

A Psychometric Analysis of The Behaviour of Online FMCG Buyers: A Study

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Abstract: General Purpose: A market transition to Online e-tailers (Oe) from local Physical Retailers (PR) for daily requirements has huge insight. The aim of the present research is to analyse the factors influencing the behaviour of online FMCG buyers. Different online platforms offering a variety of FMCG have impacted their buying behaviour. The study has admitted comparative analysis of online FMCG buyers' agreements considering factors such as Product Quality and Range (PQR), Price Competitiveness (PC), Information Availability About Products (IAAP), Ease of Security in Shopping (ESS) and Ease of Product Return (EPR) and its variables-items, in overall forming study framework. Approach to Study: The researcher has undertaken an Integrative Approach (IA) for both, related to the literature reviewed and the survey so far observed. Materials/Methods: Both primary data through well-structured questionnaires from 300 online FMCG buyers from the Mumbai Metropolitan Region and secondary data from various published sources have been centred and cited to understand the syntactic research gap. The researcher has enforced Convenient Random Sampling to make the sample representative. Analytical Tools: The objectives were studied thoroughly and hypotheses were tested in SPSS. The researcher has used Kolmogorov-Smirnov (D-Statistic) and Shapiro-Wilk test (W-Statistic) to test data normality, Cronbachs' Alpha to test Data Reliability, Descriptive Statistics i.e. frequency and per cent count to describe data and Chi-square to measure significant associations and differences if any. Results: The researcher has drawn an epilogue purely on the basis of data collected and analysed. PPIEE variable and is found to be significant and calculated statistics by chi-square $211.040 \geq 101.879$ and $p(0.000) \leq$ level of significance (0.05) show PPIEE and demographic factors influence the behaviour of online FMCG buyers. Research Value: The researcher has extended the literature gap to validate and explore PPIEE variable items. The results will be helpful in presenting adequate psychometric evidence to measure the value of PPIEE and its influencing impact on the behaviour of online FMCG buyers in the Mumbai Metropolitan Region. Thus, the scientific approach to studying these variable items will contribute towards the advancement of the online marketing of FMCG. Novelty/Originality of this study: This paper gives a unique insight into PPIEE in MMR

Keywords: Product Quality and Range (PQR), Price Competitiveness (PC), Information Availability About Product (IAAP), Ease of Security in Shopping (ESS), Ease of Product Return (EPR), PPIEE, Online e-tailers, Integrated Approach (IA).

1. INTRODUCTION

A Marketing strategy is a plan of action designed to achieve the marketing objectives of a marketer. Marketing strategies play an important role in overall organizational growth. Hence it is necessary for an organization to predict the future business and plan and implement marketing strategies accordingly. The success of Fast-Moving Consumer Goods (FMCG) companies purely depends on their marketing strategies and the impact it has on consumers' purchasing behaviour. FMCG companies mainly concentrate on "Product Innovation", and understanding consumers' requirements and they may use strategies like Multi Brand strategy (MBP), Product Flanking (PF), Brand Extensions (BE), Building Product Lines (BPL), New Product Development (PD), Product Life cycle strategy (PLS) etc.

Fast-Moving Consumer Goods (FMCG) constitute a large part of consumers' budgets in all countries. Retail trade in these products, that is, their supply to households, has attracted considerable interest from consumers and policy-makers because a well-functioning retail sector is essential for the daily provision of these essential products at high quality and low cost. Fast Moving Consumer Goods (FMCG) are products that have a quick shelf turnover, at a relatively low cost and don't require a lot of thought, time and financial investment to purchase. Fast Moving Consumer Goods (FMCG) is a classification that refers to a wide range of frequently purchased consumer products including toiletries, soaps, cosmetics, teeth cleaning products, shaving products, detergents and other non-durables such as glassware, bulbs, batteries, paper products and plastic goods, such as buckets by many suppliers. Hence, this study focuses on evaluating the factors which influence the buying behaviour of consumers.

1.1. Background of the Study

MHB McDonald and L. De, Chernatony (2001), examined those factors which create and develop the promotion of brands on virtual marketing. Ramesh Kumar and JY Advani (2005), have studied mainly the factors influencing brand loyalty of consumers which affects their purchasing decisions related to FMCG. Selvaraj (2007), has observed "nearness" factor is noteworthy and "high price" is at the bottleneck for the rural consumers of FMCG. In the other research, it was observed that the quality was the significant driver to prefer a specific brand in washing soaps in the rural market, and when preferred brands were not accessible, customers purchased the brands available. Hence the high price and non-accessibility to preferred products were the key reasons for dissatisfaction amongst rural consumers.

Anandan et.al, (2007). Garga, et.al, (2009), surveyed 300 rural consumers in three districts of Punjab and found that the rural consumers prefer to purchase the goods as per their requirements at a lower price because they value money. He recommended FMCG companies to enter and tap the rural market in a phased manner. The Indian FMCG companies are now busy in formulating new competitive strategies for this untapped potential market. Therefore, a comparative study was made on the growth, opportunity, and challenges of FMCG companies in the rural market. In research, it was evidenced that the FMCG industry has grown in double fold in rural India and the buying attitude of rural consumers has transformed towards awareness and brand consciousness. Their socioeconomic classes were found to be key drivers in determining rural consumers' behaviour James R. Trat (2005). Tinne, W. S. (2011) have explored the impact of various variables like discount offers, various scheme, promotional activities, retail store offer, display of product, the behaviour of salesperson, popularity of the product, the influence of reference group, income level of consumers' and festival season, on consumer impulse buying behaviour. The sample size was only 50 consumers taken from two superstores in Dhaka city. This study is based on a very small sample that may not reflect the population characteristics.

Anwar-McHenry (2011) reported the outcomes of one of the few statistical analyses observing the potential role of the arts and culture in stimulating a sense of place and community cohesion in rural communities. She reviewed a rural community in Western Australia, gathering different kinds of demographic data and scores (on a 0 to 10 Likert scale) showing the personal value that respondents placed on the arts, self-rated life satisfaction, the perceived value of the arts to the community, and community satisfaction (direct cognitive well-being). Anwar McHenry then utilized simple regression analysis to gauge the connection between community satisfaction and other indicators and demographic variables (such as age, gender, and region type i.e., coastal, agricultural, or mining/pastoral). None of the demographic variables were critical nor was the personal value placed on the arts.

The study was conducted in four districts of Haryana by Tauseef, (2011) and attempted to find the variable factors that affect customers' impulsive buying behaviour in the FMCG sector considering the retail market in India. The impact of various impulse buying factors like sales and promotions, placement of products, window merchandising, effective price strategy etc., on customer buying behaviour has been analysed. A hypothetical model was created in this paper, which had been taken into consideration for our research work on the impulse buying behaviour of consumers. The study is based on the primary data collected from shopping malls, Handlooms and marts from the area of JODHPUR with the help of a structured questionnaire on a Likert scale. Data analysis has been done using SPSS software. The statistical analysis method employed in this study was Factor Analysis.

After a thorough analysis of the available data, it was found that since the income of each individual is increasing and more and more people are moving towards western culture in dressing sense, in eating etc., the purchasing power of people has really gone up and thus the impulsive buying of commodities is on a high trend mainly due to pricing strategies of retail players and full festival offers throughout the year.

Furajji, Łatuszyńska, and Wawrzyniak, (2012), have done an empirical study of the factors influencing consumer behaviour in the electrical appliances market. The research leads to a deeper understanding of the effect on customer purchasing behaviour of different factors. It analyses the relationship between various independent variables in the electrical appliances industry, such as economic, financial, medical, psychological, and marketing mix influences, and consumer behaviour (as of dependent variable). The research aims to establish the factors affecting consumer preferences and actions in Iraq's market for electrical appliances.

The data used to examine factors influencing the purchasing decision-making processes of customers were collected through a questionnaire conducted in Basra, a city in southern Iraq in December 2011. The study's key results revealed that, generally, the range of independent variables is weakly linked to the dependent variable. However, the in-depth analysis showed that aspects of social factors, physical factors, and advertisement combination are strongly linked to customer purchasing behaviour. Such analysis enables the seller to explore the rules for the decision-making of consumers.

Panipat, Jind, Kurukshetra and Gurgaon. Deliya, (2012), have studied the importance of packaging design as a vehicle for communication for packaged FMCG products. This research utilized a focus group methodology to understand consumer behaviour towards such products. The challenge for researchers is to integrate packaging into an effective purchasing decision model, by understanding Consumer's behaviour towards the packaging of FMCG products. When consumers search for the process information in-store, the product's package can contain relevant and useful information for the consumer. Product packaging forms the end of the 'promotion chain' and is close in time to the actual purchase and may therefore play an important role in predicting consumer outcomes. Packages also deliver brand identification and label information like usage instructions, contents, list of ingredients or raw materials, warnings for use and directives for the care of the product.

Chan Yew Ling (2013) has explored the drivers (i.e., factors) and their moderating variable that influence consumers' purchasing intention on green personal-care products. The results revealed that environmental attitudes and self-efficacy were important drivers that influenced the purchasing of green personal care products.

Jha (2013), analysed consumer preference and brand awareness with reference to FMCG in rural Bihar. He has selected 120 respondents from 5 villages in Bihar state. He discovered that rural consumers have become value-conscious and quality is significant in the context of rural purchase and consumption of FMCG. As indicated by the consequences of his investigation, attractive packaging made a favourable impression in the minds of rural consumers which impacted their buying behaviour. He has proposed that innovative promotional strategies be designed by rural marketers in such a way that rural consumers could comprehend easily.

Daud (2013), aimed to analyse the brand awareness in rural areas and to contemplate the interest of consumers in branded products of Fast-Moving Consumer Goods. He gathered primary data from the rural consumers of seven villages in two districts of Varanasi and Lucknow in Uttar Pradesh. He found that brand awareness in rural areas was expanding and the consumers both literate and illiterate preferred branded goods with the conviction that quality is guaranteed as the manufacturers are reputed companies.

Srivastava and Kumar (2013), analysed that the FMCG sector is a vital contributor to India's Gross Domestic Product. It has been contributing to the demand of lower and middle-income groups in India. Over 73% of FMCG products are sold to middle-class households and over 52% are in rural India. Rural marketing has become the hottest marketing arena for most FMCG companies. The rural India market is huge and the opportunities are unlimited. After saturation and cutthroat competition in urban areas, now many FMCG companies are moving towards the rural market and are making new strategies for targeting rural consumers.

In study by Ankit Katiyar and Nikha Katiyar (2014) found that bathing soaps are fast-moving consumer goods that have seen a surge in their sales in the past few decades in India more and more people are opening up to the idea of experimenting and trying out newer bath soap. This study attempts to cover the various factors that influence the buying decision of consumers who plan to buy and or use bath soap. The FMCG sector is the fourth largest sector in India touching everybody's life every day. The FMCG goods sector is a vital contributor to India's gross domestic product. Another research paper analyzed the factors affecting customers' buying intention towards branded apparel. Purchase intention is explained by brand-specific variables (perceived quality, emotional value) (Chitra. R., 2014). An Analytical Study result showed that, ever since the independence of India, because of some obvious reasons, marketing acquired a largely urban bias. It was the green revolution in the seventies which provided a much-needed boost to the agriculture-based rural economy in the country. Subsequently, many firms started showing interest in the rural markets and extended their penetration to reach smaller villages and towns.

Rani, P. (2014), explored the factors influencing consumer behaviour. Consumer buyer behaviour is influenced by cultural, social, personal & psychological factors. The study concluded to act as a consultant that will work to acquire customers for a good consumer-oriented business service provider. Conditions can be rendered optimal by keeping in mind factors affecting the target of consumer satisfaction can be accomplished.

In a study, Islam, M.R. et al. (2015) have found that the factors consumers consider for their purchasing decisions are brand image, cost and commitments, distinctiveness, prestige, and customer relationship. Except for distinctiveness, individuals with various education levels do not show different perceptions of these identified factors.

Kaushal (2016), stated that rural India has become one of the attractive markets for corporations in recent times. Urban markets are overwhelmed with many different consumer products, in this way marketers now find it hard to create heavy income flows from these markets. The study intends to give information on how corporations carry out the marketing process and the causes of the paradigm shift from Urban to Rural markets. The investigation likewise uncovers the challenges faced by the corporates while marketing their items in rural areas. Thinking about the expanding number of individuals investing increasingly more energy in social media, it is significant to study in which engagement is accepted to be directly and positively identified with various relationship results, for example, satisfaction, trust, full of affective commitment, and loyalty (Schwarz & Newman 2017).

Kelliher, et al. (2018) studied the role of trust in formal systems of micro-firms in rural communities in Canada, Ireland, and the US. They found that trust was a developing asset and fundamental to the sustainability of formal networks. Bridging capital between individuals of the local network and outside resources was particularly important to network members in small communities.

Johnson, et.al (2019) stated that this review of the scholarly and applied literature was undertaken with two goals: (1) To recognize what is known about arts and culture, innovation, creativity, and entrepreneurship in rural areas, and how these concepts work distinctively in rural and urban areas, and (2) To recognize issues that are not known about these concepts in rural settings and to help build up a powerful research agenda for the future.

1.2. Statement of the Problem

There are many e-commerce websites; offering a variety of FMCG, as per the requirements of the buyers with different terms and conditions. Though the online suppliers offer the same FMCG that too as per buyers' requirements, their agreement level to complete their needs to fulfil, differs from one to another. Hence, to delve into the present research study, the researcher has considered the factors influencing the behaviour of online FMCG buyers and marketing strategies planned and implemented by companies dealing with in Mumbai Metropolitan Region (MMR).

1.3. Objectives of the Study

- 1) To study the concept and nature of Fast-Moving Consumer Goods.

- 2) To study the socio-demographic profile of FMCG consumers.
- 3) To study the factors influencing the behaviour of online FMCG buyers.

1.4. Research questions

- 1) Are there any significant associations between demographic profile (includes gender, age group, educational qualification, occupation, annual income) and variables-items influencing the behaviour of online FMCG buyers?
- 2) Is there any significant difference between the frequency of purchase and factor variables influencing the behaviour of online FMCG buyers?
- 3) Is there any significant difference in variables-items influencing the behaviour of online FMCG buyers in the Mumbai Metropolitan Region?

2. MATERIALS AND METHODS

The objective of the research was to evaluate the validity and reliability of the Likert scale considering the factors which influence the buying behaviour of FMCG consumers. Such factors on the Likert scale have been designed after going through the literature so far have been surveyed. These factors on the Likert scale aim to evaluate the buying behaviour of FMCG consumers.

The Likert scale measures 5 variables, Product Quality and Range (PQR), Price Competitiveness (PC), Information Availability About Product (IAAP), Ease of Security of Shopping (ESS) and Ease of Product Return (EPR). Each variable is composed of 4, 2, 4, 8 and 3 items, which are evaluated by the Likert scale, consisting altogether of 21 items, in a range of points from 1 - 5, with 1 meaning "Total disagreement" to 5 meaning "Total agreement". The items were validated in terms of both, construct and clarity about questions by conducting a pilot study with 30 online FMCG consumers. During the pilot study, it was found that the questionnaire was fully understood by the consumer, hence no further adjustments of any variables and/or items under it. Thus, the present study instruments were validated in terms of their contents and significance.

3. DATA COLLECTION

The questionnaire was circulated virtually in Google form, through emails and other social networks. Table 1 shows the datasheet of the present research study in detail, showing that 342 responses were collected, of which 314 were found filled in complete, hence considered 300 completely filled responses about factors influencing the behaviour of online FMCG buyers from MMR.

Table: 3.1 Data Sheet of the Research

Head\Items	Description
Universe of the Study:	Online FMCG consumers
Geographical Scope:	Mumbai Metropolitan Region, State Maharashtra, Country India
Conceptual Scope:	FMCG and key factors influencing their buying behaviour
Answered Responses:	342
Responses Received in Complete:	314
Responses Eliminated:	28
Representative Sample Size:	300
Sample Design:	Virtually through Google Form
Data Collection Period:	20 November 2022 to 3 rd December 2022
Type of Sampling:	Random and Convenience Sampling

Statistical Technique:	Kolmogorov-Smirnov (K-S) test and Shapiro-Wilk test; to test Data Normality, Cronbach's Alpha (α); to test Data Reliability, Frequency- Per cent Count and Chi-square.
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Source: Researcher's Own Elaboration

Table: 3.2 Cronbach's Alpha Reliability Test

Variable Head	Cronbach's Alpha	N of Items	Internal Consistency
Product Quality and Range (PQR)	.864	04	Good Internal Consistency
Price Competitiveness (PC)	.719	02	Acceptable Internal Consistency
Information Availability About Product (IAAP)	.598	04	Poor Internal Consistency
Ease of Security of Shopping (ESS)	.739	08	Acceptable Internal Consistency
Ease of Product Return (EPR)	.544	03	Poor Internal Consistency
Overall Reliability (All Variables-items)	.729	21	Acceptable Internal Consistency (For all attributes)

Source: Compiled from Primary Data

4. RESULTS

4.1. Demographic Profile of FMCG buyers: To study the socio-demographic profile the respondents were asked questions on their gender, age, educational qualification, occupations and annual income.

Table: 4.1 Demographic Profile of Respondents

	Frequency	Per cent
Male	175	58.30
Female	125	41.70
Total	300	100.00
<p>The data for the present study has been collected from a total of 300 respondents male and female consumers of FMCG. It was found that 58.30% (i.e.175) respondents were male and 41.70% (i.e.125) respondents were female. The results show that male dominates the FMCG users.</p>		
Age (Years)	Frequency	Per cent
Below 18 Years	84	28.00
18 Years to 35 Years	101	33.67
35 Years to 50 Years	71	23.67
50 Years and Above	44	14.66
Total	300	100.00
<p>The data for the present study has been collected from a total of 300 respondents of different age groups of consumers of FMCG. It was found that 28.00 % (i.e. 84) respondents were from Below 18 Years, 33.67% (i.e.101) respondents from 18 Years to 35 Years, 23.67% (i.e.71) respondents were from 35 Years to 50 Years and 14.66% (i.e.44) respondents were from 50 Years and Above age group. The results show that the age group from 18 to 35 years dominates the FMCG buyers. It was found that these age groups prefer to have a comfortable and luxurious life. On the other hand, the respondents from the age group of 50 years and above were least in number.</p>		
Educational Qualification	Frequency	Per cent
HSC	65	21.67
Graduation	102	34.00
Post-Graduation	81	27.00
Professionals	52	17.33
Total	300	100.00

The educational qualification has been considered and data from 300 respondents have been collected from FMCG users in Mumbai Region. It was found that 21.67% (i.e. 65) respondents were HSCE, 34.00% (i.e.102) respondents were Graduation, 27.00% (i.e.81) respondents were Post-Graduated and 17.33% (i.e.52) respondents were Professionals. The results show that educational qualification does not make any difference in FMCG purchases.

Occupation	Frequency	Per cent
Private	123	41.00
Government	77	25.70
Profession	100	33.30
Total	300	100.00

The nature of occupation has also been making differences not only in purchasing FMCG but also in using the same; hence related data from 300 respondents have been collected from FMCG users. It was found that 41% (i.e.123) respondents were Private Employees, 25.70% (i.e.77) respondents were Government Employees and 33.30% (i.e.100) respondents were Professionals. 14.56% (i.e. 131) respondents were Professionals. The results show that there is no difference in educational differences among FMCG users.

Annual Income (Rs.)	Frequency	Per cent
Up to Rs. 100000	93	31.00
Rs. 100001 to Rs. 200000	69	23.00
Rs. 200001 to Rs. 300000	72	24.00
Rs. 300000 and above	66	22.00
Total	300	100.00

Income level has been considered and data from 300 respondents have been collected from FMCG. It was found that 31.00% (i.e.93) respondents were earning up to Rs. 1 lakh, 23.00% (i.e.69) respondents were earning Rs. 100001 Lakh to Rs. 200000 Lakh, 24.00% (i.e.72) respondents were earning Rs. 200001 Lakh to Rs. 300000 Lakh and 22.00% (i.e. 66) respondents were earning Rs. 300000 Lakh and above. The results show that while purchasing FMCG the income level of users has been considered.

Source: Compiled from Primary Data

4.1.2. Frequency of FMCG Purchases:

To study the frequency of purchasing FMCG, respondents were asked to express their responses to the following questions.

Table: 4.2 Frequency of Purchases

Period of Purchases	Frequency	Per cent
Once in a month	145	48.3
Twice in a fortnight	67	22.3
Thrice and more than thrice in a month	88	29.3
Total	300	100.0

The table shows that the frequency of purchasing FMCG is most in once in a month. However, there is a negligible difference between twice in a month and thrice and more than in a month.

Source: Compiled from Primary Data

4.1.3 Factors Influencing Buying Behaviour of FMCG Users:

To study the factors influencing the buying behaviour of FMCG users, the respondents were asked to express their opinions on a five-point scale. The codes were;

SD = Strongly Disagree coded as 1

D = Disagree coded as 2

NAND = Neither Agree nor Disagree coded as 3

A = Agree coded as 4

SA = Strongly Agree coded as 5

The details of the responses are as follows;

Table: 4.3 Frequency and Percent Count of Factors-Variables

Sr. No.	Factors Influencing Buying behaviour	SA		A		NAND		D		SD	
		F	%	F	%	F	%	F	%	F	%
(A)	Product Quality and Range (PQR):										
1.	Quality of product	104	16.00	67	10.00	51	17.0	30	22.30	48	34.70
2.	Product filter availability	76	25.30	85	28.30	93	31.00	31	10.30	15	05.00
3.	Product variety available	98	32.70	70	23.30	77	25.70	38	12.70	17	05.70
4.	Brand options available	104	34.70	59	19.70	59	19.70	42	14.00	36	12.00
(B)	Price Competitiveness (PC):										
5.	Low prices than offline shopping	81	27.00	66	22.00	55	18.30	62	20.70	36	12.00
6.	Discount / Sale available	95	31.70	59	19.70	83	27.70	44	14.70	19	06.30
(C)	Information Availability about Product (IAAP):										
7.	The similarity between product shown and delivered	98	32.70	78	26.00	46	15.30	50	16.70	28	09.30
8.	Availability of product detail	77	25.70	81	27.00	92	30.70	32	10.7	18	06.00
9.	Availability of product reviews	88	29.30	76	25.30	75	25.00	42	14.00	19	06.30
10.	Availability of product comparison	103	34.30	62	20.70	66	22.00	43	14.30	26	08.70
(D)	Ease and Security of Shopping (ESS):										
11.	Ease of ordering	79	26.30	85	28.30	48	16.00	58	19.30	30	10.00
12.	Payment options available	74	24.70	67	22.30	102	34.00	37	12.30	20	06.70
13.	Security in online payment	89	29.70	65	21.70	77	25.70	48	16.00	21	07.00
14.	Product delivery time	97	32.30	74	24.70	57	19.00	48	16.00	24	08.00
15.	Website content available in regional language	86	28.70	72	24.00	61	20.30	54	18.00	27	09.00
16.	24-hour shopping facility	91	30.30	68	22.70	67	22.30	43	14.30	31	10.30
17.	Customer support	89	29.70	59	19.70	68	22.70	43	14.30	41	13.70
18.	Website loading time	88	29.30	61	20.30	76	25.30	48	16.00	27	09.00

(E)	Ease of Product Return (EPR):										
19.	Return option	64	21.30	62	20.70	82	27.30	61	20.30	31	10.30
20.	Refund policy	70	23.30	92	30.70	77	25.70	43	14.30	18	06.30
21.	The time limit for product return	84	28.00	70	23.33	69	23.00	49	16.33	28	09.34

Source: Compiled from Primary Data

4.2 Inferential Statistics

Inferential Analysis and its calculated statistics are used to generalise the results on the basis of calculated and observed values from a randomly selected sample studied. Thus, for the present research study, the researcher has conducted measures of statistical analysis according to the requirements and suitability of the data set.

4.2.1. Testing of Hypothesis and Interpretations:

Research Question 1:

1. Is there any significant association between demographic profile (includes gender, age group, educational qualification, occupation, annual income) and variables-items influencing the behaviour of online FMCG buyers?

To test the above main hypothesis, the researcher has considered the socio-demographic profile and variables-items influencing the behaviour of online FMCG consumers.

Table: 4.4 Demographic Profile and Factor-Variables Influencing Behaviour of FMCG Online Buyers

Socio-Dem. Profile & Calculated Statistics	Gender	Age	Educational Level	Occupation	Annual Income
Calculated Chi-Square	8.333 ^a	23.120 ^c	18.587 ^c	10.580 ^d	6.000 ^c
Table Value (@ 5% I.o.s.)	3.841	7.815	7.815	5.991	7.815
Degree of Freedom	1	3	3	2	3
Asymp. Sig.	0.004	0.000	0.000	0.005	0.112

Source: Compiled from Primary Data

The table above shows;

(A) Relationship between Gender, Age, Educational Qualification and Occupation and factor-variables influencing the behaviour of online FMCG buyers:

It was observed that the calculated chi-square value for gender, age, educational qualification and annual income is 8.333, 23.120, 18.587 and 10.580 is greater than its Critical Value 3.841, 7.815, 7.815 and 5.991 (obtained from the table @5% Level of Significance with a Degree of Freedom 1, 3, 3 and 2) and the p-value 0.004, 0.000, 0.000 and 0.005 lower than its Level of Significance 0.05.

Interpretations: It was observed that there is a significant association between gender, age, educational qualification occupation and factors influencing the behaviour of online FMCG buyers.

Inferences: Hence, the Alternate Hypothesis, "There is a significant association between demographic profile (includes gender, age group, educational qualification and occupation) and factor variables influencing the behaviour of online FMCG buyers", is Accepted.

(B) Relationship between Annual Income and factor-variables influencing the behaviour of online FMCG buyers:

Observations: It was observed that the calculated chi-square value for an annual income of 6.000 is lower than its Critical Value of 7.815 (obtained from the table @5% Level of Significance with a Degree of Freedom 3) and the p-value is 0.112 greater than its Level of Significance 0.05.

Interpretations: It was observed that there is no significant association between annual income and factors influencing the behaviour of online FMCG buyers.

Inferences: Hence, the Null Hypothesis, “There is no significant association between demographic profile (includes annual income) and factor variables influencing the behaviour of online FMCG buyers”, is Accepted.

Research Question 2:

2. Is there any significant difference between the frequency of purchase and factor variables influencing the behaviour of online FMCG buyers?

Table: 4.5 Frequency of Purchases and Factor-Variables Influencing Behaviour of Online FMCG Buyers

Calculated Statistics	Frequency Of Purchase
Chi-Square	8.333 ^a
Table Value (@ 5% l.o.s.)	3.841
Degree of Freedom	1
Asymp. Sig.	0.004

Source: Compiled from Primary Data

The table above shows;

(A) Relationship between frequency of purchase and factor-variables influencing buying behaviour of consumers purchasing FMCG products:

Observations

It was observed that the calculated chi-square value for the frequency of purchase is 8.333 greater than its Critical Value of 3.841 (obtained from the table @5% Level of Significance with a Degree of Freedom 1) and the p-value is 0.004 lower than its Level of Significance 0.05.

Interpretations

It was observed that there is a significant difference between the frequency of purchase and factor variables influencing the behaviour of online FMCG buyers.

Inferences

Hence, the Alternate Hypothesis, “There is a significant difference between the frequency of purchase and factor variables influencing the behaviour of online FMCG buyers”, is Accepted.

Research Question 3:

3. Is there any significant difference in variables-items influencing behaviour of online FMCG buyers in the Mumbai Metropolitan Region?

To test the above hypothesis, the researcher has considered the variable items as named in and related data collected in terms of variables-items influencing the behaviour of online FMCG buyers.

Table: 4.6 Factors-Variables Items Influencing Behaviour of Online FMCG Buyers

Variable-Item	Chi-Square value		Degree of Freedom	P-value	(Difference\ Association)	Results
	Calculated Value	Table Value (@5% I.o.s.)				
Product Quality and Range (PQR)	54.416	21.026	12	0.000	Significant	$54.416 \geq 21.026$ and $p(0.000) \leq I.o.s. (0.05)$ Hence, H_1 is Accepted.
Price Competitiveness (PC)	15.498	9.488	4	0.003	Significant	$15.498 \geq 9.488$ and $p(0.003) \leq I.o.s. (0.05)$ Hence, H_1 is Accepted.
Information Availability About Product (IAAP)	30.217	21.026	12	0.002	Significant	$30.217 \geq 21.026$ and $p(0.002) \leq I.o.s. (0.05)$ Hence, H_1 is Accepted.
Ease of Security of Shopping (ESS)	49.755	36.415	24	0.004	Significant	$49.755 \geq 36.415$ and $p(0.004) \leq I.o.s. (0.05)$ Hence, H_1 is Accepted.
Ease of Product Return (EPR)	17.399	15.507	8	0.049	Significant	$17.399 \geq 15.507$ and $p(0.049) \leq I.o.s. (0.05)$ Hence, H_1 is Accepted.
Overall (All variable-item)	211.040	101.879	80	0.000	Significant	$211.040 \geq 101.879$ and $p(0.000) \leq I.o.s. (0.05)$ Hence, H_1 is Accepted.

Source: Compiled from Primary Data

a. Chi-Square Test

b. Grouping Variable: Benefits of Credit Card

Observations: From the table above it is observed that the overall calculated Chi-Square Value 211.040 is greater than its Critical Value 101.879 (obtained from the table at @ 5% Level of Significance with a Degree of Freedom 80) and also p-value is 0.000, which is less than the Significant Value 0.05 i.e. 5%.

Interpretation: Hence, the researcher Accepts an Alternate Hypothesis at a 5% Level of Significance with a Degree of Freedom of 80 for the Difference in (factors) variables- items influencing the behaviour of online FMCG buyers. Hence, the Result is Significant.

Inferences: Hence, it can be concluded that there is a Significant Difference in (factors) variables-items influencing the buying behaviour of online FMCG buyers. Therefore, the Alternate Hypothesis, "There is a significant difference in variables-items influencing the behaviour of FMCG online buyers", is accepted (It is Accepted).

5. DISCUSSIONS

The present research study has used a Likert scale measuring the factors influencing the behaviour of online FMCG buyers, with its validity and reliability in the Mumbai Metropolitan Region. The Likert scale used in the study has given variables-items, which guides organisations to promote and satisfy them after understanding their buying behaviour. The Likert scale provides valid scores and interpretations based on what is helpful to infer their buying behaviour.

The findings of the present research study evidenced generalisation not only in the Mumbai Metropolitan Region but also in other parts of the country India. The reliability of the measuring scale of 0.729 shows Acceptable Internal Consistency. The calculated statistics by chi-square method, at a degree of freedom at 1 for gender, 3 for age, educational qualification and annual income and 2 for occupation is 8.333, 23.120, 18.587, and 10.580 is greater than the significant value 0.004, 0.000, 0.000 and 0.05 at a 5 % significant level, showing a significant association

between demographic profile (includes gender, age group, educational qualification and occupation) and factor-variables influencing buying behaviour of consumers purchasing FMCG products and at a degree of freedom 3 for annual income is 6.000 is greater than the significance value 0.112 at 5 % significance level; showing no significant association between demographic profile (includes annual income) and factor-variables influencing buying behaviour of consumers purchasing FMCG products.

Further, it was found that there is a significant difference between the frequency of purchase and factor variables influencing the buying behaviour of consumers purchasing FMCG products; from the calculated chi-square value 8.333 is greater than the significance value of 0.004 at a 5 % significance level. Further, it was found that the variables named Product Quality and Range (PQR), Price Competitiveness (PC), Information Availability About Product (IAAP), Ease of Security of Shopping (ESS) and Ease of Product Return (EPR) found to with highest frequency for total agreement to be influencing the buying behaviour of online FMCG consumers.

The scale for variables-items used in the present study will be useful to the company's making decisions and promoting FMCG on online platforms to tempt potential market base. Such companies focussing on key variable items can determine the exact buying pattern and cynosure factor, which is impacting on buying behaviour of online FMCG consumers.

CONCLUSION

The newly emerged online business has narrowed the market to one touch. The present research encompasses the factors influencing the buying behaviour of online FMCG consumers. The scale used to measure the variables-items includes Product Quality and Range (PQR), Price Competitiveness (PC), Information Availability About Product (IAAP), Ease of Security of Shopping (ESS) and Ease of Product Return (EPR), useful to those interested who considered while putting up their business FMCG online; not only to satisfy and retain current consumers but also to create the potent market base. The results help those competitive companies, which are looking for every opportunity to work on their commercial strategies and offer targets to have comparatively better shopping escapade; based on variables-items studied.

With a conceptual and geographical scope, the researcher has drawn results purely on the basis of data collected and analysed. In the midst of the limitations of the study, the researcher has considered 300 online FMCG buyers in the Mumbai Metropolitan Region and the factors influencing their behaviour, which will be an alarm for future studies with different objectives, types and nature of goods and thus forming a different group of consumer-users, new research questions, another geographical area like in rural as a study universe; hence these confirm the validity for the future research.

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