Research Article

Exploring The Factors Influencing Customer Behavior Pertaining to The Purchase of Smart-Phones: A Study of Ncr Region

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Abstract: Today, mobile communication technology has emerged robustly and having inevitable presence in all spheres of life and society to meet out the needs of interaction, henceforth conducting business globally. Use of smart phones has increased manifold in our day-to-day life. Just as repercussion of consumers' rotational preferences and exigencies, the amplification of remote communication technology e.g. mobile phone, Global Positioning System (GPS) and wireless networks are persistently evolving and upgrading. Consumers' vibrant preferences and purchasing decision on mobile phones are being affected by numerous external and internal factors. Various studies have been justified and concluded regarding the exploration of factors that influence the consumer purchase decision pertaining to cellular phones. The prime goal of this research study is to ascertain the critical determinants (factors) that dominate the purchasing behavior of customers pertaining to smart-phones in NCR region. The data of 473 respondents has been collected through a structured questionnaire to scrutinize the determining factors of purchasing behavior. The result reveals that five variables viz. price, technical features, camera, promotional activities and social influence plays important role as the base of thought process for purchasing the product. The study also suggests that price; technical features and promotional activities have significant contribution in the purchasing behavior of the buyers.

Keywords: Purchasing Behavior, Brand Name, Factor analysis, Pearson's correlation, Smart-phones

INTRODUCTION

A cellular device is fundamentally manufactured, architectured and introduced to communicate between two individuals, conveying text messages and carrying-out the elementary functions, nonetheless mobile phone underwent several transformations, increasing its performance significantly over a period of time, emanated as per the requirements of mobile phone users (Kushchu, 2007; Hakoyama et al. 2011). At present, mobile phones are referred to as "smart phones" because, in contrast to more antiquated communication devices like mobile phones, they enable more advanced connectivity and computer capacity (Qun et al. 2012). The rapid advancements in technology have presented marketers with more affordable means of promoting their goods (Zernigah et al., 2012). Through social networking sites and mobile devices, people stay in touch with their known, near-dear and family (Suki et al. 2013). Due to its powerful and impressive applications—such as online shopping, bill payment, banking, and email—smartphones have become an indispensable part of people's life (Barot et al. 2014**).**

Due to the scaling competition and advance changes, the communication devices market viz. Cellular phone is highly-unstable. Hence, consumers are more concerned about new technologies that could replace their phones at different time periods. The rapid advances in technology have made phones easily interchangeable. As a result, it is crucial to examine the variables that actually influence how customers behave while making purchases. There is ample data to suggest that users select their phones based on a variety of variables, including cost, brand name, social impact, ease of handling, features, durability, appearance, and size etc. Therefore, it is imperative for all mobile phone manufacturers to investigate customer purchasing decisions and clarify the determining variables that ultimately clarify and ascertain consumer perceptions among different brands of phones. Hence, the study will centre on exploring the elements that affect consumers' decisions to buy mobile phones in the NCR region.

Problem Statement

People's behavior is being influenced by smart-phone technology, particularly that of young adults; yet, the current polls that have been conducted are insufficient. There is a lack of knowledge regarding appropriate behavior and customer preferences around the use of smart-phones (Osman et al. 2012). Inevitably, the telecom industry have experienced drastic and numerous transitions or evolutions in the context of mobile phones. Periodically, new smart-phone models are introduced to the market with the goal of gaining uncompromising domination. The shift in the smart phone market has had an impact on consumers' choices and motivations for making smart phone purchases.

Research Questions

Q1. What are various critical factors that dominate the purchasing behavior of the customers?

Q2. Is there any substantial or significant association of price, technical features, camera, promotional activities and social influence with the purchasing behavior of smart phones?

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Research Objective

The purpose of the research study is to ascertain the factors having significant influence on the purchasing behavior for smart phones among customers of NCR Region.

Research Hypotheses

H$_1$: The price of smart-phones and purchasing behavior are significantly correlated.

H$_2$: Technical characteristics and smart-phone purchasing behavior are significantly correlated.

H$_3$: The purchasing behavior of smart-phones and its camera are significantly correlated.

H$_4$: Promotional activities and smart-phone purchasing behavior are significantly correlated.

H$_5$: Social influence and smart-phone purchasing behavior are significantly correlated.

REVIEW OF LITERATURE

There are various human and environmental determinants that affect customers to take a decision about any service or product, including smart phones. Singh et al. (2009) executed an exploratory study with a title "Mobile Handset Buying Behavior of Different Age and Gender Groups" seeks to investigate how different genders and age groups assign varying degrees of priority to different issues. The data of 240 respondents was compiled; furthermore, the data was examined using a two-way ANOVA and the convenience sampling technique. The findings divulged that People in the 18–30 age range were less concerned with price and more focused on "brand," "physical appearance," "core technical features," and "value added features." Moreover, "price" has become more significance among those in the 50+ age range. The ANOVA results showed that every variable in the study was independent, meaning that neither gender nor age, nor their interactions, had any effect on any of the variables.

Das (2012) conducted research to understand the mobile phone purchasing behaviors of young individuals in coastal regions of Odisha, India. The study utilized an empirical methodology based on survey data collection. Upon analyzing the survey results using percentage tests, paired t-test models and chi-square tests, the findings divulged that person in these districts tended to purchase mobile phones through credit systems.

Yee et al. (2013) conducted study on the elements influencing Malaysian consumers' decisions to acquire mobile phones and how these aspects relate to concerns about social impact, product, brand, convenience, and affordability. According to this study, in order for marketers to stay competitive, they must comprehend how consumers make decisions about what to buy.

Uddin et al. (2014) studied the variables influencing consumers' purchasing decisions in Khulna city. A practical sampling technique was used to choose study participants. A systematic questionnaire was used to conduct the research. Using factor analysis method, the factors impacting purchasing decisions were identified. Physical characteristics have been identified as the most important considerations, followed by cost, size, charging capacity, operational capacity, weight, recommendations from friends and coworkers, and ads. Uddin et al. (2015) conducted research on the variables influencing mobile phone purchase decisions. The literature review was used to create the 21-item instrument. Kaiser-Mayer-Olkin (KMO), Bartletts, and reliability tests were used to examine the information gathered from 432 individuals. Major characteristics that were identified included pricing, convenience of use, physical qualities, brand image, social identity, and distinctiveness. Joshi et al. (2016) gave a study on the variables that can influence a consumer's decision to buy. A total of 306 participants provided information about the following factors: technology, hardware, brand, basic, and financial. Rahim et al. (2016) investigated the variables influencing Universiti Teknologi MARA students' intentions to acquire smart-phones in Kedah, Malaysia. Analyzing the data, collected from 367 students, they highlighted that brand name, social influence and product features have notable relationship with buying intension of smart-phone. Walia et al. (2017) carried out an investigation of the variables impacting mobile phone purchases made by consumers. The identified factors were various high-end features of mobile phone like operating system, camera, etc., which was observed from 300 participants. Trivedi et al. (2018) carried out a study on consumer purchase intentions for smartphones, 151 respondents were selected from Rajkot-based customers using a non-probability convenience sampling method. A systematic questionnaire with 22 items was used to collect data in order to determine the relative impact of consumer purchasing behavior with regard to smart-phones. According to the survey, seven key components identified that influence consumers' intentions to purchase smartphones: price, promotional offers, brand image, service center, product features, and smartphone looks. Chen et al. (2018) explored how social factors shape consumer attitudes toward smartphone brands. The authors analyzed the role of social networks and interpersonal connections in influencing consumer perceptions and preferences. Wang et al. (2019) examined the influence of social media marketing; this study explores how social media activities impact consumer intention to purchase smartphones. The authors investigated the effectiveness of social media strategies in influencing consumer perceptions and purchase decisions. Nguyen et al. (2020) focused on the perceived usability of smartphones. This empirical study examined how ease of use influences consumer intention to adopt these devices. The authors investigate the user experience aspects that affect consumers' decisions to embrace smartphone technology. Ahmad et al. (2021) focused on the role of trust in online reviews. This study investigated how consumer trust in online information influences their intention to purchase smartphones. The authors explored the impact of online reviews on shaping consumer perceptions and decisions.

Research Framework
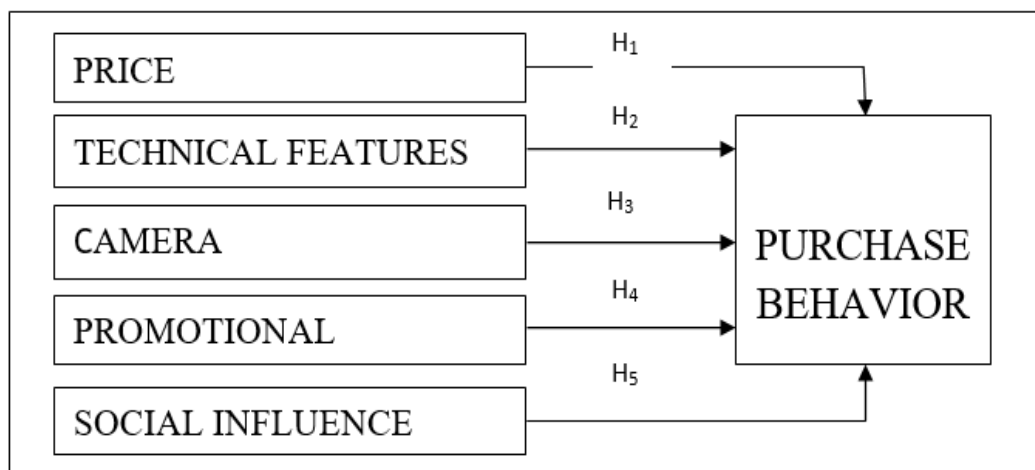
RESEARCH METHODOLOGY

Data Sample
This research study adopts primary data, collected through a survey questionnaire, with 13 items, on a Likert-scale (1 to 5) (Point Ranking) from 473 respondents of NCR Region, using Convenience Sampling Method.

Tools & Techniques
Descriptive statistics is performed to have an overview of the data. Factor Analysis is carried out to make out the important constructs. Reliability Analysis Test is performed to validate the constructs and KMO & Bartletts' test of sphercity has done to validate the sample adequacy and to validate the hypothesis that variables are correlated, respectively.

Pearson's correlation study is performed to ascertain the significant association of the variables with the purchasing behavior.

DATA ANALYSIS
The goals of data analysis are to evaluate the hypotheses generated for the study objectives (inferential analysis) and to obtain a summary of the data (descriptive analysis). SPSS 29.0 and STATISTICA 14.0.1 are used to conduct the data analysis in this research study.

FINDINGS
Table 1 shows the respondents' descriptive features. Twenty to twenty-four years old made up 39.96% of the total responses, with 23.47% of respondents falling into this category, and 17.55% of respondents falling into the 25 to 29 age range. Ages 30-34 make up 7.82% of the sample, while those over 35 make up 11.21% of those surveyed for this smart-phone study. In terms of gender background, 24.70% of respondents are female, while 75.30% of respondents are male.

Table1. Descriptive Statistics

Items	n	%
Age (Yrs)		
• 15-19	111	23.47
• 20-24	189	39.96
• 25-29	83	17.55
• 30-34	37	7.82
• 35 & Above 35	53	11.21
Gender		
• Male	356	75.30
• Female	117	24.70
Family Income (Rs/month)		
• Below 20,000	184	38.90
• 20,000-50,000	211	44.60
• 50,000-1,00,000	64	13.50
• Above 1,00,000	14	3.00

Under the scope of current study, 39.96% of respondents belong to the age group of 20-24 years, followed by 23.47%, the age group of 15-19 years. As far as family income is concerned, 38.90% of respondents lie below Rs.20,000. 44.60% and 13.50% are in the bracket of Rs.20000 to Rs.50000 and Rs.50000 to Rs100000. Only 3% of respondents' family income is above Rs.100000.
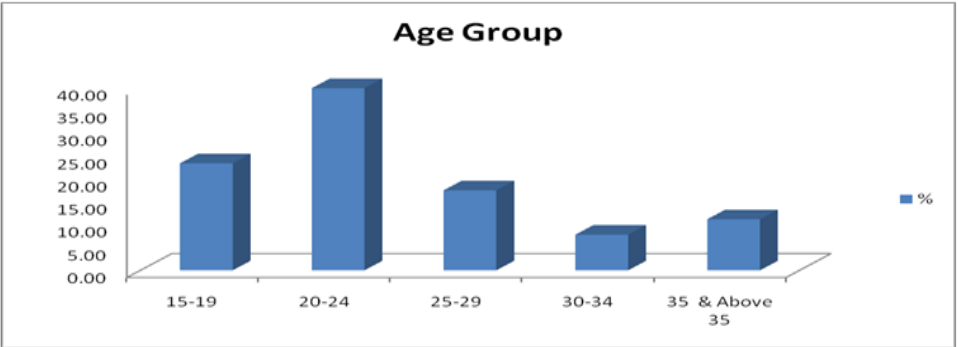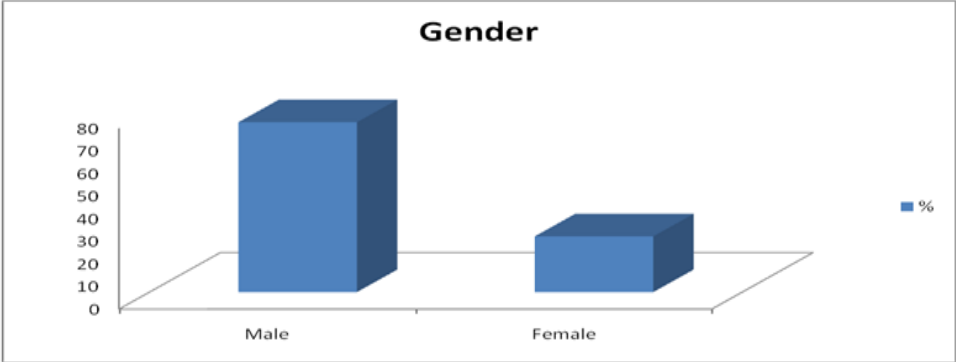

Fig1. Age Group Percentage
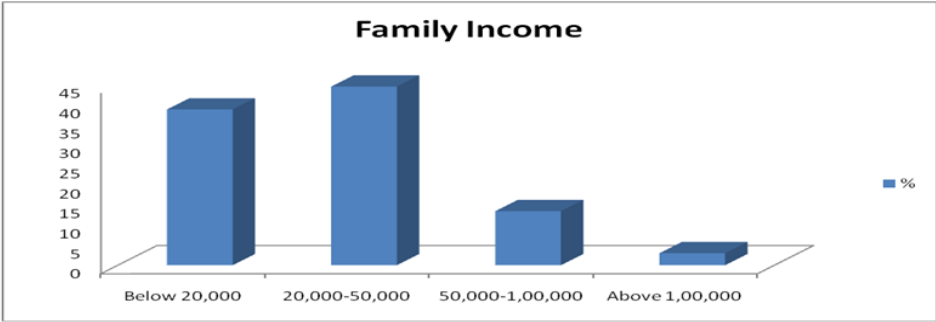

Fig2. Gender Percentage

Fig3. Family Income Percentage

Table 2 depicts the factor analysis to form the constructs through 5 factors, explaining the maximum variance.

Table2. Factor Analysis

Factor Loadings (Varimax normalized) Extraction: Principal components (Marked loadings are >.600000)					
Variable	Factor - 1	Factor - 2	Factor - 3	Factor - 4	Factor - 5
1. Price	-0.116107	-0.113205	0.703317	-0.060589	0.233347
2. Brand name	0.168888	0.137629	0.755201	0.165359	-0.194061
3. Storage Memory	0.030460	0.747208	0.076349	0.015284	0.308429
4. RAM	0.110579	0.848713	0.070414	0.098887	-0.008879
5. Processor	0.088474	0.762109	-0.160663	0.276096	-0.004611
6. Front Camera	0.043002	0.103783	0.001891	0.860316	0.153418
7. Main Camera	0.102212	0.195721	0.090815	0.827364	0.061466
8. Product Quality	0.706371	0.042358	-0.042610	0.130890	-0.204325
9. Sales promotion (Offers)	0.627543	-0.033501	0.137004	0.107843	0.415776
10. Satisfaction of previous smartphone	0.701423	0.138152	-0.003744	0.006413	0.054220
11. Advertisement	0.624994	-0.004961	0.073307	-0.025359	0.426280
12. After sales service	0.687689	0.089031	-0.019680	0.034863	0.150860
13. Family or friends suggestion	0.150351	0.026074	-0.133659	0.196647	0.707175

Table3. Reliability Test for various variables

VARIABLES	NO. OF ITEMS	ALPHA
ALL	13	0.718
PRICE	2	0.631
TECHNICAL FEATURES	3	0.746
CAMERA	2	0.716
PROMOTIONAL ACTIVITIES	5	0.730
SOCIAL INFLUENCE	1	---

Table 3 shows the reliability test for various constructs. The Cronbach's alpha coefficient is the most often used technique for assessing an item's internal reliability, and it is also used in this study. The reliability coefficient of Cronbach's alpha typically has a range of 0 to 1. The Cronbach's alpha coefficient value is closer to 1.0 the superior the internal consistency of the scale's constituent parts. For every one of the thirteen items used in this study, the value of Cronbach's alpha was 0.718, which is greater than 0.6. This illustrates how uniform the questions are across the board for the various independent constructs and may be used with confidence by using the general guidelines for the Cronbach's alpha coefficient.

Table4. Correlation Matrix

	Purchase Behavior	Price	Processor	Sales promotion (Offers)	Camera	Storage Memory	Family Suggestions
Price	.351** .001	1					
Processor	.415** .002	-.113* .014	1				
Sales promotion (Offers)	.323** .008	.039 .403	.064 .168	1			
Camera	.222 .112	-.010 .828	.278** .000	.141** .002	1		
Storage Memory	.383** .008	.017 .720	.410** .000	.188** .000	.189** .000	1	

Family Suggestions	.275 .105	.138** .003	.051 .266	.146** .001	.111* .016	.066 .152	1

**. Correlation is significant at the 0.01 level (2-tailed).

RESULTS & DISCUSSION

Hypothesis 1: There is a significant relationship between price and purchasing behavior of smart-phones. The result in Table 4 shows a significant positive correlation (r=0.351, p<.01) between price and purchasing behavior of smart-phones.

Hypothesis 2: There is a significant relationship between technical features (processor & storage) and purchasing behavior of smart-phones. The result in Table 4 shows a significant positive correlation (Processor, r=0.415, p<.01 & Storage, r=0.383, p<.01) between technical features and purchasing behavior of smart-phones.

Hypothesis 3: There is a significant relationship between camera and purchasing behavior of smart-phones. The result in Table 4 shows an insignificant relationship (r = 0.222, p>.01) between camera and purchasing behavior of smart-phones.

Hypothesis 4: Promotional activities and smart-phone purchasing behavior are significantly correlated. The result in Table 4 depicts a suitable positive correlation (r=0.323, p<.01) between promotional activities and purchasing behavior of smart-phones.

Hypothesis 5: Social influence and smart-phone purchasing behavior are significantly correlated. The result in Table 4 shows an insignificant relationship (r = 0.275, p>.01) between social influence and purchasing behavior of smart-phones.

Hence, H₁, H₂, H₄ are accepted, while H₃, H₅ are not accepted. Summarily, this study shows that price, technical features and promotional activities significantly influence the purchasing behavior of the consumers in NCR Region.

CONCLUSION & SUGGESTIONS

This study set out to find out what considerations consumers in the NCR Region were considering when making a smart-phone purchase. This study specifically looked at the relationship between smart-phone buying behavior and social influence, as well as the price, technological features, camera, and promotional activities. Data was collected from 473 respondents from NCR Region and investigated. To examine the relationship between the independent variables—price, technical characteristics, camera, promotional activities, social influence, and smart-phone buying behavior—five hypotheses were put forth. Three theories appeared to be supported by the results.

According to the study results, consumers' purchasing behavior to buy smart-phones are impacted by factors such as price, technical features, and promotion activities. Smartphone manufacturers could emphasize on price and technical features viz. RAM, fast processor, storage memory, when producing & promoting smart-phones to consumers in NCR Region. Additionally, brand managers can create a promotional campaign to attract in new clients while also keeping their current clientele.

However, study revealed that social influence and smart-phone purchasing behavior are insignificantly correlated, as we hypothesized (No.5). The result contravened the observations of Rahim *et al.* (2016). The study's choice of a sample may have contributed to this contradicting result. and of course, to the fast-changing society patterns and fashion trends. Customers now use cell phones on a regular basis and may not heed advice from friends and family when making smart-phone purchases.

Summarily, the study's findings indicated that it is critical for smart-phone makers to comprehend the factors impacting users' decisions to buy smart-phones. Furthermore, it is essential to maintain and grow the market share in sector in this fast-paced period of competition.

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