Prima: Practices & Research in Marketing
12 (2) 2024, 20-41

Article can be accessed online at http://www.publishingindia.com

A Study on the Difference of Gen X and Gen Y Smartphone Buying Behaviour Patterns in Pune

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Abstract

Smartphones have become an indispensable part of modern life, serving both professional and personal needs. This study explores the buying behavior of Generation X (Gen X) and Generation Y (Gen Y) in Pune, analyzing the factors influencing their smartphone purchase decisions. Gen X, characterized as resourceful and pragmatic, prioritizes functionality, including battery life and screen resolution, reflecting their measured approach to technology adoption. In contrast, Gen Y, or millennials, driven by technological fluency and innovation, places higher value on embedded memory, powerful processors, and operating systems, underscoring their desire for performance and utility. Using a mixed-method approach, the research incorporated a survey of 150 respondents evenly distributed between the two generations. Statistical analysis, including hypothesis testing, identified the top three purchasing factors for each cohort, revealing significant generational differences. Results showed that Gen X is influenced by durability and usability, while Gen Y is motivated by cutting-edge technology and brand innovation. This study highlights the evolving dynamics of consumer preferences across generational lines, providing actionable insights for smartphone manufacturers and marketers. Recommendations include tailoring product features and marketing strategies to meet the specific needs of each generation. The findings have practical implications for addressing market demands, fostering brand loyalty, and enhancing consumer satisfaction in an increasingly competitive landscape.

Keywords: Gen X, Gen Y, Smartphone, Buying Behaviour

Introduction

Gen X, also known as generation X, is the demographic segment born between the 1960s and 1980s. The people born between the span of these 2 decades form generation X. They mark the decline of baby boomers (born between the 1940s and 1960s) and precede the millennials (born after the 1980s). Some of the characteristics of Gen X are that they are resourceful and self-sufficient (Ordun, 2015). They are technologically adept i.e. comfortable with new technologies like smartphones, tablets and other technical stuff employed in their professional space. Also, they are known to be flexible and balance their professional and family lives quite well. They are not very impulsive decision-makers and evaluate all the different perspectives before arriving at a final decision. They work on their own terms and are always eager and excited to learn new skills and use them for a better future (Giovanis & Athanasopoulou, 2017).

Gen Y also known as generation Y is the demographic segment born between the 1980s and 2000s. The people born between the span of these 2 decades respectively form the generation Y. They are also commonly known as millennials. They mark the end of gen X and precede the gen Z or also known as generation Z (born after 2000s). They are the tech savvy people who are always excited about the latest technology present in the market. This generation is very ambitious and also lay much importance on the results (Hall & Towers, 2017). They are highly result oriented and, they are not made just for the normal nine to five jobs. They are always ready to face new challenges are have no hesitation in questioning the authority. This generation is too much dependent on

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internet and smartphones as internet have been on their fingertips since day one. Virtual media has also been a part of their lives and thus there's always a constant competition among the peers. With 24*7 internet access, this generation cannot be fooled easily. This generation is quite impulsive when it comes to decision making and wants to achieve its goals as quickly as possible.

Mobile phones or now famously called Smartphones have become an inseparable part of our lives. We are too dependent on them for all our daily activities like booking a cab, ordering food, online music and movie streaming, booking tickets etc. It has brought the entire world extremely close to each other. Smartphones presence has increased tremendously over the past twenty years. But the existence of mobile phones goes back to 1940s (Chen, 2018).

The first invented mobile phones in 1940s, were used for communications by the taxi drivers and all the other emergency services. Motorola became the first company to start the mass production of the first handheld mobile phone in 1973. These mobile phones were known as zero generation phones as they were simply used for calling purposes and no internet facilities were present at that time. The mobile phones were so bulky and heavy during then, that it was nearly impossible to carry it in a pocket. Hence forth, many innovations and improvisations has been done over the years to make it, what it is today.

Now a days we are not only dependent on smartphones for our entertainment but professionally also, it has become an integral part of lives. Smartphones have now substituted the desktop PC's and laptops, as all the work can be done on smartphones itself. From checking mails to working on MS Office, everything can be done on smartphones. It has become imperative for the companies now a days to design their mobile sites as half of their business is done on the smartphones itself. With digitalisation of the entire data, the dependence on smartphones is further going to increase in the future. Smartphones have also tremendously changed over the past 20 years. Smartphone once was a privileged product but now it has become a commodity (Al-Daihani, 2018).

Smartphones are used by both generation X and generation Y people. Both these generations are dependent on smartphones for their professional as well as personal usages. Both generations consider certain factors when it comes to buying a smartphone like price, specifications, aesthetics, brand, band equity etc. Both generations have different characteristics and perspectives when it comes to smartphone buying behaviour.

A detailed study is done to identify that what all factors are important for the people of generation X and generation Y, when it comes to smartphone buying behaviour. The study also identifies the significant difference between the buying characteristics of the two generations i.e. gen X and gen Y. The scope of the study is restricted to Pune city itself. The study will also identify what affect the personal attributes of the respective generations would have on their smartphone buying behaviour and preferences.

Literature Review

Here in this section, we would review and analyse different research papers in order to gain an in-depth knowledge regarding the Gen Y and Gen X buying behaviour. Further we'll delve deeper into customer buying behaviour when it comes to mobile phones or smartphones these days. This section will help us understand the switching behaviour of both Gen X and Gen Y customers, when electrical devices like smartphones are involved. Also, how factors like brand image, personality and equity plays an integral role in the sale and purchase of the cell phones. How these factors are important while purchasing a smartphone. In this, the role of virtual media and smartphone aesthetics is also discussed as these two factors are essential for smartphone purchases. An extensive linkage has been established among all these factors.

Gen X and Gen Y Behaviour

Gen X has a less technological exposure as compared to Gen Y. Generation Y or millennials have has 24*7 internet access throughout their lives. This makes Gen Y more readily adaptable to new technology that is introduced whereas Gen X needs some time to adjust to the latest technologies. Thus the Gen X people more importance to the 'ease of use' characteristic whereas Gen Y people lay more stress on perceived fun and utility (Yang & Jolly, 2008). With internet on fingertips, customers have access to information all the time. This has led to customer empowerment. Millennials explore all the options before

purchasing anything and are ready to experiment with new brands whereas the generation X people are not very friendly to experimentation. They generally opt for the few trusted brands present in the market (Hall & Towers, 2017). Gen x customers are the one that form the loyal customer base of the company or a brand, whereas the millennials does not fall into the category of loyal customers. Generation Y customers are more inclined towards the functional benefits of the products as compared to the brand image or brand personality (Giovanis & Athanasopoulou, 2017).

Customers Buying Behaviour

Smartphones have become an integral and inseparable part of our lives. Due to excessive competition, all the smartphone manufacturing companies are resolving to constant innovation and R&D, in order to gain an edge over its competitors. The two most important factors that are considered by the customers while purchasing a smartphone are price and specifications of the smartphone respectively (Sata, 2013). Apart from these two factors, the attitude and utility of the customer also affects its buying decision. Smartphones have become an integral source for decision making of the customers. The usage of mobile phone is highest among all the high utility products like television, computers, laptops etc (Holmes, Byrne, & Rowley, 2014). Consumers these days, not only just perceive mobile phones for calling and texting purposes, but they heavily rely on them for their daily chores. From socialization to entertainment, from reading to all the professional work, reliability on smartphones have increased tremendously. The smartphone buying behaviour of the millennials or students is heavily impacted by the brand name and also the virtual influence from the peers (Mohd Suki, 2013).

Customers Switching Behaviour

With an increase in the smartphone production in recent years, it has become very easy for the customers to switch from one brand to another. Good promotional content has lot of impact on customer buying behaviour. It is difficult for a company to survive with a single product. A wide range of products encompassing different segments is necessary for an organization, if it wants to thrive in the smartphone industry (Chen, 2018). To stay competitive, companies must constantly launch innovative products at frequent intervals. Omnichannel presence of the organizations is necessary in order to reach out to every segment of the customers (Wong, Chang, & Yeh, 2019). It is not necessary that customer satisfaction will not result in switching. These days switching cost is less or negligible due to excessive competition in the smartphone market. Also there is no switching cost making the bargaining power of the customers extremely high (Chuah, Rauschnabel, Marimuthu, Thurasamy, & Nguyen, 2017) (Lin, Wang, & Hsu, 2017).

Brand Image and Equity

Brand equity and perception is most of the most important factors that affect the smartphone buying behaviour of the customer. Experience is something that plays a pivotal role in the repurchase and loyalty of the brand. Creating a positive brand image on all the platforms like virtual media, advertising, word of mouth is essential for an organization (Kudeshia & Kumar, 2017). The company must constantly innovate both in its product as well as marketing strategies in order to create a positive brand equity. Also, the brand aesthetics like colour, size specifications etc play a vital role for creating a positive brand experience. Instead of customer satisfaction, an organization must focus on generating maximum revenue (Shams, Alpert, & Brown, 2015). Brand personality and experience are essential for creating a positive brand equity. Functional benefits and price shine out to be the two most important factor for developing the brand equity(Shahzad, Bilal, Xiao, & Yousaf, 2019). The first and foremost aim of the organisation should be creating usage pleasure. Two things i.e. usage pleasure and the perceived value of the brand has to go hand in hand in order to gain an edge over the competitors so as to emerge as market leaders (Mishra, Dash, & Cyr, 2014).

Smartphone Aesthetics and Virtual Media Influence

Aesthetics play a pivotal role in consumer's decision making, when it comes to smartphones. The size, colour, design, specifications etc are important factors that are taken in consideration by the consumers while purchasing a smartphone. Quality aesthetics helps an organization in creating a better perceived value of the product (Toufani, Stanton, & Chikweche, 2017). Virtual media presence of the organization and the virtual media campaigns

create a significant impact on the customers. Both gen X and gen Y people are quite active on virtual media and spend a sizeable time on it. Virtual media has become an effective way to connect to the customers because people spent more time on virtual media as compared to television, newspaper and magazines (Park & Lee, 2015) (Balakrishnan & Chakraborty, 2017). Smartphones are used by students for wide range of purposes ranging from academic to entertainment purposes. Organizations keep a tab on the virtual media content of the segments that they are targeting and design their advertisements accordingly. All the virtual media campaigns on different platforms like Facebook, twitter, LinkedIn and Instagram are designed accordingly to target the maximum customers segments. These days Instagram is the most used virtual media platform by the smartphone companies (Al-Daihani, 2018).

Research Objectives

In this section, we shall define the objectives that we aim to achieve through this comprehensive report. The objectives, in other words refers to the goals or answers that we need to seek through this report. Based on the set objectives, we'll determine the techniques and methods that we'll use to get our answers. All the further study and research shall be done in order to meet our defined objectives.

- To evaluate and identify different factors that determine the buying behaviour of Gen X and Gen Y, when it comes to smartphones.
- To understand and analyse the switching behaviour of the customers, when the smartphones are involved.
- To identify various specifications and characteristics, which people of Gen X and Gen Y prefer, while purchasing a smartphone.

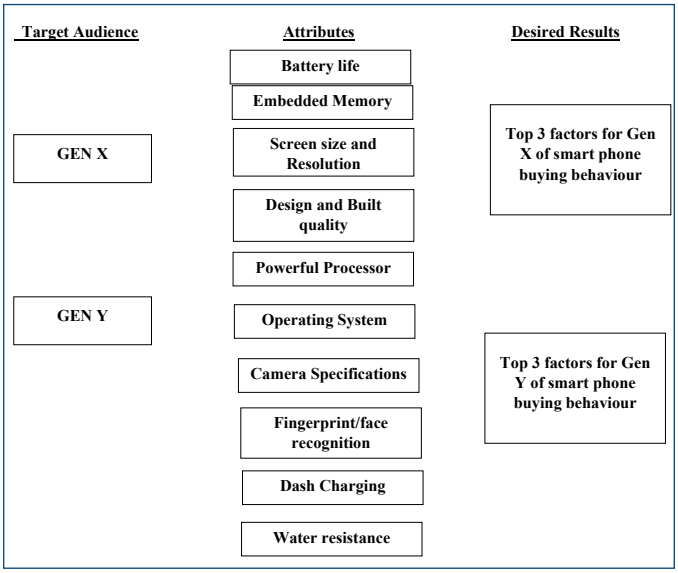
Research Methodology

This section involves, the methodology that has been adopted in order to meet the set objectives. It also identifies the research strategy that we are going to use, the reason why we are going to implement these research methods.

Sample

- A primary survey of 150 respondents of Pune city using a comprehensive questionnaire has been Conducted. Responses are equally distributed among the Generation X and Generation Y, in order to identify the top factors which people of gen X and gen Y consider while purchasing a smartphone.
- Detailed secondary research has been done both on Generation X and Generation Y, their general buying patterns, their smartphone oscillating behaviour and various factors that they consider while purchasing a cellular device.

Research Design



Hypothesis Testing

Hypothesis testing shall be conducted on 10 factors i.e. Battery Life, Embedded Memory, Screen size and resolution, Design and built design, Powerful Processor, Operating System, Camera Specifications, Fingerprint/ Face Recognition, Dash charging and Water Resistance in order to identify the top 3 factors both for Gen X and Gen Y respectively, which they consider while purchasing a smartphone. We will be using single T-test hypothesis, to identify the top 3 factors for both the generations.

Generation X

Battery Life

Null Hypothesis (Ho): Battery life is not among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Battery life is among the top 3 factors chosen by Gen X people.

Embedded Memory

Null Hypothesis (Ho): Embedded Memory ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Embedded Memory is not among the top 3 factors chosen by Gen X people.

Screen Size and Resolution

Null Hypothesis (Ho): Screen Size and Resolution is not among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Screen size and Resolution is among the top 3 factors chosen by Gen X people.

Design and Build Quality

Null Hypothesis (Ho): Design and Build quality is not among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Design and Build quality is among the top 3 factors chosen by Gen X people.

Powerful Processor

Null Hypothesis (Ho): Powerful Processor ranks among the top 3 factors chosen by the Gen X people.

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Operating System

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Camera Specifications

Null Hypothesis (Ho): Camera Specifications ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Camera Specifications is not among the top 3 factors chosen by Gen X people.

Fingerprint/Face Recognition

Null Hypothesis (Ho): Fingerprint/Face Recognition ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Fingerprint/Face Recognition is not among the top 3 factors chosen by Gen X people.

Dash Charging

Null Hypothesis (Ho): Dash Charging ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Dash Charging is not among the top 3 factors chosen by Gen X people.

Water Resistance

Null Hypothesis (Ho): Water Resistance ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Water Resistance is not among the top 3 factors chosen by Gen X people.

Generation Y

Battery Life

Null Hypothesis (Ho): Battery Life ranks among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Battery Life is not among the top 3 factors chosen by Gen Y people.

Embedded Memory

Null Hypothesis (Ho): Embedded Memory is not among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Embedded Memory is among the top 3 factors chosen by Gen Y people.

Screen Size and Resolution

Null Hypothesis (Ho): Screen size and resolution ranks among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Screen size and resolution is not among the top 3 factors chosen by Gen Y people.

Design and Built Quality

Null Hypothesis (Ho): Design and Built Quality ranks among the top 3 factors chosen by the Gen Y people.

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Water Resistance

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Alternate Hypothesis (Ha): Water Resistance is not among the top 3 factors chosen by Gen Y people.

Data Collection and Analysis

Total 150 responses were taken from the Pune city itself out of which 71 belonged to Gen X and 79 belonged to Gen Y. Gen X people belong to the age group from 41-60 years, whereas Gen Y people belong to the age group of 20-40 years. An almost equal number of respondents from both the generations were taken in order to get a comprehensive and fair result regarding the smartphone buying behaviour of the people.

Demographics

Gender

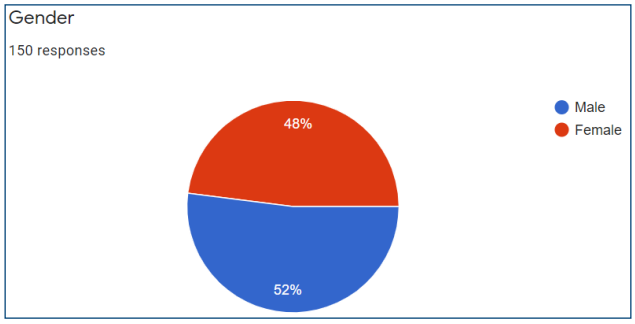

Fig. 1: Gender

Out of 150 respondents of Pune city, 48% i.e. 72 are female and 52% i.e. 78 are male. Thus, the female to male ratio is 1:1.083.

Age

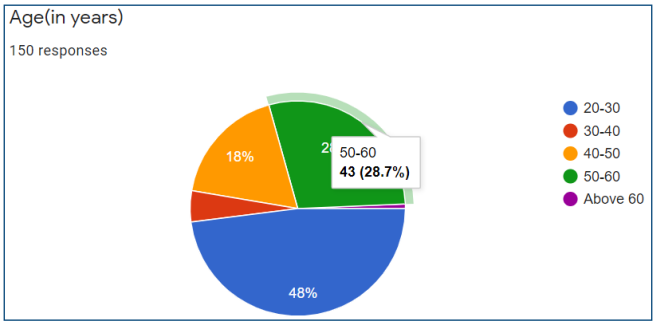

Fig. 2: Age

Out of 150 respondents, 52.7% i.e. 79 people belong to Gen X (41-60 years age group) and 47.3% i.e. 71 people belong to Gen Y (20-40 years age group).

Occupation

Out Of 150 respondents, 37.3 % i.e. 56 respondents are self-employed, 17.3% i.e. 26 respondents are Private Employees, 19.3% i.e. 29 respondents are students, 12.7%

i.e. 19 respondents belong to management and 13.3% i.e. 20 respondents are Government Employees.

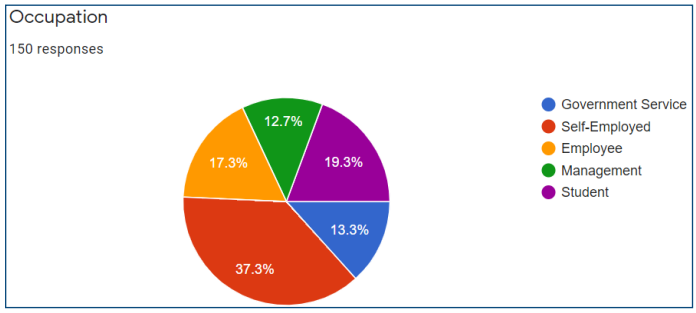

Fig. 3: Occupation

Smartphone Usage

Smartphone Brands Used by the Respondents

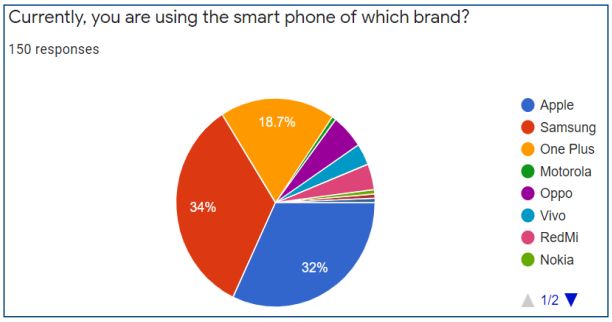

Fig. 4: Smartphone brands

Out of 150 respondents, 34 % i.e. 51 respondents use smartphones of the Samsung brand, which has the maximum percentage among our respondents followed by Apple which is used by 32% i.e. 48 respondents. One Plus stands at the third spot, which is used by 18.7% i.e. 28 of our respondents.

Switching Frequency

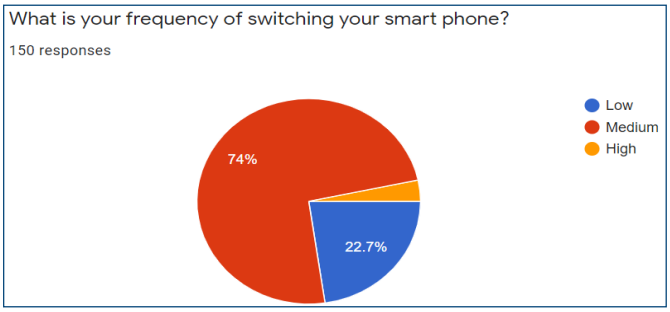

Fig. 5: Switching Frequency

Out of 150 respondents, 74% i.e. 111 respondents have a moderate frequency of switching smartphones i.e. they switch their smartphones once in 18 months. 22.7 % i.e. 34 respondents have low switching frequency i.e. they change their smartphones after more than 24 months. 3.3% i.e. 5 respondents have a high switching frequency i.e. they change their smartphones once in 12 months.

Factors Affecting the Smartphone Buying Behaviour of Gen X People

Battery Life

t-Test: One-Sample	
	Battery Life
Mean	1.85915493
Variance	1.008450704
Observations	71
Hypothesized Mean	4
df	70
t Stat	-17.96333945
P(T<=t) one-tail	3.20006E-28
t Critical one-tail	1.666914479
P(T<=t) two-tail	6.40011E-28
t Critical two-tail	1.994437112
Ho= u>=4	P-value< 0.05
Ha= u<4	Reject Ho

Fig. 6: Gen X Battery Life

Single T-test has been done to identify whether battery life ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Battery life is not among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Battery life is among the top 3 factors chosen by Gen X people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Battery Life ranks among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Embedded Memory

t-Test: One-Sample	
	Embedded Memory
Mean	5.183098592
Variance	2.123138833
Observations	71
Hypothesized Mean	3
df	70
t Stat	12.62447501
P(T<=t) one-tail	5.1573E-20
t Critical one-tail	1.666914479
P(T<=t) two-tail	1.03146E-19
t Critical two-tail	1.994437112
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 7: Gen X Embedded Memory

Single T-test has been done to identify whether Embedded Memory ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Embedded Memory ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Embedded Memory is not among the top 3 factors chosen by Gen X people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Embedded Memory does not rank among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Screen Size and Resolution

Single T-test has been done to identify whether Screen Size and Resolution ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Screen Size and Resolution is not among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Screen size and Resolution is among the top 3 factors chosen by Gen X people.

t-Test: One-Sample	
	Screen Size and Resolution
Mean	2.042253521
Variance	0.669617706
Observations	71
Hypothesized Mean	4
df	70
t Stat	-20.15914745
P(T<=t) one-tail	3.63067E-31
t Critical one-tail	1.666914479
P(T<=t) two-tail	7.26134E-31
t Critical two-tail	1.994437112
Ho= u>=4	p-value< 0.05
Ha= u< 4	Reject Ho

Fig. 8: Gen X Screen Size and Resolution

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Screen size and Resolution ranks among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Design and Build Quality

t-Test: One-Sample	
	Build and Design
Mean	2.394366197
Variance	0.699396378
Observations	71
Hypothesized Mean Difference	4
df	70
t Stat	-16.17759607
P(T<=t) one-tail	1.1977E-25
t Critical one-tail	1.666914479
P(T<=t) two-tail	2.39541E-25
t Critical two-tail	1.994437112
Ho= u>=4	p-value< 0.05
Ha= U<4	Reject Ho

Fig. 9: Gen X Design and Build Quality

Single T-test has been done to identify whether Design and Build Quality ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Design and Build quality is not among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Design and Build quality is among the top 3 factors chosen by Gen X people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Design and Build quality ranks among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Powerful Processor

t-Test: One Sample	
	Powerful Processor
Mean	5.338028169
Variance	1.626961771
Observations	71
Hypothesized Mean	3
df	70
t Stat	15.44508275
P(T<=t) one-tail	1.52E-24
t Critical one-tail	1.666914479
P(T<=t) two-tail	3.05E-24
t Critical two-tail	1.994437112
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 10: Gen X Powerful Processor

Single T-test has been done to identify whether Powerful Processor ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Powerful Processor ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Powerful Processor is not among the top 3 factors chosen by Gen X people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Powerful Processor does not rank among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Operating System

Single T-test has been done to identify whether Operating System ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

t-Test: One-Sample	
	Operating Sytem
Mean	6.225352113
Variance	0.605633803
Observations	71
Hypothesized Mean	3
df	70
t Stat	34.92217261
P(T<=t) one-tail	2.52E-46
t Critical one-tail	1.666914479
P(T<=t) two-tail	5.04E-46
t Critical two-tail	1.994437112
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 11: Gen X Operating System

Null Hypothesis (Ho): Operating System ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Operating System is not among the top 3 factors chosen by Gen X people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Operating System does not rank among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Camera Specifications

t-Test: One-Sample	
	Camera Specification
Mean	5.267605634
Variance	2.884507042
Observations	71
Hypothesized Mean	3
df	70
t Stat	11.25021701
P(T<=t) one-tail	1.18757E-17
t Critical one-tail	1.666914479
P(T<=t) two-tail	2.37514E-17
t Critical two-tail	1.994437112
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 12: Gen X Camera Specifications

Single T-test has been done to identify whether Camera Specifications ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Camera Specifications ranks among the top 3 factors chosen by the Gen X people

Alternate Hypothesis (Ha): Camera Specifications is not among the top 3 factors chosen by Gen X people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Camera Specifications does not rank among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Fingerprint/Face Recognition

t-Test: One-Sample	
	Fingerprint/Face Recognition
Mean	8.704225352
Variance	1.639839034
Observations	71
Hypothesized Mean	3
df	70
t Stat	37.53403364
P(T<=t) one-tail	2.08259E-48
t Critical one-tail	1.666914479
P(T<=t) two-tail	4.16518E-48
t Critical two-tail	1.994437112
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 13: Gen X Fingerprint/Face Recognition

Single T-test has been done to identify whether Fingerprint/ Face Recognition ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Fingerprint/Face Recognition ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Fingerprint/Face Recognition is not among the top 3 factors chosen by Gen X people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Fingerprint/Face Recognition does not rank among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Dash Charging

Single T-test has been done to identify whether Dash Charging ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

t-Test: One-Sample	
	Dash Charging
Mean	9
Variance	0.342857143
Observations	71
Hypothesized Mean	3
df	70
t Stat	86.34234187
P(T<=t) one-tail	3.7974E-73
t Critical one-tail	1.666914479
P(T<=t) two-tail	7.5948E-73
t Critical two-tail	1.994437112
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig.14: Gen X Dash Charging

Null Hypothesis (Ho): Dash Charging ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Dash Charging is not among the top 3 factors chosen by Gen X people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Dash Charging does not rank among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Water Resistance

t-Test: One-Sample	
	Water Resistant
Mean	8.915492958
Variance	1.278470825
Observations	71
Hypothesized Mean	3
df	70
t Stat	44.08336167
P(T<=t) one-tail	4.22268E-53
t Critical one-tail	1.666914479
P(T<=t) two-tail	8.44536E-53
t Critical two-tail	1.994437112
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 15: Gen X Water Resistance

Single T-test has been done to identify whether Water Resistance ranks among the top 3 factors chosen by Gen X, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Water Resistance ranks among the top 3 factors chosen by the Gen X people.

Alternate Hypothesis (Ha): Water Resistance is not among the top 3 factors chosen by Gen X people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Water Resistance does not rank among the top 3 factors for Gen X people, when it comes to smartphone buying behaviour.

Factors Affecting the Smartphone Buying Behaviour of Gen Y People

Battery Life

t-Test:One-Sample	
	Battery Life
Mean	5.9125
Variance	4.080854
Observations	80
Hypothesized Mean	3
df	79
t Stat	12.89542
P(T<=t) one-tail	1.98E-21
t Critical one-tail	1.664371
P(T<=t) two-tail	3.96E-21
t Critical two-tail	1.99045
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 16: Gen Y Battery Life

Single T-test has been done to identify whether Battery Life ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Battery Life ranks among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Battery Life is not among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Battery Life does not rank among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Embedded Memory (Storage)

t-Test: One-Sample	
	Embedded Storage
Mean	2.4875
Variance	3.620094937
Observations	80
Hypothesized Mean	4
df	79
t Stat	-7.110176749
P(T<=t) one-tail	2.29843E-10
t Critical one-tail	1.664371409
P(T<=t) two-tail	4.59687E-10
t Critical two-tail	1.99045021
Ho= u>=4	p-value<0.05
Ha= u< 4	Reject Ho

Fig. 17: Gen Y Embedded Memory

Single T-test has been done to identify whether Embedded Memory ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Embedded Memory does not rank among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Embedded Memory ranks among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Embedded Memory ranks among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Screen Size and Resolution

t-Test: One-Sample	
	Screen Size and Resolution
Mean	5.65
Variance	3.192405063
Observations	80
Hypothesized Mean	3
df	79
t Stat	13.26575194
P(T<=t) one-tail	4.24752E-22
t Critical one-tail	1.664371409
P(T<=t) two-tail	8.49503E-22
t Critical two-tail	1.99045021
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 18: Gen Y Screen Size and Resolution

Single T-test has been done to identify whether Screen Size and Resolution ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Screen Size and Resolution ranks among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Screen Size and Resolution is not among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Screen Size and Resolution does not rank among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Design and Build Quality

t-Test: One-Sample	
	Design and Build
Mean	5.925
Variance	3.437342
Observations	80
Hypothesized Mean	3
df	79
t Stat	14.11106
P(T<=t) one-tail	1.35E-23
t Critical one-tail	1.664371
P(T<=t) two-tail	2.7E-23
t Critical two-tail	1.99045
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 19: Gen Y Design and Build Quality

Single T-test has been done to identify whether Design and Build Quality ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Design and Build Quality ranks among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Design and Build Quality is not among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Design and Build Quality does not rank among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Power Processor

t-Test:One Sample	
	Powerful Processor
Mean	2.275
Variance	2.657594937
Observations	80
Hypothesized Mean	4
df	79
t Stat	-9.464326171
P(T<=t) one-tail	6.04663E-15
t Critical one-tail	1.664371409
P(T<=t) two-tail	1.20933E-14
t Critical two-tail	1.99045021
Ho= u>=4	p-value<0.05
Ha= u< 4	Reject Ho.

Fig. 20: Gen Y Powerful Processor

Single T-test has been done to identify whether Powerful Processor ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Powerful Processor does not rank among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Powerful Processor ranks among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Powerful Processor ranks among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Operating System

t-Test: One-Sample	
	Operating System
Mean	2.7875
Variance	2.903639241
Observations	80
Hypothesized Mean	4
df	79
t Stat	-6.364369888
P(T<=t) one-tail	5.95999E-09
t Critical one-tail	1.664371409
P(T<=t) two-tail	1.192E-08
t Critical two-tail	1.99045021
Ho= u>=4	p-value<0.05
Ha= u< 4	Reject Ho.

Fig. 21: Gen Y Operating System

Single T-test has been done to identify whether Operating System ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Operating System does not rank among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Operating System ranks among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Operating System ranks among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Camera Specifications

	Camera Specifications
Mean	3.825
Variance	3.133544304
Observations	80
Hypothesized Mean Difference	3
df	79
t Stat	4.168511677
P(T<=t) one-tail	3.89436E-05
t Critical one-tail	1.664371409
P(T<=t) two-tail	7.78873E-05
t Critical two-tail	1.99045021
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 22: Gen Y Camera Specifications

Single T-test has been done to identify whether Camera Specifications ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Camera Specifications ranks among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Camera Specifications is not among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Camera Specifications does not rank among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Fingerprint/Face Recognition

t-Test: One-Sample	
	Fingerprint/Face Recognition
Mean	7.5375
Variance	3.011234177
Observations	80
Hypothesized Mean	3
df	79
t Stat	23.38779972
P(T<=t) one-tail	1.48295E-37
t Critical one-tail	1.664371409
P(T<=t) two-tail	2.9659E-37
t Critical two-tail	1.99045021
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 23: Gen Y Fingerprint/Face Recognition

Single T-test has been done to identify whether Fingerprint/Face Recognition ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Fingerprint/Face Recognition ranks among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Fingerprint/Face Recognition is not among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Fingerprint/Face Recognition does not rank among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Dash Charging

t-Test: One-Sample	
	Dash Charging
Mean	8.3375
Variance	2.93528481
Observations	80
Hypothesized Mean	3
df	79
t Stat	27.86491727
P(T<=t) one-tail	6.39335E-43
t Critical one-tail	1.664371409
P(T<=t) two-tail	1.27867E-42
t Critical two-tail	1.99045021
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 24: Gen Y Dash Charging

Single T-test has been done to identify whether Dash Charging ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Dash Charging ranks among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Dash Charging is not among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Dash Charging does not rank among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Water Resistance

t-Test: One-Sample	
	Water Resistance
Mean	8.675
Variance	4.424683544
Observations	80
Hypothesized Mean Difference	3
df	79
t Stat	24.13069063
P(T<=t) one-tail	1.69202E-38
t Critical one-tail	1.664371409
P(T<=t) two-tail	3.38404E-38
t Critical two-tail	1.99045021
Ho= u<=3	p-value<0.05
Ha= u>3	Reject Ho.

Fig. 25: Gen Y Water Resistance

Single T-test has been done to identify whether Water Resistance ranks among the top 3 factors chosen by Gen Y, when it comes to purchasing a smartphone.

Null Hypothesis (Ho): Water Resistance ranks among the top 3 factors chosen by the Gen Y people.

Alternate Hypothesis (Ha): Water Resistance is not among the top 3 factors chosen by Gen Y people.

As the p-value is far less than alpha value (0.05) thus we reject the null hypothesis.

Therefore, Water Resistance does not rank among the top 3 factors for Gen Y people, when it comes to smartphone buying behaviour.

Smartphone Specifications

Battery Life

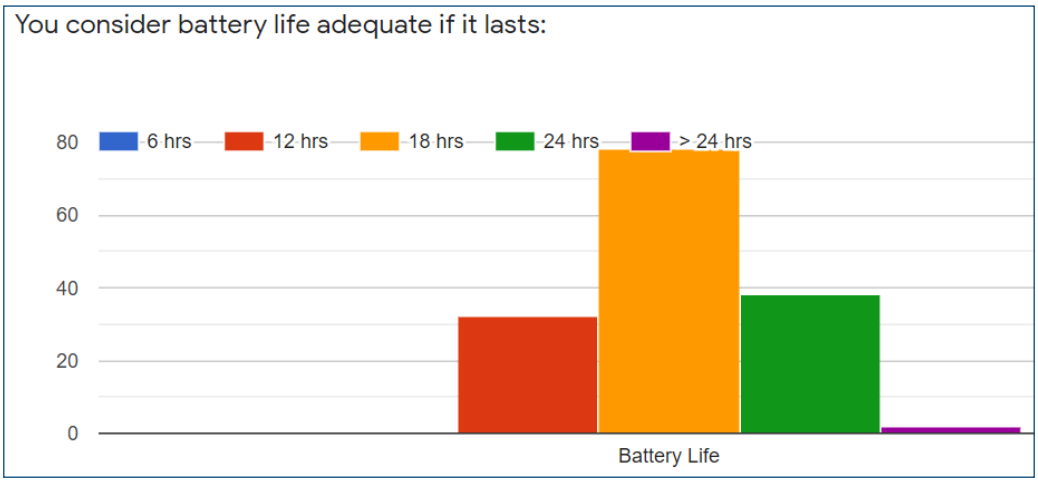

Fig. 26: Battery Life

Out of 150 Respondents of Pune City, 78 thinks that battery life up to 18hours is adequate, 38 have marked 24 hours as adequate battery life, 32 have opted for 12 hours adequate battery life and 2 have opted for battery life greater than 24 hours.

Embedded Memory

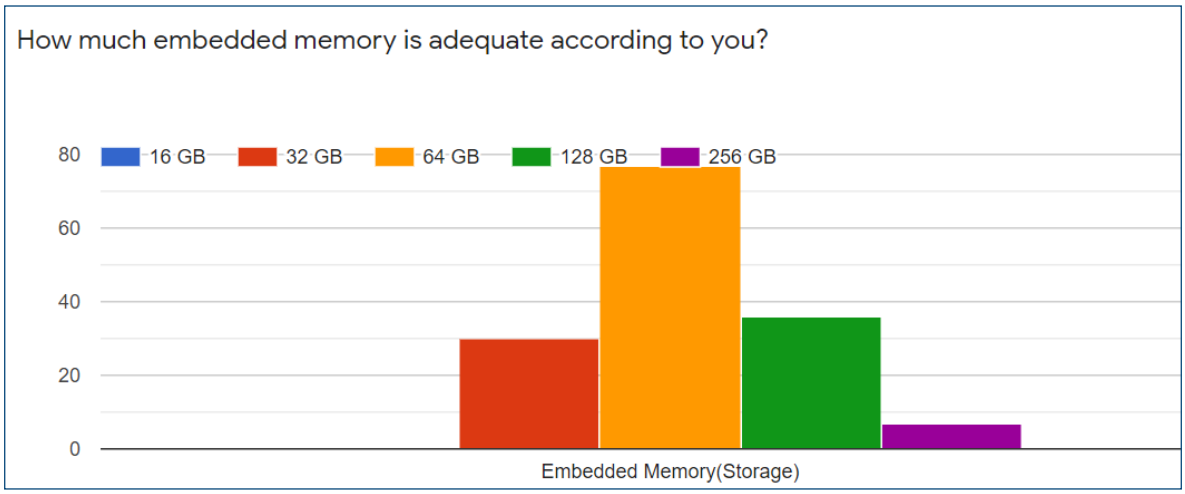

Fig. 27: Embedded Memory

Out of 150 respondents of Pune City, 77 think that 64 GB is an adequate embedded memory in a smartphone, 36 have marked 128 GB as adequate, 30 have opted for 32 GB as an adequate and appropriate embedded memory in a smartphone and 7 people prefers 256 GB of embedded memory in the smartphones.

Screen Size and Resolution

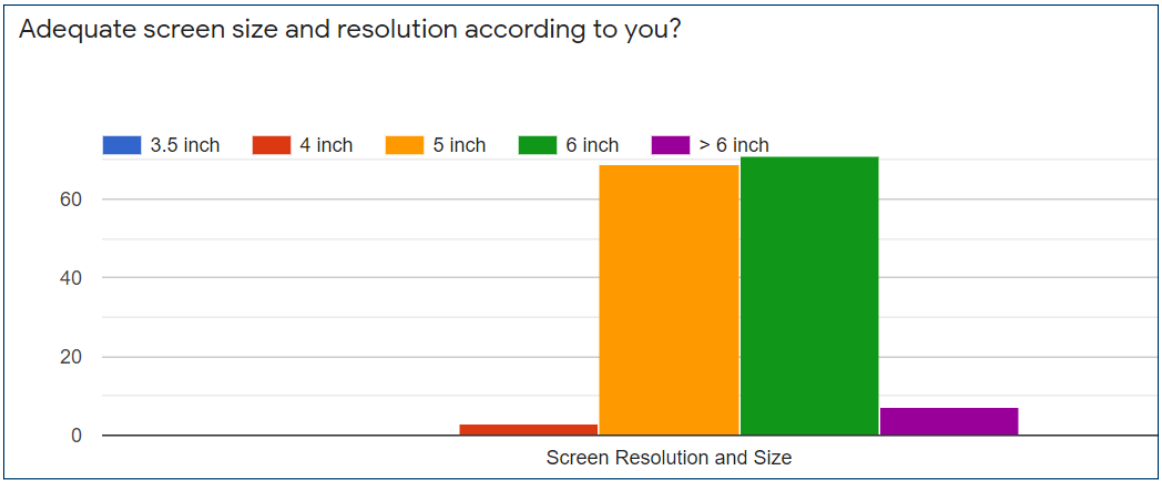

Fig. 28: Screen Size and Resolution

Out of 150 Respondents, 69 have opted for 5-inch screen size of the smartphones, 71 prefer 6-inch screen smartphones, 7 wants smartphones with screen size greater than 6 inch and 3 have opted for smartphones with a screen size of 4 inch.

Design and Built Quality

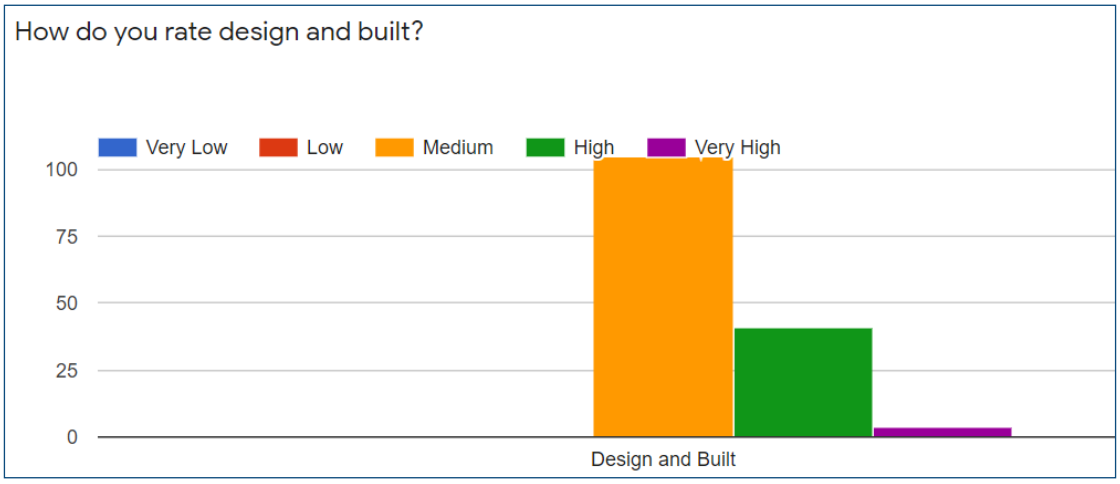

Fig. 29: Design and Build Quality

Out of 150 respondents, a major share of people i.e. 105 (majorly Gen X) have given a medium preference to the design and built quality of the smartphone. 41 respondents have given a high preference to the design and built quality, whereas 4 respondents have given a very high priority to the design and built quality.

Powerful Processor

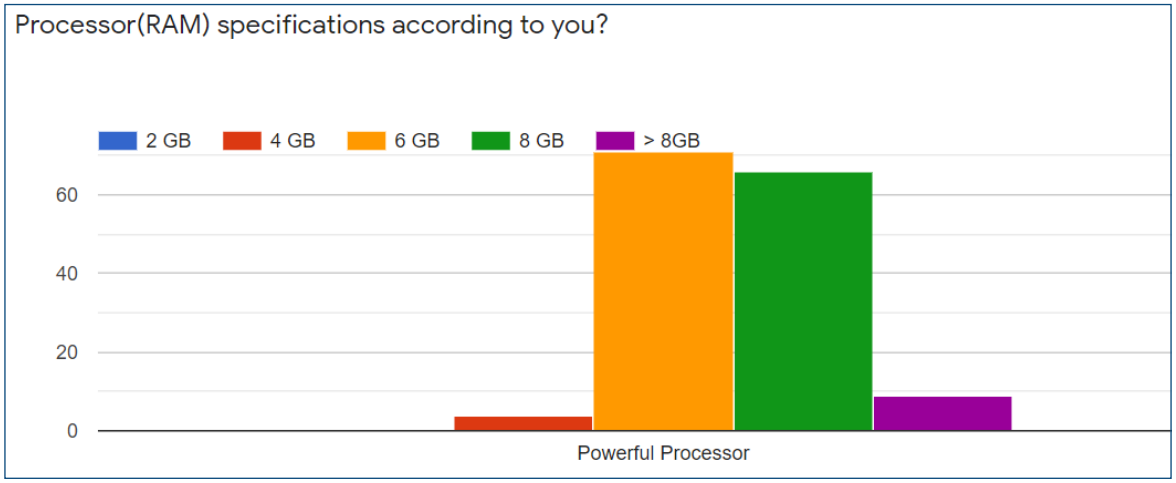

Fig. 30: Powerful Processor

Out of 150 respondents of Pune, 71 consider 6 GB RAM, to be a powerful processor whereas 66 people consider 8 GB RAM as powerful processor. 9 people prefers RAM greater than 8 GB, whereas 4 respondents are satisfied with a RAM of 4 GB.

Operating System

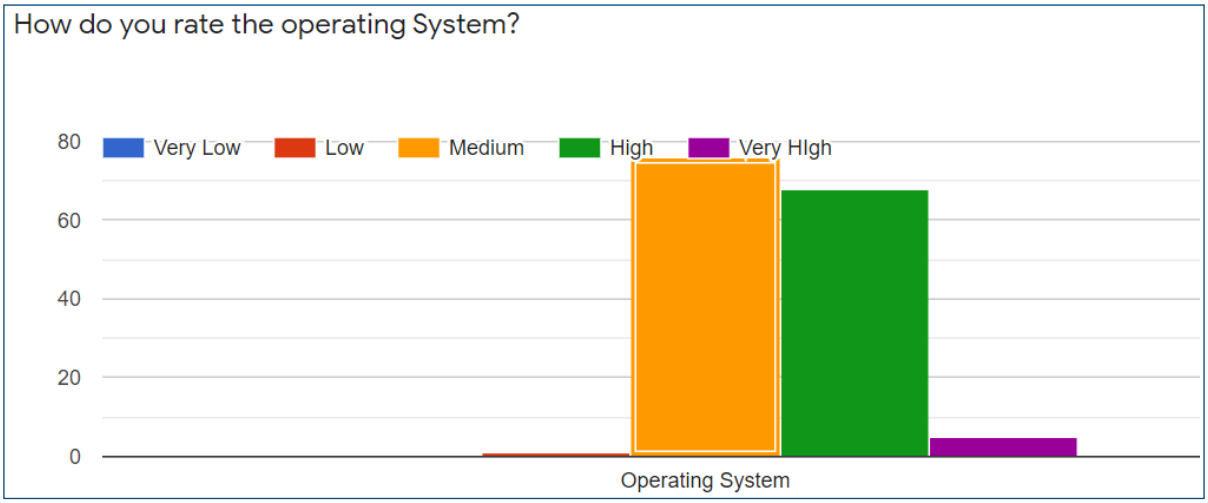

Fig. 31: Operating System

Out of 150 Respondents of Pune City, 76 people (majorly Gen X) give moderate or medium preference to the Operating System (OS), 68 people (majorly Gen Y) give high priority to the operating system. 5 people give very high importance to the Operating System.

Camera Specifications

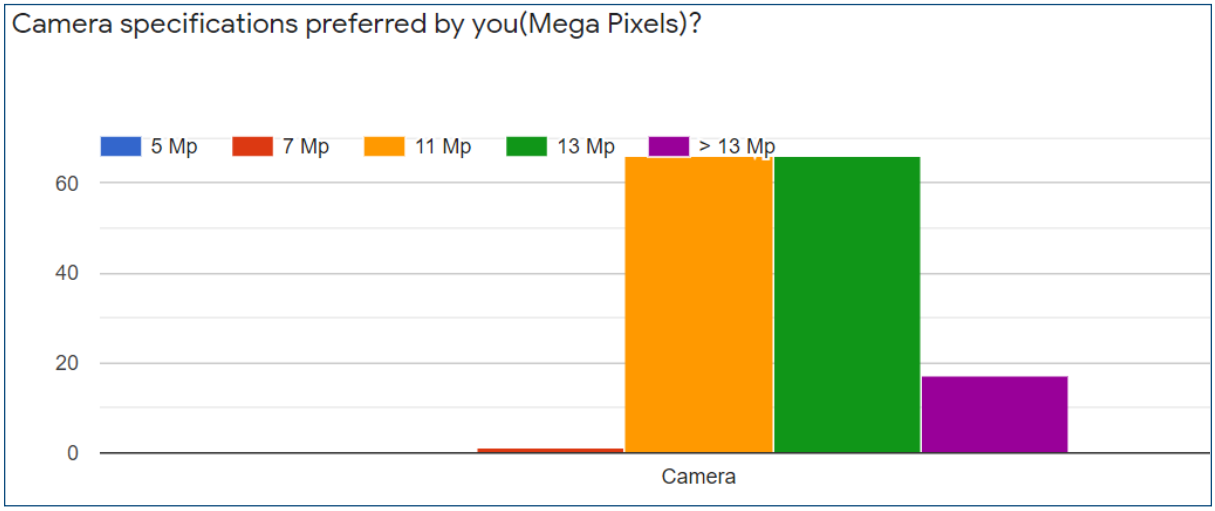

Fig. 32: Camera Specifications

Out of 150 respondents, 66 respondents prefer smartphones with a camera of 13 Mega pixels, also 66 respondents are satisfied with smartphones having a camera of 11 Mega Pixel. 17 respondents go for a smartphone with a camera greater than 13 Mega Pixel.

Fingerprint/Face Recognition

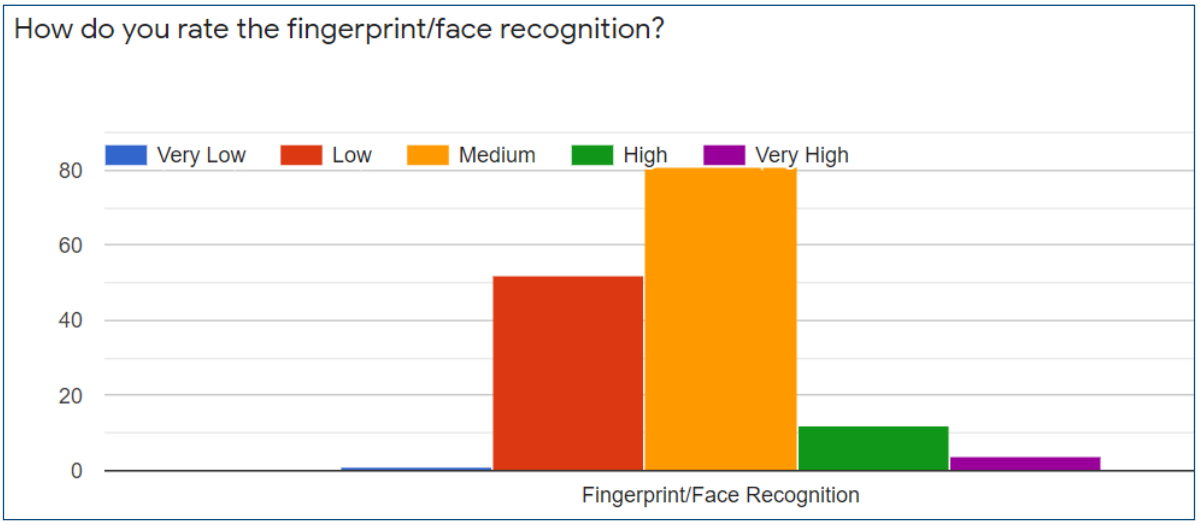

Fig. 33: Fingerprint Recognition

Out of 150 respondents of Pune city, 81 have given a moderate preference to fingerprint/face recognition, 52 have given a low priority whereas 12 and 4 people have given a high and a very high preference respectively to fingerprint/face recognition.

Dash Charging

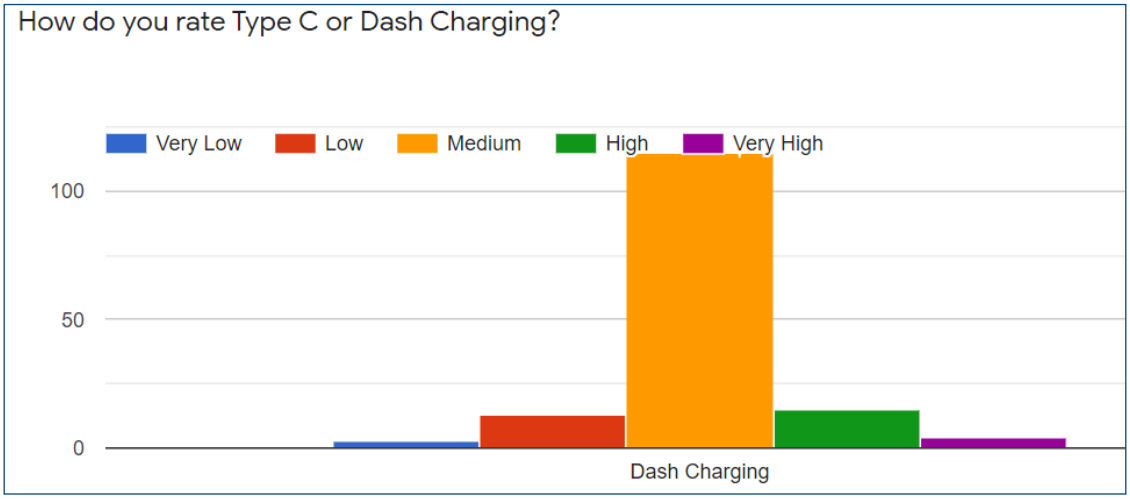

Fig. 34: Dash Charging

Out of 150 respondents of Pune city, the major chunk i.e. 115 respondents have been a medium preference to dash charging (speed charging). 15 respondents have given a high priority whereas 13 have given it a low preference. 4 respondents have given a very high importance to dash charging.

Water Resistance

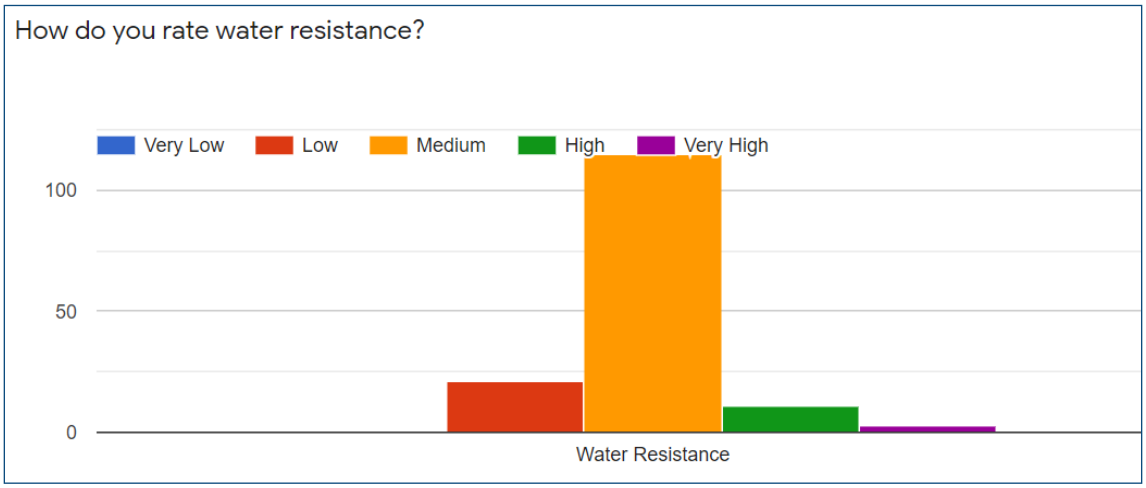

Fig. 35: Water Resistance

Out of 150 respondents of Pune city, the majority i.e. 115 respondents have given a moderate or medium preference to water resistance, whereas 21 respondents have given a low preference to water resistance factor. 11 respondents have given a high importance to water resistance factor and only 3 respondents have given it a very high preference.

Price Range

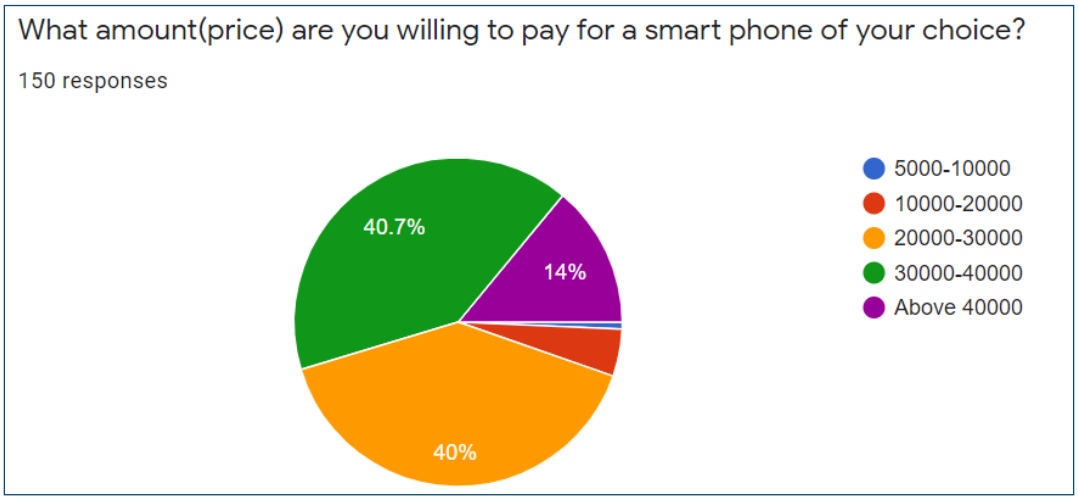

Fig. 36: Price Range

Out of 150 Respondents of Pune city, 40.7% i.e. 61 respondents are willing to pay 30000-40000 Indian rupees for a smartphone of their choice, 40% i.e. 60 respondents are willing to pay 20000-30000 Indian rupees for a smartphone of their preference, 14% i.e. 21 respondents can pay above 40000 Indian rupees for their preferred smartphone and 4.7% i.e. 7 respondents are willing to pay 10000-20000 for the smartphone apt for them.

Discussions

The topic chosen for the research paper is based on the buying pattern of the smartphones by GEN X and GEN Y, Pune. Initially the research was based on the literature reviews for similar or related topics followed by detailed study of them. Next stage was to create a survey form for collection of primary data. The google form was circulated for people residing in the Pune city. A total of 150 responses had been collected and data had been cleaned to remove some missing information or repeated responses. The research works on the target audience selecting their attribute preferences for the purchase of a smartphone, and selecting the top attributes for the same. Hypothesis testing has been performed to validate the attribute preferences. From the study we have identified the key attributes that differ in GEN X and GEN Y generations when they purchase a smartphone. Some of the limitations to the study are small sample size, limited research for Pune city and survey being conducted in an online mode. With new and new advancements and features being added now and then, the preference of people keeps changing. The scope of the study can further be extended to more people and thus more respondents from both Gen X and Gen Y be taken, in order to get a more decisive and one-sided results. The limitations can be addressed and further detailed study can be performed in the field.

Findings and Conclusion

This section contains all the final research findings and output that we have obtained after the detailed and comprehensive analysis of the primary and secondary search done on the smartphone buying behaviour of the Generation X customers and the Generation Y customers (millennials). There were total 150 responses, out of which 79 were from generation Y and 71 were from generation X. The aim was to find the top 3 factors for both Gen Xand Gen Y, which they consider while purchasing a smartphone.

Gen X Findings

Among the top 10 factors cited i.e. Battery Life, Embedded Memory, Screen size and resolution, Design and build quality, powerful processor, Operating System, Camera Specifications, Finger print/face recognition, Dash charging and water resistance; the top three factors that the Gen X people consider while purchasing a smartphone are:

- Battery Life (18 hours and more).
- Screen Size and Resolution (5 inch and 6 inch).
- Design and Build Quality.

Gen Y Findings

Among the top 10 factors cited i.e. Battery Life, Embedded Memory, Screen size and resolution, Design and build quality, powerful processor, Operating System, Camera Specifications, Finger print/face recognition, Dash charging and water resistance; the top three factors that the Gen Y people consider while purchasing a smartphone are:

- Embedded Memory (64 GB or more).
- Powerful Processor (8 GB or more RAM).
- Operating System.

Future Scope

Smartphones have become an inseparable part of our lives. One cannot imagine the world without a smartphone. With new and new advancements and features being added now and then, the preference of people keeps changing. The scope of the study can further be extended to more people and thus more respondents from both gen x and gen y be taken, in order to get a more decisive and one-sided results. Some more factors and attributes need to be added and the location of the respondents need to be changed in order to reaffirm the results.

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