated by the factor loadings, which emphasize the significance of comfort, safety, and control in the purchasing experience while highlighting important dimensions like financial risk (.700), product risk (.762), and convenience risk (.701) under perceived risk.

Overall, the study emphasizes how customer trust and online purchasing engagement may be greatly increased by addressing perceived risks, enhancing satisfaction, and utilizing technology-specific innovation. Personalized marketing plans, flexible and transparent return guidelines, and an emphasis on moral behaviour can all help to lower obstacles and promote enduring loyalty. To learn more about changing consumer behaviour, future studies could examine these factors in various technology and cultural situations.

LIMITATION

The study has a few limitations that may affect the generalizability of its findings. The study's sample composition is limited to Internet users, which is the first drawback. Because most of these users are seasoned and accustomed to shopping online, there may be a bias in favour of more seasoned Internet users. This could lead to an overrepresentation of people who are more familiar with the Internet and buying online, which could bias the results in favour of people who are more adept at using online platforms. Since novices and infrequent shoppers may have different perspectives of the advantages and disadvantages of online buying, the results may not accurately represent the attitudes, actions, and worries of these less seasoned Internet users.

The second constraint pertains to the sample's geographic scope, which was restricted to participants residing in the city of Lucknow. The study's conclusions might not apply to a larger population because it excluded people from other parts of India. The cultural, economic, and technological landscapes of India are diverse, and opinions toward internet shopping can vary greatly between states and towns. Therefore, it might be difficult to extrapolate the findings to the whole nation, and the study's conclusions might only apply to Lucknow's particular demographic and physical setting.

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