

# Comparative Analysis of Online and Offline Shopping

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**Abstract:** The study tries to identify the factors that influence online shopping and the factors that influence offline shopping and tries to delve into the relationship whether it is direct or indirect, between the factors and the two shopping platforms. The study is be a theoretical analysis for the clear understanding of the impacts made by the factors of doing shopping either from online or offline. Graphical analysis tries to know how much people are divided into different categories prefer online shopping over offline and how can we make conclusions from that. Correlation analysis helps to know the relationship between quantity demanded and the cost of buying the product. Simple regression analysis is a statistical tool which is used to make estimates of the value of a variable on the basis of the value of another variable to which it is related. Here we will make an estimation of quantities purchased online on the basis of the value of its cost. The study finds that females prefer more clothes and cosmetics than other online given products and usually, purchase one unit of online product in a month. Most preferred and attractive advertisement is discount ads for females. For males, most preferred online product is gaming gadgets, buy more units in a month than females and most preferred offline channel is super market. There is a negative correlation in between quantity purchased and cost per unit.

**Keywords:** Consumer, online shopping, offline shopping, consumer behavior, regression analysis, graphical analysis, correlation analysis.

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## 1. INTRODUCTION

In this competitive world, consumer choices are becoming important to the sellers. Focus on every need of them become necessary. As the technology is upgrading day and forward, the services of producers reach consumers in a much faster way than before. Online shopping is emerging very fast in recent years to tackle the traditional way of shopping. This paper is aimed for the understanding of consumer choices made between online and offline shopping platforms. How people prefer doing online shopping as compared to doing it from offline one like traditional stores. (Laing and Lai, 2000) said that the internet shopping is the third best and most popular activity over the internet, next comes the e-mail using instant messaging and web browsing.

There are many factors by which demand of a particular commodity change. The behavior of consumers can suddenly be changed because of these factors. Their mentality of doing shopping can easily be changed, for example, if a person always does offline shopping but because of the peer pressure, he/she can easily shift from offline to online shopping. These are the factors that determine the behavior of consumers and way of doing shopping. To understand it clearly, the following are the factors that determine/influence online shopping:-

### 1) Pricing policy

Most consumers buy products when they are available at reasonable rate. Consumers only do shopping from where there is the best pricing policy available. That is the reason why online shopping is in vogue nowadays. Products purchased from the internet are mostly available at cheap prices as compared to shops. As a conclusion, there is an indirect

relationship exist between these two variables, one is quantity demanded from online shopping and the other one is the prices of those products available for sale on online platforms. It means if the price of the product rises and become more expensive as compared to the product available at a cheap price from traditional shops then the consumer will shift his preferences from online to offline shopping and demand for online available products will fall. So, it is beneficial for sellers to focus on their pricing policies.

## 2) Tech Knowledge

For doing online shopping, a person has to know a little bit about how to use the internet, how to order a product, how to make online payment etc. Only those people can do online shopping who have some technical knowledge. As the current scenario is of digitization, many people are aware of technical things whether they belong to the old citizens' category or children's category. That is the reason why more people do online shopping. As a conclusion, there is a direct relationship between doing online shopping and have a technical knowledge. More the tech knowledge, more will people do online shopping. So, it is recommended to the sellers that they should aware their consumers about how to do online shopping.

## 3) Peers

Human behavior can also depend upon what the peers are doing or how they are behaving. The mentality of a person can be changed because of peers' pressure. If peers are doing online shopping then there are high chances of followers to shift from doing offline to online shopping. As more people are doing online shopping, their followers as well as do the same. As a conclusion, it can be stated that more the peers' way of doing online shopping, more will be the demand for online products as more and more people will do online shopping.

## 4) Offers and services

"Better the offers and services, better will be the sales". More people go shopping when there is a discount available on the product or services provided by the sellers are good. After the emergence of online shopping websites, the offers provided by the sellers are increased and because of that more people were attracted to it. As a conclusion, it can be stated that there is a direct relationship between offers and sales of a product. For example, More the discount on a product, more will be the sales for it. So it is better for the sellers to provide good services and attractive offers.

## 5) Time consumption

As time consumption is the major factor that influences the behavior of a consumer to do online or offline shopping. A time before when there was no internet facility available, people used to do offline shopping but after the invention of internet and emergence of online shopping platforms, people are becoming addicted to doing online shopping as it takes less time to choose a product and order it. As a conclusion, it can be stated that there is an inverse relationship exist between time consumption and doing online shopping.

There are many factors that encourage buyers to buy from the offline method. These factors influence consumers to do offline shopping. If a person is doing offline shopping then it can be because of these factors. Following are the major factors that influence the behavior of consumers:-

### 1) Lack of trust

Many people think that doing online shopping is dangerous and they can be cheated easily. They have a lack of trust in the online product sellers. Because of the lack of trust people are willingly do offline shopping. As more the lack of trust in online products, more will be the demand for offline available products.

### 2) Spot delivery

Many people need products on the spot as probably there can be an urgency of it. If the product takes one or two days to deliver from online shopping then consumers will prefer to do offline shopping instead of doing online shopping. As more the urgency for spot delivery, more will be the demand for offline available products.

### 3) Availability

There are many products that are not available online or there may be some products that are not available online that people have to do offline shopping rather than online. If a person requires a product and find it on the internet but not available then that person has to go at traditional shops and would purchase it. More the unavailability on the internet of a product more will be the demand for offline available products.

**4) Peers**

Human behavior can also depend upon what the peers are doing or how they are behaving. The mentality of a person can be changed because of peers' pressure. If peers are doing offline shopping then there are high chances of followers to shift from doing online to offline shopping. As more people are doing offline shopping, their followers as well as do the same. As a conclusion, it can be stated that more the peers' way of doing offline shopping, more will be the demand for offline products as more and more people will do offline shopping.

**5) Lack of Tech knowledge**

More the people are unaware of tech knowledge; few people will do online shopping. There are many people who become hesitated to do online shopping. Because of that they buy products from shops and always prefer doing offline shopping than online.

**2. OBJECTIVES**

The major objective of this research is to examine consumers' behavioral intentions toward online and offline shopping. The study also surveys the factors that influence them to shop online and the factors that influence them to shop offline. To find the relationship whether it is direct or indirect, between the factors and the two shopping platforms. To know the correlation between the cost of buying a product and the quantity demanded. The study also predicts the value of quantity demanded or purchased when there is a given level of price available.

In summary, there are four specific objectives of this research as follows:-

1. To identify important factors influencing intention to do online and offline shopping.
2. To identify demographic factors relevant to online shoppers' purchasing intentions.
3. To identify the correlation between the quantity purchased and the cost of the product.
4. To predict the value of quantity demanded at a given price level.

**3. METHODOLOGY**

This paper comprises four types of analysis. First is a theoretical analysis that makes conclusions about the factors that influence the behavior of the consumer whether to purchase products from online or offline. It checks the qualitative aspects of the shopping platforms and its influencing factors. Second is a graphical analysis that identifies demographic factors relevant to online shoppers' purchasing intentions. It also identifies the preferences that people make over diversified products. The third is correlation analysis that identifies the relationship between purchased quantity and cost of the product. Conclusions will be made from the graphs that show the relationship whether it is positive or negative. Last is regression analysis that helps predicts the value of quantity purchased at the given level of price.

So, there are four types of analysis made in this research paper. These are the followings:-

1. Theoretical analysis
2. Graphical analysis
3. Correlation analysis
4. Regression analysis

**4. REVIEW OF LITERATURE**

The literature review has been conducted to gain a deeper understanding of research about online and offline customer and their experience. The review simplifies the dominant dimensions customer consider when they make an online purchase decision. More specifically, the study examined the interrelationship among quality, value, satisfaction when consumers choose to shop online.

Andrew and Currim (2000) studied expected the difference in choice, the behavior of consumer for two goods categories, statistically significant difference were found between consumers attracted to do online shopping versus shopping from offline/traditional supermarkets. The study found online shopping are less price sensitive than offline shopping.

Li and Zhang (2002) studied the representative existing literature on consumer online shopping attributes and behavior based on literature analytical review. The study attempts to provide a brief picture of the status of this subfield and point out limitations and areas for future research. They studied the dependent and independent variables. Three out of the five dependent variables (consumer attributes, intentions, and purchasing behavior) and independent variables (personal attributes, product attributes, and website quality) receive the most attention.

Soopramanien and Robertson (2007) The study focus on the acceptance and practice of online shopping. The research study found that how some variables (socio-demographic variables, attitude, and beliefs ) towards online shopping effect on both the decision to practice and use of online shopping channels. The study does not cover buyers who prefer to buy from offline/traditional shops but ultimately shift their preferences and buy online.

Tabatabaei (2009) has explored the opinion of the people who are purchasing online and those who are purchasing from the offline market. The main objective was to know why consumers choose to buy products from online websites instead of from offline markets. The study focuses on the demographic profile, computer knowledge and the knowledge over the internet. The study concludes that people buy from online websites one time in a month and from offline, four or five times a year.

Iyer and Eastmen (2014) in their research they found that the people who have an awareness of technology and have a positive attribute towards online shopping are more involved in doing online shopping than those who have less or unaware about the technology and have a negative attribute towards offline shopping. Those who have technical knowledge compares both the shopping i.e. online and offline shopping for their purchases of products.

Chaing and Dholakia (2014) In their research study they examined the purpose consumer make to purchase from online during their shopping. They choose some variables in their research that influence the consumers to purchase online or to go offline. They conclude that online shopping is more convenient for buyers and gives more satisfaction which encourages them to purchase online on the internet and not do shopping offline.

## 5. FINDING AND ANALYSIS

For the Graphical analysis, a sample online survey was conducted. For the collection of data, a questionnaire was prepared. Basically, the questionnaire was in Google form. The Google form was floated to many a group of persons through e-mailing and social media platforms. We got 30 responses from the people. After the calculation, the following graphs are represented and the conclusion is made. The results are presented in a subsequent part.

For the Correlation analysis, a small survey was taken and responses are recorded. From the given data, the correlation between the two variables is calculated and the conclusion is made. Results are presented in subsequent part.

For the regression analysis, the data collected for correlation was further taken into consideration and statistical tools were applied to predict the values of dependent variables from the given value of independent variables. The results are shown in subsequent part and calculations are presented in Annexure.

### Demographic profile and Graphical analysis:

In this section, descriptive statistics are employed for analyzing the primary data of the respondents' demographic profiles. Raw data are presented in terms of frequency and percentage.

**Table 1: Gender**

Gender	Frequency	Percentage
male	18	60
Female	12	40
<b>Total</b>	30	100

Table 1 shows that there were 30 respondents in the survey, and according to the survey results, there were 18 males or 60% and 12 females or 40%.

The results can also be presented graphically.

## Gender

30 responses

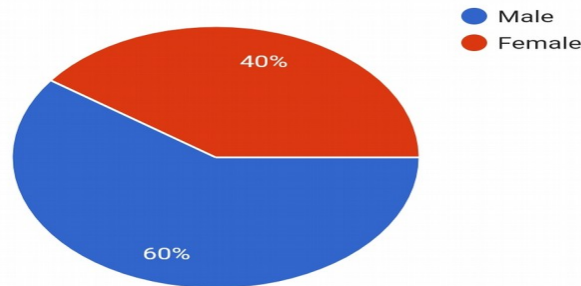


Chart 1: Gender

Table 2: Income

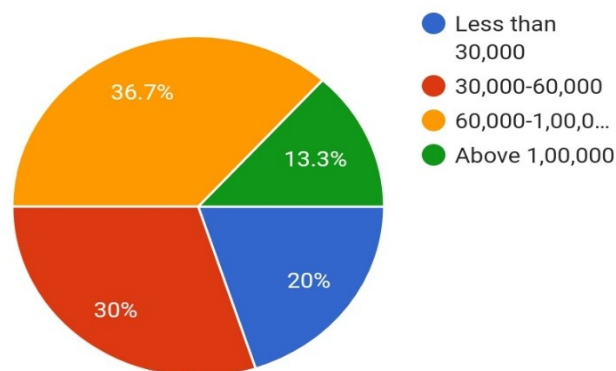
Income(rs per month)	Frequency	Percentage
Less than 30,000	6	20
30,000-60,000	9	30
60,000-1,00,000	11	36.7
Above 1,00,000	4	13.3
<b>Total</b>	<b>30</b>	<b>100</b>

Table 2 shows that there were 30 respondents in the survey, and according to the survey results, there were 6 people those have less than Rs 30,000 income per month or 20% and 9 people those have income in between Rs 30,000-60,000 or 30%. There were 11 people belong to Rs 60,000-1,00,000 range of a income per month. And 4 people who have above Rs 1,00,000 income per month.

The results can also be presented graphically.

## Income

30 responses



Charts 2: Income

Table 3: Qualifications

Qualifications	Frequency	Percentage
High school	7	23.3
Diploma	8	26.7
Bachelor degree	10	33.3
Master's degree or higher	5	16.7
<b>Total</b>	<b>30</b>	<b>100</b>

Table 3 shows there were 30 respondents. Out of 30, 7 were from high school i.e. 23.3%, 8 were from diploma, 10 were from bachelor degree and 5 were from a master's degree or higher.

The results can be presented graphically

## Qualifications

30 responses

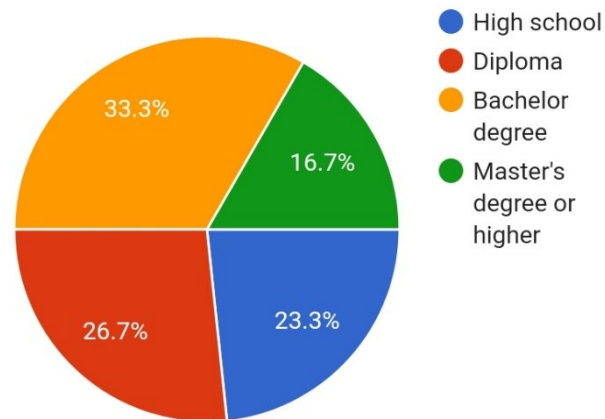


Chart 3: Qualifications

Now, the questions that were asked are divided into two parts. The first part was asked of the females to know their individual preferences. These are the questions and thereby the results.

Questions asked of the females and the results:-

1. What you prefer the most while doing online shopping?

Table 4: Preferences in between different goods purchased online made by females

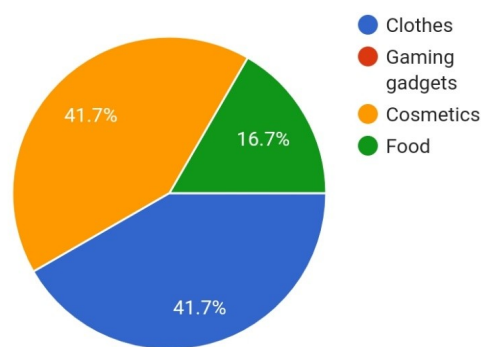
Commodities	Frequency	Percentage
Clothes	5	41.7
Gaming gadgets	0	0
Cosmetics	5	41.7
Food	2	16.6
<b>Total</b>	<b>12</b>	<b>100</b>

Table 4 shows that there were 12 female respondents. It can be concluded from the given table that females prefer more clothes and cosmetics than other online given products. And even it be easily understood that females are the least interested in buying gaming gadgets.

The results can be presented via a graphical presentation

### What you prefer the most while doing online shopping?

12 responses



**Chart 4: Preferences in between different goods purchased online made by females**

2. What you prefer in between online and offline shopping? (Price remain same)

**Table 5: preference in between online and offline shopping made by females**

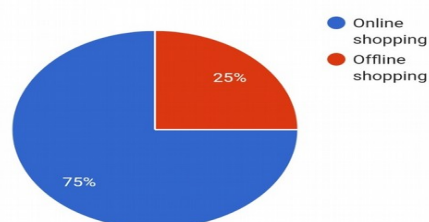
Shopping platforms	Frequency	Percentage
Online shopping	9	75
Offline shopping	3	25
Total	12	100

Table 5 shows that there were 12 female respondents to this question. It is concluded that females prefer online shopping as much as thrice of the offline shopping. It shows that people prefer more online over offline shopping.

The results can be presented graphically

### What you prefer in between online and offline shopping? (Price remain same)

12 responses



**Chart 5: preference between online and offline shopping made by females**

3. How many times do you buy products online within a month? Answered by females

**Table 6: Products purchased online in a month by females**

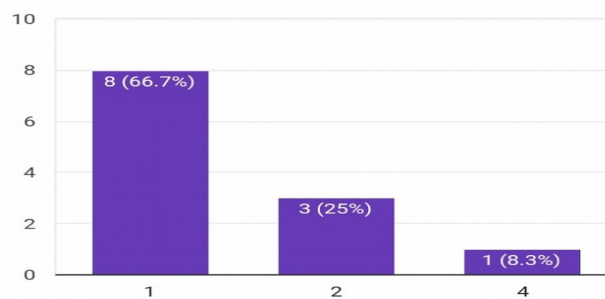
Products purchased (units per month)	Frequency	Percentage
1	8	66.7
2	3	25
4	1	8.3
<b>Total</b>	12	100

Table 6 shows that there were 12 female respondents and it can be concluded that most of the females purchase one unit of online product in a month. Here 8 out of 12 female respondents purchase only one unit of online product in a month.

The results can be shown graphically

### How many times you buy products online within a month?

12 responses



**Chart 6: Products purchased online in a month by females**

4. If you suggested doing offline shopping then which channel you prefer the most?

**Table 7: Preferences in between offline channels made by females**

Offline channels	Frequency	Percentage
Wholesale shops	4	33.3
Supermarket	1	8.3
Malls	5	41.7
Local shops/retailers	2	16.7
<b>Total</b>	12	100

Table 7 shows that there were 12 female respondents and the most preferred offline channel was malls. 5 out of 12 people preferred malls or 41.7% people. The least preferred channel was the supermarket.

The results can be shown graphically



If you suggested to do offline shopping then which channel you prefer the most?

12 responses

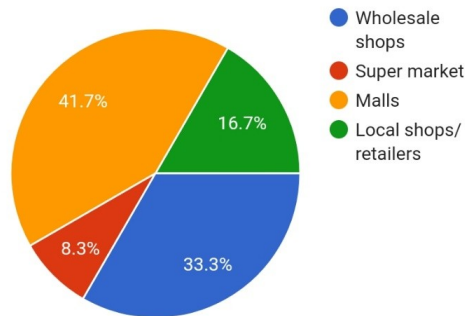


Chart 7: Preferences in between offline channels made by females

5. Do online shopping websites provide sufficient information?

Table 8: Information provided by the online shopping websites sufficient or not, answered by females

Yes/no/sometimes	Frequency	Percentage
Yes	7	58.3
No	3	25
Sometimes	2	16.7
Total	12	100

Table 8 shows there were 12 female respondents and it can be concluded that most people find sufficient information on online shopping websites. Here 7 out of 12 people say yes or 58.3%.

The results can be shown graphically

Is online shopping websites provides sufficient information?

12 responses

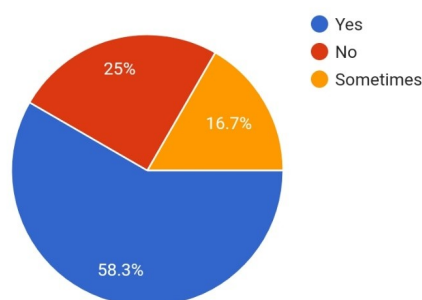


Chart 8: Information provided by the online shopping websites sufficient or not, answered by females

6. Types of advertisement which attract online purchase

**Table 9: preferences of advertisements that attract females to purchase online**

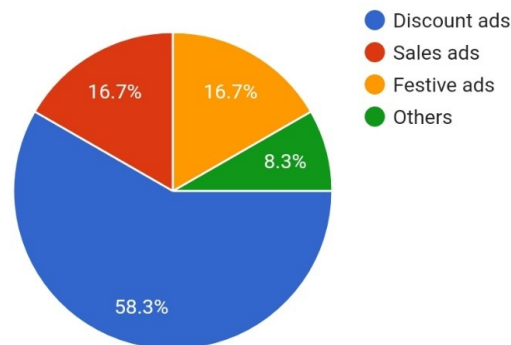
Types of advertisements	Frequency	Percentage
Discount ads	7	58.3
Sales Ads	2	16.7
Festive ads	2	16.7
Others	1	8.3
<b>Total</b>	<b>12</b>	<b>100</b>

Table 9 shows that there were 12 female respondents and it can be concluded that the most preferred and attractive advertisement is discount ads. 7 out of 12 females preferred discount ads as attractive and useful which is 58.3% of total respondents.

The results can be shown graphically

### Types of advertisement attracts to purchase online

12 responses

**Chart 9: preferences of advertisements that attract females to purchase online**

Now, as the questions that were asked are divided into two parts. The first part was asked of the females to know their individual preferences. The second part was asked to males to know their individual preferences. These are the questions and thereby the results.

Questions asked of the males and the results:-

1. What you prefer the most while doing online shopping?

**Table 10: Preferences in between different goods purchased online made by males**

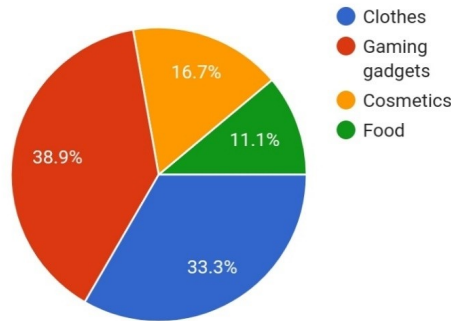
Products	Frequency	Percentage
Clothes	6	33.3
Gaming gadgets	7	38.9
Cosmetics	3	16.7
Food	2	11.1
<b>Total</b>	<b>18</b>	<b>100</b>

Table 10 shows there were 18 male respondents and it can be concluded that the most preferred online product is gaming gadgets and then clothes. 7 out of 12 people preferred gaming gadgets or 38.9% and 6 out of 12 people preferred clothes or 33.3%.

The results can be presented via a graphical presentation

### What you prefer the most while doing online shopping?

18 responses



**Chart 10: Preferences in between different goods purchased online made by males**

2. What you prefer in between online and offline shopping? (Price remain same)

**Table 11: preference in between online and offline shopping made by males**

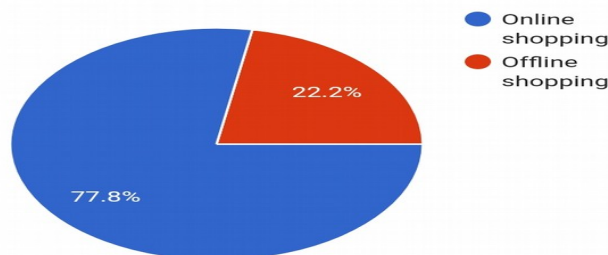
Shopping platforms	Frequency	Percentage
Online shopping	14	77.8
Offline shopping	04	22.2
<b>Total</b>	18	100

Table 11 shows that there were 18 male respondents and it can be concluded that the most preferred shopping platform is online shopping. Here 14 out of 18 people preferred online shopping over offline shopping. It can also be concluded that male people prefer online shopping more than females. As it is stated 75% of females prefer online shopping whereas 78.8% male people prefer online shopping.

The results can be presented graphically

### What you prefer in between online and offline shopping? (Price remain same)

18 responses



**Chart 11: Preference between online and offline shopping made by males**

3. How many times do you buy products online within a month? Answered by males

**Table 12: Products purchased online in a month by males**

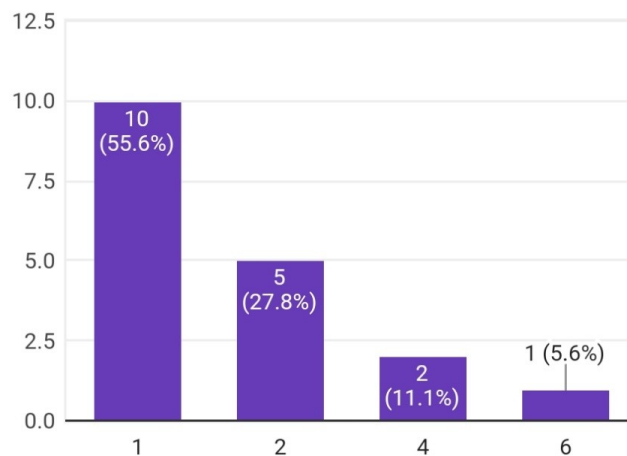
Quantity purchased (units per month)	Frequency	Percentage
1	10	55.6
2	5	27.8
4	2	11.1
6	1	5.6
<b>Total</b>	18	100

Table 12 shows there were 18 male respondents and it can be concluded that most male people purchase 1 unit of online product in a month. It can also be concluded that there are some male people who even buy 6 units of online product in a month but as above calculated that maximum units purchased by females in a month is 4 units. That means male people buy more units in a month than females.

The results can be shown graphically

## How many times you buy products online within a month?

18 responses



**Chart 12: Products purchased online in a month by males**

4. If you are suggested to do offline shopping then which channel you prefer the most?

**Table 13: Preferences in between offline channels made by males**

Offline channels	Frequency	Percentage
Wholesale shops	2	11.1
Supermarket	8	44.4
Malls	6	33.3
Local shops/retailers	2	11.1
<b>Total</b>	18	100

Table 13 shows that there were 18 male respondents and it can be concluded that the most preferred offline channel is the supermarket for males. It can also be concluded that females prefer least supermarket 8.3% as above calculated. But males prefer it the most.

The results can be shown graphically

If you suggested to do offline shopping then which channel you prefer the most?

18 responses

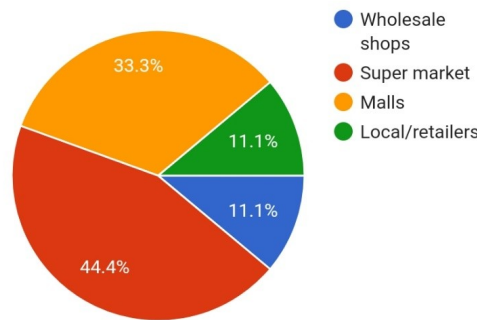


Chart 13: Preferences in between offline channels made by males

5. Is online shopping websites provide sufficient information?

Table 14: Information provided by the online shopping websites sufficient or not, answered by males

Yes/no/sometimes	Frequency	Percentage
Yes	14	77.8
No	03	16.7
Sometimes	01	05.5
Total	18	100

Table 14 shows that there were 18 male respondents and it can be concluded that there are more people who are satisfied with the information provided by the online shopping websites. 14 people out of 18 said yes. It can also be concluded that females are less satisfied with the information given as males. As calculated above 58.3% of females are satisfied with the provided information whereas 77.8% males are satisfied with it.

The results can be shown graphically

Is online shopping websites provides sufficient information?

18 responses

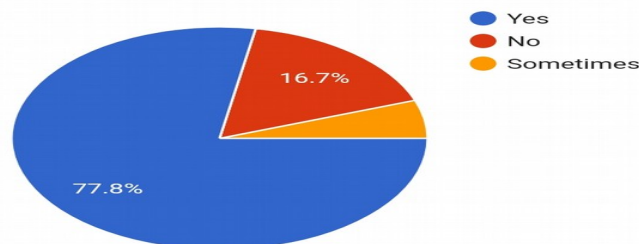


Chart 14: Information provided by the online shopping websites sufficient or not, answered by males

6. Types of advertisement attract to purchase online

**Table 15: preferences of advertisements that attract males to purchase online**

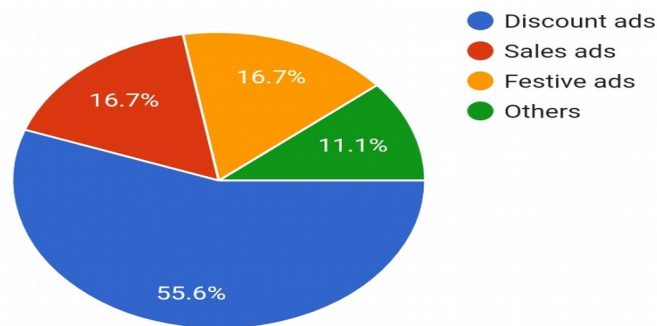
Advertisement types	Frequency	Percentage
Discount ads	10	55.6
Sales Ads	3	16.7
Festive ads	3	16.7
Others	2	11.1
<b>Total</b>	18	100

Table 15 shows that there were 18 male respondents and it can be concluded that the most preferred advertisement type is discount ads that attract males to purchase an online product. Here 10 out of 18 males preferred discount ads as an attractive advertisement type.

The results can be shown graphically

## Types of advertisement attracts to purchase online

18 responses

**Chart 15: Preferences of advertisements that attract males to purchase online**

### Correlation analysis:

The analysis is divided into parts. First is for the young generation. The study is taken to know their behavior when online product's price changes. How much they will give up when the price rises. Second is for the old generation that is already engaged in offline shopping. How they behave when the price of the online product changed. Does it affect their purchasing behavior? All conclusions will be made by the data given below.

**Table 16: Data for the young generation**

	Y(cost per unit)	X(quantity)
	2	40
	4	34
	6	26
	8	24
	10	20
	12	18
<b>Total</b>	42	162

Table 16 shows that there is a negative correlation between the quantity purchased and the cost of buying the product. As the cost per unit is increasing, the volume of quantity purchased is falling and it gives a downward sloping curve that shows there is indirect relationship exist in between these two variables.

It can be represented graphically

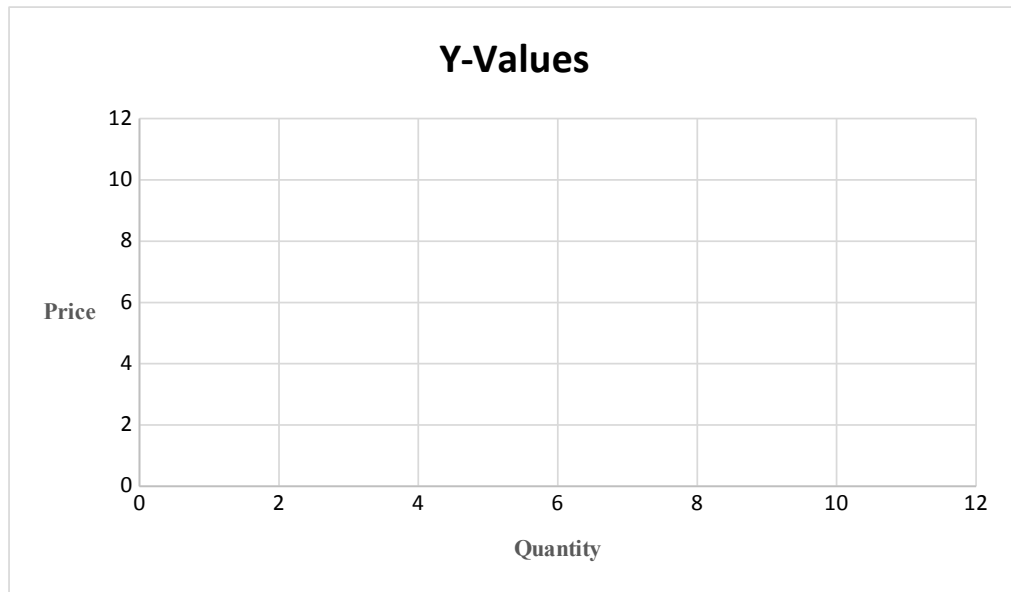


Chart 16: relationship between quantity purchased and cost per unit

Table 17: data for old people

	Y (cost per unit)	X (quantity)
	2	35
	4	32
	6	25
	8	20
	10	17
	12	15
<b>Total</b>	42	144

Table 17 shows that there is a negative correlation between the quantity purchased and cost per unit. It can also be concluded that the correlation between these two variables in the young generation was ( $r = -0.97$ )<sup>1</sup> and the correlation between the variables in the old citizen is ( $r = -0.98$ )<sup>2</sup>. that means old citizen is more tends to shift from online shopping to offline if the price of the online product rises.

#### Regression analysis:

Regression analysis is used for predicting the value of a variable dependent on another variable. Here we predict the volume of quantity purchased at a given level of price.

Table 18: data for prediction

	X(cost per unit)	Y(quantity)	$(x-\bar{x})$ $\bar{X} - 7$	$(y-\bar{y})$ $\bar{Y} - 27$	$(x-\bar{x})(y-\bar{y})$	$(x-\bar{x})^2$	$(y-\bar{y})^2$
	2	40	-5	13	-65	25	169
	4	34	-3	7	-21	09	49
	6	26	-1	-1	1	01	01
	8	24	1	-3	-3	01	09
	10	20	3	-7	-21	09	49
	12	18	5	-9	-45	25	81
<b>Total</b>	42	162	0	0	-154	70	358

<sup>1</sup>All calculations are shown in the appendix.

<sup>2</sup>All calculations are shown in the appendix.

It may be noted that,

1. There is a highly negative correlation between the two variables. ( $r = -0.97$ )

2. 94% of variation in Y is explained by X ( $R^2 = 0.94$ )

Now, we will predict the value of the total quantity purchased when the cost per unit is 14.

It can be concluded from the above calculation that when the cost per unit is 14 then consumers will purchase 11.6 unit of the given product.

Now, we will predict the cost per unit when a consumer purchases 20 units of a product.

It can be concluded from the above calculation that when a consumer purchases 20 units of that given product, the cost per unit will be 10.01.

## 6. CONCLUSIONS

After all the calculations and results, we can conclude that consumer behaviour is vast and predictions would become difficult but not impossible to do. Many philosophers already did a lot of researches on it and still, they prefer more to find out new discoveries. This paper aimed to contribute to their efforts and helps them in some way. The four types of analysis that analyzed here still need further research. Like, regression analysis that we did is uni-variate, it has the possibility of doing multiple regression analysis that has a broad scope in economics and statistics. The hypothesis can be done on the data given as it can check whether the given statement is true or falls. There are a lot of major factors that influence the behaviour of consumers. Finding out and analyzed them is important and have a bigger scope.

As a finalized conclusion, we can say that consumer behaviour is very much influenced by factors on which they are dependent. The impact of factors can be positive or negative depending on how people behave or react to the situation.

There is a negative correlation between price and quantity purchased but it can differ in magnitude depending upon the nature of the product and the type of person.

Predictions can be made on how people react to the launching of new products. It is very much useful in corporate decisions. Univariate regression analysis is just the way to understand regression equations and predictions.

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## APPENDIX

## Appendix 1 Questionnaire:

**Comparative analysis of online and offline shopping**

This sample survey is used to know the demographic profile of consumers and their preferences for different goods and shopping platforms.

\* Required

**1. Age \***

Mark only one oval.

- Upto 18
- 18-25
- 25-35
- 35 and above

**2. Gender \***

Mark only one oval.

- Male
- Female

**3. Qualifications \***

Mark only one oval.

- High school
- Diploma
- Bachelor degree
- Master's degree or higher

**4. Income \***

Mark only one oval.

- Less than 30,000
- 30,000-60,000
- 60,000-1,00,000
- Above 1,00,000

**Only for females**

This section is for females to know their preferences

**5. What you prefer the most while doing online shopping?**

Mark only one oval.

- Clothes
- Gaming gadgets
- Cosmetics
- Food

**6. What you prefer in between online and offline shopping? (Price remain same)**

Mark only one oval.

- Online shopping
- Offline shopping

7. **How many times you buy products online within a month?**

\_\_\_\_\_

8. **If you suggested to do offline shopping then which channel you prefer the most?**

*Mark only one oval.*

- Wholesale shops
- Super market
- Malls
- Local shops/retailers

9. **Is online shopping websites provides sufficient information?**

*Mark only one oval.*

- Yes
- No
- Sometimes

10. **Types of advertisement attracts to purchase online**

*Mark only one oval.*

- Discount ads
- Sales ads
- Festive ads
- Others

### **Only for males**

This section is only for males to know their preferences

11. **What you prefer the most while doing online shopping?**

*Mark only one oval.*

- Clothes
- Gaming gadgets
- Cosmetics
- Food

12. **What you prefer in between online and offline shopping? (Price remain same)**

*Mark only one oval.*

- Online shopping
- Offline shopping

13. How many times you buy products online within a month?

\_\_\_\_\_

14. If you suggested to do offline shopping then which channel you prefer the most?

Mark only one oval.

- Wholesale shops
- Super market
- Malls
- Local/retailers

15. Is online shopping websites provides sufficient information?

Mark only one oval.

- Yes
- No
- Sometimes

16. Types of advertisement attracts to purchase online

Mark only one oval.

- Discount ads
- Sales ads
- Festive ads
- Others

#### Appendix 2 Correlation and regression's calculations:

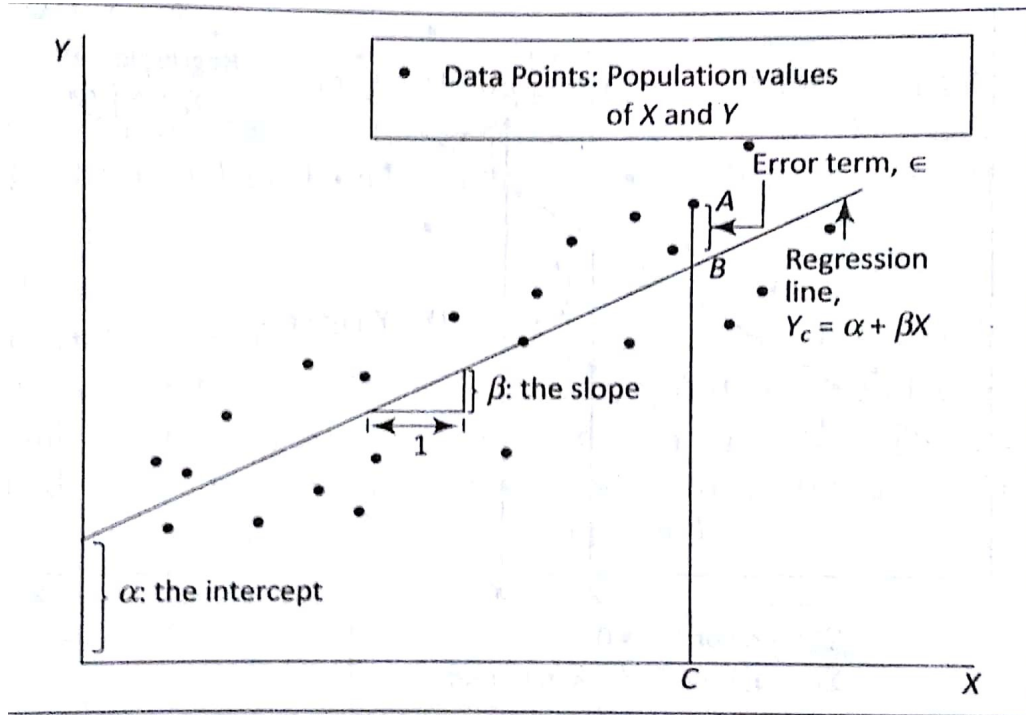
	$X(\text{Cost})$ (per unit)	$Y(\text{quantity})$	$(X-\bar{X})$ $\bar{X}=7$	$(Y-\bar{Y})$ $\bar{Y}=27$	$(X-\bar{X})(Y-\bar{Y})$	$(X-\bar{X})^2$	$(Y-\bar{Y})^2$
	2	40	-5	13	-65	25	169
	4	34	-3	7	-21	09	49
	6	26	-1	-1	1	01	01
	8	24	1	-3	-3	01	09
	10	20	3	-7	-21	09	49
	12	18	5	-9	-45	25	81
<b>Total</b>	42	162	0	0	-154	70	358

From the calculation, we have

r =

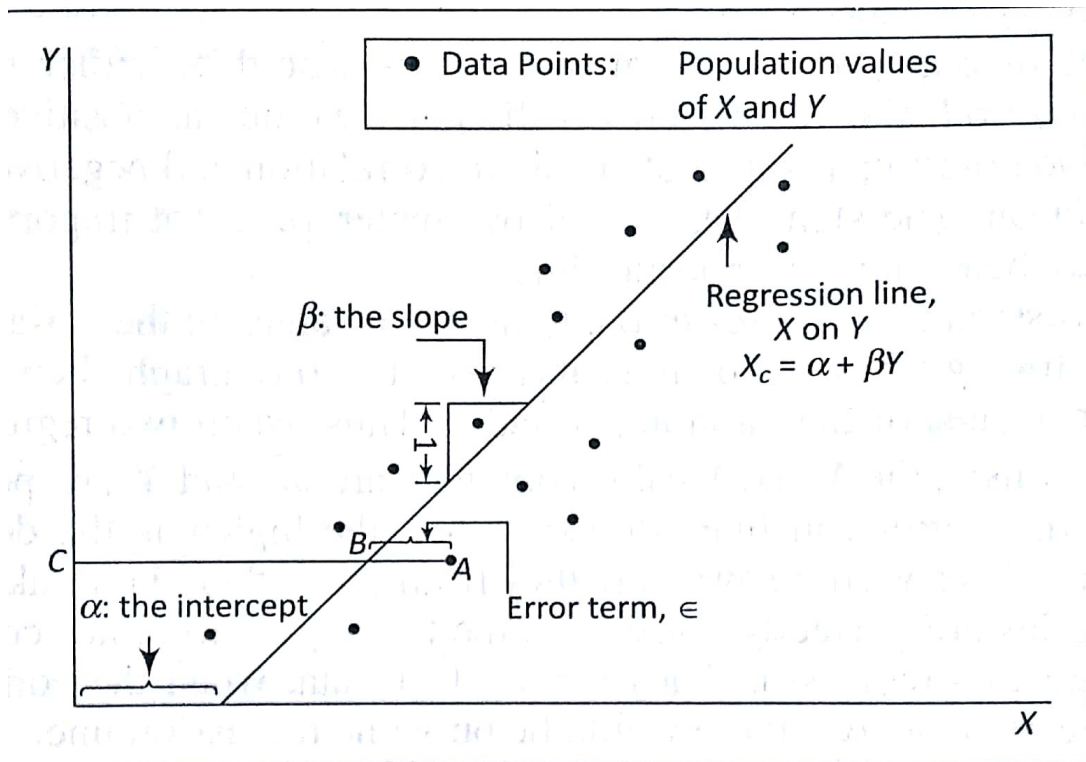
Further,

The regression equation of Y on X :



3

The regression equation of X on Y :



4

<sup>3</sup>The equation is used to predict the value of variable Y at the given value of variable X.

<sup>4</sup>The equation is used to predict the value of variable X at the given value of variable Y.