CHAPTER- SIX

CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS OF THE RESEARCH STUDY

DETAILED CONTENTS AT A GLANCE

CHAPTER NUMBER -SIX

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6.0: INTRODUCTION:

Online trading has evolved from the legacy of e-commerce to mobile commerce. The requirement of personal computers has been done away after the entry of handheld device of smartphones with wireless internet connectivity. It has opened the door of doing shopping anytime from anywhere, along with some other main activity. To illustrate, a m-shopper who is travelling, can also shop online by using mobile phone. It has saved the time of the m-shoppers in a more efficient and effective way.

M-shoppers have been exposed to many alternatives of products for the same product that they are looking for online. Since smartphones have replaced the personal computers for the online shopping majorly, the necessity of detailed study on the quality of the mobile shopping applications and the smartphone attribute has become the need of the time.

Mobile commerce has to be studied more by the research scholars to understand potential in it for the future business opportunities and economic growth. Rise in m-commerce proposes the need to study the influence of the attributes of the smartphone in m-shopping behaviour. The research study becomes necessary because there are lots of smartphones available in the market with the different price tag and with multiple functionalities.

Shopping on smartphones would only be preferable when it is reliable and without lagging or display issues. There can be multiple issues faced by the m-shoppers while operating smartphone for mobile shopping. This research study is focused on some of the dimension of these issues, challenges or benefits enjoyed by the m-shoppers in handling smartphone for online shopping. The researcher has been successful in his attempt to collect the enough primary data for the research study.

Mobile shopping applications are the fruits of the development of technology in smartphone applications. It connects the m-shoppers with the sellers and many other m-shoppers online. It creates a platform to the m-shoppers to explore new products, save them in shopping cart for purchasing later and pay at their convenience. Downloading a mobile application provides access to the m-shoppers with all the functionalities developed by the mobile shopping developers and the online retails sellers. This research study has paved a way and opened a window to the sellers to understand the m-shoppers experience with the attributes of smartphone and the quality of mobile shopping applications.

6.1: A BRIEF ABOUT THE RESEARCH STUDY:

We are living in the era of information technology. Customers scrutinize various options in the products or services before they were buying or availing with the help of information available online. Smartphones were helping them to make good choices at the fingertip.

It was made possible to the m-shoppers only through the magic of smartphones with good internet data enabled. The smartphones efficiency determines the usage of it for the mobile shopping. Smartphones without any lagging issues, sturdy, solid, good sustainability and reliability increases the chances of using smartphone for mobile shopping.

M-shoppers were having multiple options while it comes to choosing the mobile shopping applications. There were a lot of shopping applications available in the market. M-shopper can choose the mobile shopping applications for online shopping. As m-shoppers were going to be spending their hard-earned money, they would like to use the mobile shopping applications that were trustworthy and reliable. Apart from the trust factor, the user friendliness of the mobile shopping applications, the availability of the products, comparing facility, approachability of the sellers, and mobile applications layout all play important role in m-shoppers' choice.

This research study was designed & conducted to find out the relationships or association or linkages of the selected attributes of the smartphone and the quality of mobile shopping applications in m-shoppers' shopping and or buying behaviour, among the smartphone users in the selected cities viz., Vadodara, Ahmedabad, Surat and Rajkot in the State of Gujarat.

The research study will be helpful for both Smartphone manufacturers and the developers of the mobile shopping applications. Smartphone manufacturers can produce and suitably customize its design and features of the smartphones as per the valuable input feedback and suggestions received from the m-shoppers. Mobile applications developers can design the mobile shopping applications considering the expectations of the m-shoppers with related to Its Perceived Usefulness, Perceived Ease of Use, Price Perception and Trust.

Table number 6.1: A Brief Factual Profile of the Research Study

Bibliography	
Number of Reference Books Referred	08
Number of Journals Referred	180
Number of Research Papers Reviewed	155
Number of Research Report/ Thesis /Dissertation Referred	49
Number of Conference Proceedings Referred	23
Number of Websites Accessed	63
Name of Search Engine Used	ProQuest, JSTOR, Google Scholar, SpringerLink and J-Gate
Details of Statistical Tools Applied	Frequency, Percentage, Mean, Proportion, Correlation, Chi-squwere Test, T-test, Kruskal-Wallis Test, Post Hoc Test, Factor Analysis & PLS-SEM
Sources for Secondary Data Used	Reference Book, Journals, Newspaper articles, Ph.D. Thesis, Master Dissertation, Working paper, Conference proceeding, Websites
Group of Hypotheses Tested	
Research Design Used	Exploratory and Descriptive Research Design
Research Instrument Used	Structured Non-Disguised Questionnaire
Sampling Decisions	
Representative Sample	Smartphone Users who had used it for shopping through smartphone applications
Sampling Design	Non-probability Sampling Design
Sampling Method	Convenient sampling Method
Sampling Frame	Cross-sectional social Network Users as per data published by Internet Mobile Association of India (IAMAI), and Telecom Regulatory Authority of India (TRAI)
Sample Size	1480 m-shoppers who were conveniently drawn by applying non-probability sampling design being residents of the four selected cities of the Gujarat State viz., Ahmedabad (500), Rajkot (265) , Surat (425) and Vadodara (290)
Sampling Media	Structured Non-Disguised Questionnaire filled up through Electronic Format and supported with the help of Personal Interview with the m-shoppers
Details of Model	Technology Acceptance Model (TAM)
Number of Tables in Ph.D. Thesis	107
Number of Graphs in Ph.D. Thesis	76
Number of Figures in Ph.D. Thesis	30
Number of Abbreviations Used in Ph.D. Thesis	118

Source: Field Work

6.2: SYNOPSIS OF THE PH.D. THESIS:

The entire Ph. D thesis has been divided into six chapters, in which first two chapters have been mainly devoted to theoretical & conceptual understanding comprising of an in-depth review of literature on the chosen topic of this research study. The remaining four chapters from chapter number three to chapter number six have dealt with the conduct of an empirical research study and research methodology.

The titles of the chapters of the Ph. D thesis are as follows.

Chapter One: A conceptual framework of m-commerce and m-shopping

Chapter Two: Review of Literature

Chapter Three: Research Methodology

Chapter Four: Data Analysis & Interpretations

Chapter Five: Findings and Implications of the Research Study

Chapter Six: Conclusions, Recommendations & Suggestions of the Research Study

An attempt has been made to offer a concise review of the conceptual part covered in the first three chapters as follows.

6.3: Chapter One: An Overall Review and Conceptual Framework of M-Commerce and m-Shopping:

The first chapter of the research study is titled as "A conceptual framework of m-commerce". The chapter has described the evolution of m-commerce in different eras, moving from the traditional market to digital market. The researcher studied the worldwide usage of Internet, smartphones and mobile data among the m-shoppers in India as well as worldwide.

The development of mobile applications, motivations to install the mobile applications, future development of mobile applications and preferred mobile shopping applications are also discussed in this chapter. Government initiatives towards the development of digital market has also been discussed in this chapter. The limitations and the future of the digital market are also placed in the first chapter of overall review of a conceptual framework of m-commerce.

6.4: Chapter Two: Review of Literature:

In chapter number two of review of literature, the researcher had reviewed various published research papers, thesis, dissertations and the release of news articles on adoption of mobile commerce, advantages of mobile commerce, mobile attributes, mobile applications in mobile commerce and trust and security among the mobile shoppers. The researcher has mentioned review of literature on m-shoppers behaviour with regard to the preference in the attribute of smartphones, perceived usefulness and perceived ease of use, price & Trust.

6.5: Chapter Three: Research Methodology:

This chapter is mainly devoted to offer brief explanation on the various procedural aspects followed in the conduct of this research study which is used in the writing and submission of the Ph.D. thesis called as research methodology. This chapter includes the basic infrastructure on which Ph.D. thesis is written & organized and consists of various procedural steps and methodological aspects viz., the basic terms of the research study, rationale of the research study; scope and coverage of the research study; research design of the research study; objectives of the research study; research questions of the research study and hypotheses of the research study.The conceptual model, developed for the research study and sources of secondary data; sampling decisions used in the conduct of this research study is also given in this chapter, on the basis of which collection of data , analysis and interpretations of the primary data was done to offer results of the research study as well as findings and implications of the research study along with set of recommendations and suggestions including limitations of the research study along with directions for future researchers to conduct researches in near future.

The key objective of the research study was to study and examine the influence of Perceived Quality of Smartphone Applications, such as Appearance, Content Quality, Technical Adequacy, mediated by its Perceived Usefulness, Perceived Ease of use, Trust, Convenience to Use & Price Sensitivity, on M-Shoppers' Shopping intention; as well as to assess the influence of Perceived Quality of features of Smartphones, mediated by its Perceived Usefulness, Perceived ease of use, Trust, & Price Sensitivity, on M-Shoppers' Shopping Intentions.The chapter of research methodology had explained the key terms of research study viz., mobile applications, mobile attributes, mobile commerce, perceived usefulness, perceived ease of use, convenience of use, trust and price sensitivity.

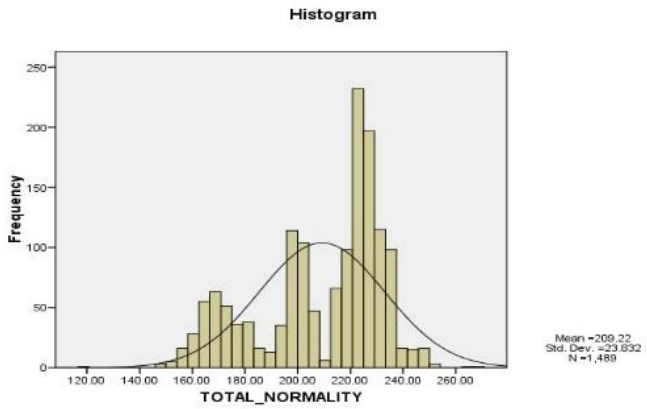
The researcher had adopted exploratory and descriptive research design in conduct of the research study which was based on use of suitable sources of secondary whereas primary data were collected using structured-non-disguised questionnaire from total number of 1480 m-shoppers who were conveniently drawn by applying non-probability sampling design being residents of the four selected cities of the Gujarat State viz., Ahmedabad (500), Rajkot (265) , Surat (425) and Vadodara (290) respectively.

The sampling of the research study has been analyzed in the chapter of research methodology along with the drafting of structured non-disguised questionnaire. The objectives of the research the study has been elaborated in this chapter. Model used in the research study, data analysis and interpretations of the proposed research study, limitations of the proposed research study, reliability of research instrument used for measurement, and factor analysis of mobile applications have also been discussed in the chapter of research methodology.

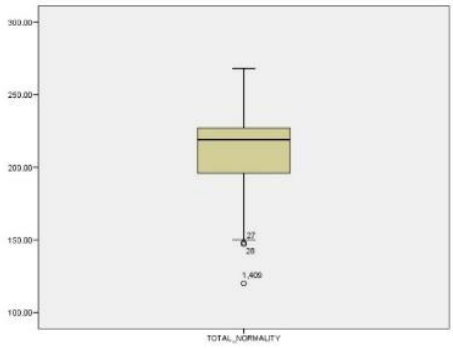
6.5.1: Test of Normality of the Distribution:

The assumption of normality is a prerequisite for many inferential statistical techniques and the researcher has used histogram; box plot and value of skewness and kurtosis to determine the shape of the distribution given as follows.

Graph Number -6.1:Histogram



Graph Number-6.2: Boxplot



The data analysis about the average opinion of selected buyers of Smartphones on selected dimensions showed a negative skew with the value of -0.715 and -0.534 of kurtosis, which indicates a flatter distribution. The normality is also supported by the shape of the curve of the histogram for the average opinion of selected buyers of Smartphones on selected dimensions as well as the median value positioned in the centre of the box plot which indicated that distribution can be assumed to be normal with negative skewness of -0.715.

6.5.2: A Brief About the Structured Non-Disguised Questionnaire:

The researcher has attempted to offer a brief description about the review of literature that he has gone through while framing the structured non-disguised questionnaire to ensure all the aspects of the research study is covered in relation with mobile applications' quality and attributes of smartphones in continuance intention of m-shopper's buying behaviour in the selected cities of the State of Gujarat.

The research questionnaire was divided into six parts. The first part of the questionnaire was designed to collect demographic information of the respondents such as: age group, gender, marital status and type of family. The second part consisted of the questions related to the smartphones such as the name of the smartphone user is using & used previously, amount spent on smartphone purchase, the preferences of features in smartphone, and user friendliness of operating system. The third part of the questionnaire had the objective of collecting information of the m-shoppers' shopping frequencies, preferred place of shopping, preferred time of shopping, shopping duration, sources of shopping information, reasons for downloading mobile applications, number of shopping apps. downloaded, preferred number of images of the product and shopping materials. The fourth part of the questionnaire focused on the difficulties while shopping in terms of Internet connectivity, downloading images, and product delivery. The fifth part of the questionnaire mainly aimed at collection of data on m-shoppers' perceived ease of use, perceived usefulness, trust, mobile applications quality, smartphones' attributes against the real-life experiences of the smartphone users. The fifth part had considered to include the questions for the measurement of overall expectations and experiences of the m-shoppers towards quality of smartphones. A five-point Likert scale was applied defined as 1 = Strongly Disagree;2=Disagree;3=Can't say;4=Agree, and 5 = Strongly Agree in the Question number 21. The 6th th part of the structured questionnaire consisted the overall experience of the m-shoppers as mobile shopping regarding the payment, expectations of mobile shopping apps., expectations of smartphone attributes, and their overall satisfaction.

6.5.3: Reliability of Research Instrument Used for Measurement of Influences of Quality of Mobile Applications' and Smartphones' Attributes on Selected Mobile Shoppers' Shopping Intentions:

Reliability refers to the extent to which a scale produces consistent results if repeated measurements are made on the characteristics.

A popular approach of Coefficient Alpha or Cronbach's Alpha is used, which is the average of all possible split – half coefficients resulting from different ways of splitting the scale items. This coefficient varies from 0 to 1, and average of 0.6 or less generally indicates unsatisfactory internal consistency reliability.

Table Number 6.2: Table Showing Summary of Indicators and Reliability Alpha Score

Sr. No.	Grouped Indicator Items	Cronbach Reliability Alpha Coefficient
01	Mobile Application Quality (MAQ)	**0.925**
02	Mobile Attributes (MA)	**0. 843**
03	Perceived Usefulness (PU)	**0. 885**
04	Perceived Ease of use (PE)	**0. 812**
05	Trust (TR)	**0. 847**
06	Price (PR)	**0. 656**
07	Overall	**0.943**

All dimensions of the structured questionnaire related with measuring influences of mobile applications' quality and smartphones' attributes on selected mobile shoppers' shopping intention were tested and the Cronbach's alpha ranged from 0.656 to 0.925 which really shows Internal reliability of the scale. The reliability of a scale as measured by coefficient alpha reflects the degree of cohesiveness among the scale items (Nweresh K. Malhotra, 2007; Jum C. Nunnally, 1981, and Puay Cheng Lim & Nelson K. H. Tang, 2000).

6.6: CHAPTER FOUR: DATA ANALYSIS & INTERPRETATIONS:

In the fourth chapter titled as data analysis and interpretations, the researcher had organized and categorized the collected primary data, converted the data into readable format, analyzed, interpreted and reported the results by using SPSS 15.0 for Windows. This chapter represented the data analysis and interpretations of the research study. The report has been presented in graphical and tabular format.

6.6.1: Profile of Selected Smartphone Users of the Research Study:

The researcher had attempted to collect the data from the smartphone users who had done made online shopping using mobile applications in smartphones considering their selected demographic variables viz., gender, age group, marital status, income and educational Qualifications. The researcher had undertaken the surveys in the four selected cities viz., Baroda, Ahmedabad, Surat and Rajkot in the State of Gujarat.

Table Number 6.3: Profile of the Selected M-Shoppers

Selected Background Variables of Selected M-Shoppers		Vadodara	Ahmedabad	Surat	Rajkot	Overall
		(Number and Percentages of Selected M-Shoppers)				
Gender	Males	187(62.5)	323 (64.6)	283(66.4)	176(66.7)	969(65.1)
	Females	112(37.5)	177 (35.4)	143 33.6)	88(33.3)	520(34.9)
Age Groups	16 to 40 Year	155(51.8)	243 (48.6)	217 50.9)	143 54.2)	758(50.9)
	40 to 59	124(41.5)	239 (47.8)	194 45.5)	115 43.6)	672(45.1)
	Above 60 Years	20(06.7)	18(03.6)	15 (03.5)	06(02.3)	59(04.0)
Marital Status	Unmarried	140(46.8)	238 (47.6)	208 48.8)	151(57.2)	737(49.5)
	Married	159(53.2)	262 (52.4)	218(51.2)	113(42.8)	752(50.5)
Types of Family	Joint	159(53.2)	250(50.0)	208(48.8)	130(49.2)	747(50.2)
	Nuclear	140(46.8)	250(50.0)	218(51.2)	134(50.8)	742(49.8)

Among all the respondents in Vadodara, Ahmedabad, Surat and Rajkot 65.1 per cent were the male respondents and 34.9 per cent were female respondents out of total 1489 respondents. The data analysis revealed that out of the total number of 299 respondents in Vadodara, male mobile commerce users were 62.5 per cent, and female respondents were 37.5 per cent. Ahmedabad consisted of 64.6 per cent male respondents and 35.4 per cent female respondents.

Surat and Rajkot had 66.4 per cent and 66.7 per cent male participants respectively. Female respondents in Surat and Rajkot were 33.6 per cent and 33.3 per cent respectively., showing a trend of more male m-shoppers than female m-shoppers, among the four selected cities of Gujarat.

Data also revealed the fact that majority of the smartphone users who had responded for the data collection in Vadodara, Ahmedabad, Surat and Rajkot had belonged to the age group of 16 to 40 years with 50.9 per cent (758 respondents), followed by, 672 respondents (45.1 per cent) in the age group of 40 to 59 years. 4 per cent of the smartphone users responded in the data collection were above 60 years. 51.8 per cent, 48.6 per cent, 50.9 per cent, and 54.2 per cent of the respondents belonged to the age group of 16 to 40 years in the cities of Vadodara, Ahmedabad, Surat and Rajkot respectively. 41.5 per cent respondents in the city of Vadodara belonged to the age group of 40 to 59 years and 6.7 per cent respondents belonged to the age group above 60 years in Vadodara. 18 per cent, 15 per cent and 6 per cent of the respondent were in the age group of 60 years above.

49.5 per cent (737 respondents) smartphone users were found as unmarried and 50.5 per cent (752 respondents) of them were married among the total respondents in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot. 46.8 per cent, 47.6 per cent, 48.8 per cent, and 57.2 per cent respondents were unmarried in the cities of Vadodara, Ahmedabad, Surat and Rajkot respectively. On the other hand, 53.2 per cent, 52.4 per cent, 51.2 per cent, and 42.8 per cent respondents were unmarried in the cities of Vadodara, Ahmedabad, Surat and Rajkot respectively.

50.2 per cent (747 respondents) were found as living in joint families. 49.8 per cent (742 respondents) of the respondents belonged to nuclear families. 53.2 per cent, 50.0 per cent, 48.8 per cent, and 49.2 per cent respondents were belonged to joint families in the cities of Vadodara, Ahmedabad, Surat and Rajkot respectively. On the other hand, 46.8 per cent, 50.0 per cent, 51.2 per cent, and 50.8 per cent respondents were found as living in nuclear families in the cities of Vadodara, Ahmedabad, Surat and Rajkot respectively.

6.6.2: KEY RESULTS OF THE RESEARCH STUDY:

The research study revealed the following key results:

6.6.2.1: M-Shoppers' Preferences for Smartphone Attributes:

The research study was conducted based on various attributes of smartphones such as looks and feel, brand name, functionality, security and privacy among the smartphone users in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot. Looks and Feel (2.82 mean rank) was the most preferred feature of the respondents ranked at the first place. Brand value (2.81 mean rank) was the second most preferred features of smartphones among the smartphone users.

The Security & Privacy (2.31 mean rank) came to third rank among 1489 smartphone users, while it played the very important role among the users of Smartphone in Rajkot in first place (2.77 mean rank). Brand value (2.65 mean rank) came to the second rank among the users of Rajkot city. Look and feel took (2.57 mean rank) the 3rd preference of the Rajkot respondents. Functionality (2.01 mean rank) played the least preference with the users.

6.6.2.2: M-Shoppers' Preference for the Operating Systems in Smartphones:

Operating system is the most important functionality in a smartphone. The research study was conducted on the same considering the user friendliness of the operating systems. Among all the selected smartphone users in the four selected cities ~~of~~ viz., Vadodara, Ahmedabad, Surat and Rajkot, 'Android' emerged as ~~was~~ the most preferred (3.8 mean rank) operating system among the selected smartphone users, followed by 'iOS' ranked the second place (2.99 mean rank), Windows had got the third place (2.21 mean rank) in terms of user friendliness. The 'Other' operating systems got the lowest (1mean rank) rank among the smartphone users across all four selected cities of the Gujarat State.

6.6.2.3: M-Shoppers' Frequency of shopping through Smartphone Applications:

Smartphone had created the opportunity for the m-shoppers to shop frequently without travelling to various places for the sake of shopping. Mobile shopping eliminates the trouble of transportation and dependency on others to accompanying the shopping.

As per the analysis of data, 31.8 Per cent smartphone users were shopping using their smartphone once in a month across all the selected cities of Vadodara, Ahmedabad, Surat and Rajkot. The frequency of many times in a week was the lowest portion of 11.8 Per cent in all the selected 4 cities. 20.6 per cent smartphone users were uncertain about their buying frequency. Among 1489 selected smartphone users, 23.4 per cent users were shopping once in fortnight and 12.4 per cent respondents to shop once in a week.

In the city of Ahmedabad, 32.6 Per cent of the smartphone users were shopping once in a month, which was slightly higher to Vadodara (30.1 per cent), Surat (31.9 per cent) and Rajkot (31.8 per cent). 20 to 21 per cent of selected smartphone users in all selected cities were uncertain about their shopping frequency.

Frequency of once in fortnight shopping using mobile applications were 27.8 per cent, 22.4 per cent, 22.8 per cent, and 21.6 per cent in Vadodara, Ahmedabad, Surat and Rajkot cities respectively.

The frequency of many times a week online shopping in Vadodara was only 8 per cent, in Ahmedabad 12.8 per cent, in Surat 11.5 per cent, and in Rajkot 14.8 per cent respectively.

6.6.2.4: M-Shoppers' Preferred Place of shopping:

Unlike other shopping modes, mobile shopping has the privilege of shopping at your convenience from anywhere. In case of the City of Baroda, half of the respondents 154 (51.5 Per cent) had done mobile shopping from their workplace which is next to the shopping from the home with 48.5 Per cent.

In Ahmedabad City too, shopping from work place was higher (59.4Per cent) than shopping from home (40.6 Per cent). In the City of Surat similar trend was observed.

In case of Rajkot city, the reverse trend was found, 140 m-shoppers (53 Per cent) were found doing mobile shopping at their homes and 124 m-shoppers (47 Per cent) used workplace for shopping.

Overall, shopping from workplace was done by 799 m-shoppers (53.7 Per cent) and shopping from home contributed 690 m-shoppers (46.3 per cent).

6.6.2.5: M-Shoppers' Preferred Time of Shopping:

Since smartphone is a handheld device, the smartphone users have the luxury of shopping at any time. In the City of Baroda, 28.8 Per cent of m-shoppers had been shopping in the evening. while 20.4 Per cent mobile shoppers in Baroda preferred the morning time for m-shopping.

In the ~~city of~~ Ahmedabad, Surat and Rajkot cities, 31.2 Per cent, 33.6 Per cent and 30.3 Per cent mobile shoppers preferred afternoon for their m-shopping. The time of late evening was less preferred by the m-shoppers.

6.6.2.6: Average Time Spent for Shopping through Smartphones:

Shopping gives hedonic experience to the m-shoppers. The duration of shopping time especially in the era of information technology differs among the m-shoppers.

In all the selected cities in Gujarat i.e., Vadodara, Ahmedabad, Surat and Rajkot cities, most m-shoppers (40.8 Per cent) preferred shopping less than 60 minutes, followed by 34.7 per cent smartphone users who had stated that they shopped for more than 60 minutes on an average. 24.5 per cent m-shoppers had stated that they made shopping using mobile for less than 30 minutes per session.

6.6.2.7: Sources of Information about Smartphone Applications:

Smartphone users come across the information about the mobile shopping applications or online offers through various sources of information. The research study was conducted to know the sources of information to the m-shoppers based on information available on advertisements in newspapers, hoardings, family members, friends, colleagues, email and SMS. In case of all of the selected cities such as Baroda, Ahmedabad, Surat and Rajkot, a similar trend was found regarding the sources of information about m-shopping apps.

Overall, in all the selected cities in the State of Gujarat, mobile shopping information was mostly shared by friends (56.3 per cent), followed by family members (52.9 per cent). Mobile short messages (51.3 per cent) also played vital role in passing the mobile shopping information to the mobile shoppers.

6.6.2.8: Reasons for Downloading the m-Shopping Applications:

The breakthrough in the mobile phone technology is the development of mobile shopping applications. Mobile shoppers tend to download the mobile shopping applications for varied reasons. The major reason for downloading was user friendliness (54.4 per cent) among the m-shoppers. followed by 53.8 per cent m-shoppers had downloaded the mobile shopping applications for easy purchase and tracking. Availing discount (49.3 per cent) came in the third place as the reason for downloading shopping applications, while 46.5 per cent mobile shoppers had stated easy refund as the reason for downloading of applications.

6.6.2.9: Number of Shopping Applications Downloaded by the Smartphone Users:

Since, there were so many shopping applications available in the play store, the research study collected the primary data on the mobile phone applications, downloading behaviour of the m-shoppers.

A similar trend was observed across all the selected cities viz., Vadodara, Ahmedabad, Surat and Rajkot, where 37.1 per cent smartphone users had downloaded four to five applications in their smartphones, while 32.4 per cent of smartphone users had downloaded five and more shopping applications. 30.4 per cent smartphone users had downloaded one to three shopping applications in their smartphones.

6.6.2.10: Number of Images Preferred by the m-Shoppers:

Mobile shoppers go through the images of the products before they plan to buy it and in the absence of touch, there is only an option of various images which gives the view and feel of product. Out of 1489 selected smartphone users in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot, 38.2 per cent of smartphone users preferred six images followed by 28.9 per cent smartphone users had preferred four images to make online shopping. 23.3 per cent smartphone users had preferred more than 6 images. Only 9.5 per cent smartphone users had preferred only two images.

6.6.2.11: Usage of Mobile Shopping Applications by the Smartphone Users:

The research study had collected the primary data to know the penetration of common and popular mobile shopping applications and its usage among the smartphone users. In the selected cities of Vadodara, Ahmedabad, Surat and Rajkot, Paytm had been downloaded and used by 39.1 per cent, which was majority usage compared to other mobile apps. Amazon and Flipkart had almost same usage of 31.8 per cent and 31.2 per cent respectively.

eBay had the share of 23.8 per cent and Zomato was used by 21.6 per cent of the mobile shoppers. Bookmyshow was used by 20.8 per cent. A very few m-shoppers were using Zivame, Lifestyle, TaTaCLiq, Voonik and Yebhi with the usage share of 3.1 per cent, 3.9 per cent, 4.5 per cent, and 5.1 per cent respectively.

6.6.2.12: Problems Experienced by the Smartphone Users:

The researcher had made an attempt to study the problems faced by the smartphone users. He has conducted the research study based on the following general problems related to disconnection or slow connectivity, smartphone getting hang up frequently, Problem of downloading images, returning of Products is not user-friendly, in place of return only exchange is option, price changes as soon as order is placed, information on websites are not getting updated, problems faced due to advertisement in between, delivery is not on time, cash on Delivery is not available, tracking of consignment is not possible, and order once placed is not easy to cancel. In all the above-mentioned problems, it was seen that around half of the m-shoppers sometimes faced these problems, very few m-shoppers had always faced problems while there were few who had never faced these issues or problems.

6.6.2.13: Logged-in Shopping Applications by the Smartphone Users:

Smartphone users have the option of having shopping applications logged in or not. Overall, 66.6 Per cent, mobile shoppers did not prefer to logged in all the times for mobile shopping, whereas only 33.4 per cent had said that they will keep the shopping applications logged in all the time.

6.6.2.14: Mode of Payments in Online Shopping:

Mobile shopping had developed by simplifying the technologies to the m-shoppers so that they can complete the whole transaction itself. There were various modes of payments available in the market as per the convenience of the customers or mobile shoppers. Most of the smartphone users (77.6 per cent) made the transaction using Paytm, followed by 69 per cent smartphone users had used mobile wallet in the four cities of Vadodara, Ahmedabad, Surat and Rajkot cities of the State of Gujarat. Smartphone users (45.7 per cent) had used cash on delivery in online transactions. Credit Card (49.1 per cent) and Debit Card (27.9 per cent) also most prevalent mode of payment among the smartphone users in online shopping.

6.6.3: IMPLICATIONS BASED ON DATA ANALYSIS:

M-shoppers were having different preferences towards the features of smartphones and its operating system, which had meaningful interpretations helpful for marketers in designing smartphone & it's features.

There were two categories where online shopping was more in comparison of other categories and those were, m-shopping once in fortnight and once in a month. This implies that normally, m-shoppers were not addicted to shopping, they were doing it as & when required and to retain the m-Shoppers and make them to do the frequent shopping, most mobile shopping applications provided points based on the money that they spent, they gifted the frequent shoppers with discounts coupons.

m-Shoppers were shopping from different places at different time and time taken to shop was also different, it had its implications for the research study, which researcher has tried to put forward in this chapter.

The analysis showed that 'looks & feel' was the most preferred feature followed by 'brand name', which implied that manufacturer of the smartphone should always remain conscious about the looks & feel i.e. thickness, sleek body with different colours available for male & female, because this has influence on buying decision of m-shoppers. Secondly, brand name gives the satisfaction to the shopper that the smartphone would be worth & value for money, which itself certify the safety & privacy in the mind of m-shoppers.

Among various operating systems, android was found as most popular followed by iOS, which was simply based on user-friendliness.

In case of other analysis, results showed that large number of m-Shoppers who preferred shopping from home, took more time while shopping considering the relaxed environment at home. They mostly made the shopping decisions based on the opinions of the family members and their preferences.

Products that had hedonic preferences or not of a basic necessity can be bought when surrounded with their friends or colleagues in the workplace, on the other hand the products that required the opinion of other family members or for the collective usage of a family as whole can be bought from home.

A similar trend of preferred time of shopping was seen in all selected cities of the State of the Gujarat. Afternoon was the most preferred time to shop, followed by evening and morning. Afternoon is the time to relax, & it lures the m-shoppers to make m-shopping, while taking rest, from easy mind, comparison of product, & then selection as per the features evaluated can be done easily. As far as time is concerned, m-shoppers were mainly making m-shopping for less than 60 minutes and followed by more than 60 minutes. This data can help the marketers to target the m-shoppers for showing them the advertisements of their interests and giving them the best deal to engage them in the m-shopping.

m-Shoppers were downloading applications because of user-friendliness of the smartphone applications and in their opinion it made shopping & tracking of the order easy, if applications are downloaded on smartphone. In several cases, m-shoppers had downloaded applications to get first time discount, which implied that m-shoppers gets motivated if they have any benefit on downloading of application, so owners of applications should always relate discount with the use of applications, whether in form use of any particular payment gateway or on purchase of fixed number of items, which motivates m-shopper to increase or add more items to their shopping cart to avail discount.

In case of collecting information regarding the application, friends & family members were on top, which implied that there must be some points given to the person who refer the shopping application and the person who downloads, can share phone number to transfer those points in that account, to be availed in next m-shopping.

M-shoppers were asked the number of images of products preferred in the application, and the majority of m-shoppers preferred 4 to 5 or more images to be present in the application, which implied that developer of application should keep in mind the preference of the m-shoppers, where various images, covering all sides of the product and video should be uploaded in the application.

M-shoppers were also asked about the problems being faced in m-shopping, related to disconnection or slow connectivity, smartphone getting hang up frequently, Problem of downloading images, returning of Products is not user friendly, in place of return only exchange is option, price changes as soon as order is placed, information on websites were not getting updated, problems faced due to advertisement in between, delivery is not on time, cash on Delivery is not available, tracking of consignment is not possible, and order once placed is not easy to cancel. In all the above-mentioned problems it was seen that around half of the m-shoppers sometimes faced these problems, very few m-shoppers had always faced problems while there were few who had never faced these issues. This result of analysis implied that though connectivity was due to poor service of Internet service provider while all other issues should be taken care by the developer of smartphone application and the product manufacturer.

Application developer should program tracking & return in a user-friendly manner, and information of delivery should keep always updated to the m-shoppers via, message & e-mail. With reference to payment gateways, the analysis showed that m-shoppers prefer to pay from a third-party app like Paytm but they do not want to fill every time the detailed information regarding Credit/Debit Card in every shopping application.

This implied that application should be developed in such a way that it should automatically redirect towards payment gateways, without asking any confidential information, in which m-shopper hesitates.

6.7: CHAPTER FIVE: FINDINGS AND IMPLICATIONS OF THE RESEARCH STUDY:

The chapter of findings and implications of the research study has discussed the factor analysis applied to test various formulated hypotheses for this research study. For the purpose of applying the chi-square test, the responses given by selected smartphone users related to the attributes of the smartphone and quality of mobile applications on five rating scales which were combined into three groups unimportant-neutral -important with related to their overall expectations, and experiences that were combined into three groups of good, fair and poor (Question no. 21) The overall satisfaction regarding the smartphone attributes, mobile application quality and recommendations to others had been grouped into four categories i.e. disagree, no opinion, agree and strongly agree. The findings had been derived based on the experience and challenges faced by the smartphone users in terms of shopping made through use of the mobile shopping applications.

6.7.1: SUMMARY OF FINDINGS BASED ON FRIEDMAN RANKING TEST & IT's IMPLICATIONS:

Amongst the various features of the smartphone, the research study found that 'Looks and feel' is the top most preferred feature of smartphone users across the selected cities of Vadodara, Ahmedabad, Surat and Rajkot with minuscule variance with the 'brand value' as their second preference. 'Brand value', 'Looks and feel' are the very much preferred features in a smartphone among the users considering the reliability, stability and usability.

Since smart looks of a smartphone gives a fashion statement to them m-shoppers along with the image preferred ranked looks and feel in the first place. Brand value says everything about the product. Henceforth, m-shoppers had a very minor ranking between brand value and looks & feel of the smartphone.

Security and privacy were ranked in third place by most of the selected smartphone users. Since-shoppers are afraid and worried about the privacy of online shopping and secured locking facilities, m-shopper gave much importance to the security features of the smartphone. Functionality was ranked in fourth place among the majority of the smartphone users considering the frequent changes in the functionalities due to the changes in the hardware technology and updates in the software. Therefore, m-shoppers were keen on selecting smartphones with a good brand value that can be compatible with the functionality changes**.**

Friedman Ranking Test was applied to know the preference of features of smartphone and preference of Operating system while buying a smartphone. The research study among the smartphone users across the cities of Vadodara, Ahmedabad, Surat and Rajkot about their preference while selecting the smartphone showed the results of data analysis. Looks and feel topped the first preference, followed by Brand in the 2nd rank among the m-shoppers.

Security and Privacy bagged the 3rd preference among the smartphone users. The preference of functionality secured the least rank by the m-shoppers across the four selected cities.

The results of ranking test on preference of operating system, showed a very similar trend in all selected cities of Gujarat State, where smartphone users were largely using android phones followed by iOS & Windows. This was a clear indication of user sensitiveness towards price & ease of use, which is more in case of android phones. Android operating system is no doubt, having more user-friendly features than iOS. This implies that manufacturers of android phones keep on improvising it's features, to attract the users' because smartphone users are already in to using android operating system. Windows operating system, in fact needs lots of improvement in designing of features because till date it was unable to attract smartphone users in comparison of other available operating systems in smartphone market.

6.7.2: SUMMARY OF FINDINGS OF CHI-SQUARE TEST AND IT'S IMPLICATIONS:

The researcher has applied Chi-Square Test, to test various hypotheses formulated based on the primary data which were collected from the selected m-Shoppers' of the Baroda, Ahmedabad, Surat, & Rajkot Cities in the State of Gujarat. In order to see the association among dependent & independent variables, researcher had applied the Chi-Square test and reported the resultant significant or insignificant association among the quality of smartphone application and smartphone attributes with the demographic variables of selected m-shoppers from selected cities of the Gujarat.

6.7.2.1: Findings & Implications of the Chi-Square Test on Perceived Ease of Use vis-à-vis Age, Gender, Income, Educational Qualifications and Marital Status of m-Shoppers

The scholar has attempted to bring out the implications on the selected smartphone users' overall opinion on perceived ease of use of mobile based attribute vis-à-vis age, gender, income, educational qualifications and marital status of m-Shoppers. The smartphone is widely available mostly to all the age groups. The purpose of having a smartphone differs from people to people based on their age group and the motive of buying smartphones. The researcher had analysed the screen size of smartphone affecting online shopping and zooming feature that helps to know the product well vis-à-vis age group, gender, income, marital status & educational Background of the m-Shoppers in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot in the State of Gujarat.

The results based on the chi-square test had indicated that the age group, gender, income, marital status and educational qualifications, were insignificantly associated with the size of the smartphone affecting online shopping across the selected cities of Vadodara, Ahmedabad, Surat and Rajkot perceived with the ease of use of m-Shoppers.

The results indicated that the screen size of smartphone & zooming feature has no relationship with the m-Shoppers irrespective of the age groups, gender, income, marital status and educational qualifications, and are having same user interface experience with the screen size of the smartphone and zooming experience, which implies that manufacturers of the smartphone should focus on improvising smartphone attributes irrespective of smartphone users' age, gender, marital status, income & educational qualifications.

6.7.2.2: Findings & Implications of the research study based on the results of the Chi-Square Test on the Price of Smartphone vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers.

Pricing of a product plays a crucial role in determining the market share of that particular product. M-shoppers tend to buy products that are fairly priced as per his or her income, social status and the quality of the product.

The researcher had attempted to study and examine the relationship of the price of smartphone vis-à-vis Age, Gender, Income, Educational Qualifications and marital status of m-Shoppers that influences the m-shopping decisions.The chi-square result indicated that the age has its influence on the relationship with the expected price of phone deciding the quality of smartphone that results in the intention to shop and continuous ~~using~~ use of smartphone across all the selected cities of Vadodara, Ahmedabad, Surat and Rajkot in the State of Gujarat. Smartphone manufacturers should consider the display of the smartphone that would be convenient for all the age groups so that they can continue to shop using the smartphone regardless of the price of the smartphones.

The results of the chi-square also indicated that the opinion of male & female m-Shoppers also varies with the expected price of smart phone in deciding the quality of smartphone that results in the intention to shop further using smartphone across all the selected cities of Vadodara, Surat and Rajkot in the State of Gujarat.

Smartphone manufacturers should incorporate the colour enhancement-mode so that female m-shoppers colour discerning ability can be met in selecting product while making online shopping because display requirements of male & female smartphone users were found as different in all selected cities in the State of Gujarat.

The results of the chi-square indicated that the Marital Status, Income & Educational ~~Background~~ qualifications of m-Shoppers had no relationship with the expected price of smart phone in deciding the quality of smartphones that results in the intention to shop further using smartphone across all the selected cities of Vadodara, Ahmedabad, Surat and Rajkot in the State of Gujarat.

The similar trend was found in all selected cities the State of Gujarat implies that smartphone manufacturers should focus on display features of smartphone irrespective of its price because smartphone display is the foremost important feature to give the first impression of the product while shopping.

6.7.2.3: Findings & Implications of the research study based on the results of the Chi-Square Test on Perceived Usefulness of Smartphone vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers

In case of selected cities such as Vadodara, Ahmedabad, Surat and Rajkot, age & gender were found as having a significant relationship with perceived usefulness of mobile attributes.

Age & Gender need special attention by smartphone manufacturers because opinions towards the usefulness of smartphone attributes were found different of various age groups & male-female. Manufacturers should design the smartphone keeping in mind the requirement of various age-groups & male-female separately. M-shoppers of young age group like big smartphones while old-aged people want a small phone with large display features. Thus, the requirement of male-female & m-Shoppers of different age-groups are different, which should be considered while designing the smartphones.

Smartphone manufacturers should also focus on the durability of the batteries that are provided along with smartphones. Not only that, the battery power should last long till the m-shoppers' purpose of the shopping is fulfilled. The research study was conducted to analyse the perceived usefulness of smartphone batteries giving enough time to make online shopping vis-à-vis age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers.

The research study had also revealed that the m-shoppers' income, educational qualifications, and marital status did not have any significant relationship with the perceived usefulness of the smartphone attributes in online shopping.

Smartphones are helpful to m-shoppers to shop anywhere at any time whether indoor or outdoor. Since, smartphones display the screen with the help of backlighting technology, smartphone manufacturers should consider the brightness of the screen while producing smartphones. The findings of the chi-square test revealed that the age & gender were concerned with the perceived usefulness of brightness of the smartphone affecting the outdoor mobile shopping while income, marital status and educational qualifications do not carry any difference of opinion towards the perceived usefulness of brightness of the smartphone affecting the outdoor mobile shopping.

Since, this is the era of information available with the growth and spread of the use of Internet network connections and smartphones, collecting information about any product becomes easier. The information available on smartphones should help the m-shoppers to reduce the physical search of a product's information, and this was accepted by all selected m-shoppers also. The research study had revealed that the perceived usefulness of smartphone in reducing the physical search to collect product information did not have any significant relationship with age, income, and marital status of m-Shoppers in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot in the State of Gujarat.

The perceived usefulness of smartphone reduced the physical search to collect product information had a significant relationship with the gender in the cities of Baroda, Ahmedabad, Rajkot and Surat in the State of Gujarat.

6.7.2.4: Implications of the research study based on the results of the Chi-Square Test on Trust in Smartphone vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers:

Trust plays a vital role in mobile shopping. M-shoppers buy the products that are trustworthy in quality and durability with the help of a device called smartphone on which users should also trust.

The challenge in mobile shopping is more than in offline shopping such as not having the face to face interaction with the sellers, lack of opportunity to touch and feel the product and not able to inspect before the purchasing is done. With these challenges, additional challenges are of Smartphone attributes.

The researcher had made an effort to study the opinion of smartphone users' demographic variables vis-à-vis their trust on smartphone attributes, and considering the overall opinion of smartphone users about the safety facilities, it was found that there was a significant relationship with age & gender, while in case of Income Marital Status, and Educational Qualifications, had no significant association was found with Trust in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot in the State of Gujarat.. It means that all the users in all the age groups and of different gender differed in their opinion for trust attribute but smartphone users of different Income, Marital Status and Educational Qualifications did not differ in the opinion concerning the Trust & safety facilities in the smartphones. With increasing age, consciousness towards safety also increases & male m-shoppers were generally found more particular regarding safety facility, so keeping in mind these changes, manufacturer should design the device that should assure safety to its users.

6.7.2.5: Findings & Implications of the research study based on the results of the Chi-Square Test on Perceived Ease of Use of Smartphone Application vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers

Searching a right product at the expected price has become a tedious job ~~to~~ for the m-shoppers as there are a lot of choices available in the market and physical search of a correct product is practically becoming a challenge to the m-shoppers due to fast lifestyle and lack of mobility in the congested cities. Smartphone paves a way to the m-shoppers to make the shopping at ease with multiple choices to compare with and pick up the desired product as they like.

The researcher had attempted to analyse and study the perceived ease of use of smartphone applications vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers in mobile shopping. The research study was conducted in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot in the State of Gujarat.

The findings of Chi-square analysis implied that Mobile apps. developers and the online sales merchants should collaborate themselves to give better shopping experience to the m-Shoppers by considering their Age, Gender, Income, Educational Qualifications and the Marital Status respectively.

The majority of m-Shoppers belonging to different Age Group, Gender, Income, Educational Qualifications and Marital Status, all had considered downloading good quality mobile shopping applications provided them better shopping experience. It meant that mobile shopping application developers have met the expectations of the majority of the m-Shoppers irrespective of their Age, Gender, Income, Educational Qualifications and Marital Status of m-Shoppers.

However, perceived ease of use of different age groups in Vadodara & Ahmedabad cities had revealed a significant association with the experience of use of downloaded mobile applications and, Mobile shopping developers should consider the background of the Age Group, Income and Marital Status of the m-Shoppers and provide customized shopping applications to them.

It can be inferred from the research study that regardless of all the Age-Groups, Gender, Income, Educational Qualifications and Marital Status of the m-Shoppers, it was easy to avail special offers and discounts by waiting. Mobile shopping applications merchants should consider giving special offers and discounts to the mobile shoppers at their ease.

While considering the proud mobile shoppers with related to ease of use, most of the m-Shoppers considered themselves as proud mobile shoppers. The research study also helped to understand that mobile shoppers with different Income Groups, Educational Qualifications and Marital Status in the Vadodara city had different opinions regarding the ease of use of proud shopping. The mobile shopping application developers should consider the ease of use of the mobile shoppers considering their income groups, educational qualifications and marital status by understanding the m-shoppers' need.

The research scholar has attempted to analyse the perceived ease of use of m-Shoppers in making mobile shopping through mobile shopping applications. The research study had revealed that despite Age, Gender, Income, Educational Qualifications and Marital Status, most mobile shoppers enjoyed shopping using mobile shopping applications. Mobile shopping application developers should therefore focus on making shopping as a joyful experience ~~to~~ for the m-shoppers by developing quality mobile shopping applications.

The research study was conducted to identify the ease of use of mobile shoppers' convenience while making online shopping. Most of the m-shoppers had enjoyed the convenience of shopping in mobile shopping applications in the selected cities of Ahmedabad, Surat and Rajkot irrespective of their age, Gender, Income, Educational Qualifications, and Marital Status respectively.

The sellers of mobile shopping applications, and mobile application developers and the smartphone manufacturers should ensure that the m-shoppers enjoy ease of use of convenience while making shopping on mobile applications.

The research study had shown that most m-shoppers enjoy the product description available in mobile shopping applications. The m-shoppers with different age groups in the Vadodara city were having different opinion on the perceived ease of use of product description available in the mobile shopping applications.

M-shoppers in Vadodara and Ahmedabad cities with different income and educational qualifications had different opinion about the perceived ease of use of product description available in the mobile shopping applications. Mobile shopping application developers and the sellers of the products should give the product description so that the m-shoppers can know the product well and can make a choice to buy. Mobile shopping applications developers should consider the background of the m-shoppers regarding their income and educational qualifications so that the product description or any other details about the product can be made available to the m-shoppers.

The research study had helped us to infer the information about m-shoppers enjoys comparing the products online. The benefit of online shopping is that a m-shopper can compare the product by having them displayed side by side in the mobile shopping applications. The research study had attempted to study shoppers' ease of use in comparing the products online vis-à-vis age, Gender, Income, Educational Qualifications and Marital Status of the m-shoppers in the selected Vadodara, Ahmedabad, Surat and Rajkot cities of the Gujarat State. The Age Groups, Income, and Educational Qualifications of the m-shoppers in the Ahmedabad city had a different opinion about shoppers' ease of use in comparing the products online. The m-shoppers with various background of Age, Gender, Income, Educational Qualifications and Marital Status in the other three cities of Vadodara, Surat and Rajkot did not differ in their opinions. The mobile shopping application developers should give choice of comparing multiple products with each other so that the m-shoppers can pick up the products that shall meet their expectations largely.

The researcher had tried to study the perceived ease of use, of the mobile shopping applications vis-à-vis Age, Gender, Income, Educational Qualifications and Marital Status of m-shoppers' in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot in the State of Gujarat. The m-shoppers with the background of Age Group, Gender, Income, Educational Qualifications and Marital Status, all of them enjoyed the appearance and layout of the mobile shopping applications. Mobile shopping application developers should therefore consider the tactics to keep the m-shoppers involved in mobile shopping applications. They should develop the mobile applications in such a way that can be navigated easily and should be eye-catching to the m-shoppers with its layout, appearance and colour combinations.

From the research study, we can infer that the perceived ease of use of try-it-on facility increases the chance to buy more from a shopping application.

The researcher had analysed try-it-on facility to increase the chance to buy more from a shopping application vis-à-vis Age, Gender, Income, Educational Qualifications and Marital Status in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot in the state of Gujarat. The study has revealed that there is no significant relationship with the m-shoppers background of age group, gender, income and marital status of m-shoppers related to the perceived ease of use of try-it-on facility increasing the chance to buy more from a shopping application. They all seem to have enjoyed the try it on the facility. By developing user interface, mobile shopping applications that have the facility for the m-shoppers to try on, mobile shopping application developers can keep their users engaged.

In case of the perceived ease of use of m-shoppers, it was found that they preferred to test a product or free samples, the researcher had conducted and studied the analysis in Vadodara, Ahmedabad, Surat and Rajkot cities vis-à-vis Age, Gender, Income, Educational Qualifications and Marital Status of the m-shoppers which had revealed that most of the m-shoppers did not have any different opinion about the perceived ease of use of shoppers' preferences to test the product or free samples regardless of his or her Age, Gender, Income, Educational Qualifications and Marital Status respectively.

However, m-shoppers in Vadodara city with the background of Age, Income and Educations Qualifications had revealed a difference of opinion about the perceived ease of use of shoppers prefer to test the product or free samples. Sellers on mobile shopping applications can give free samples to the m-shoppers so that they can get convinced for buying a particular product.

From the research study, we can infer information about the perceived ease of use of a m-shopper connecting with other m-shoppers through online chat forums. The research study was conducted in Vadodara, Ahmedabad, Surat and Rajkot cities vis-à-vis Age, Gender, Income, Educational Qualifications and Marital Status of a m-shoppers. It was found that m-shoppers of Ahmedabad and Surat cities had revealed a different opinion about the perceived ease of use of a shopper connecting with other shoppers through online chat forums with a difference of opinions based on their Age, Income and Educational Qualifications respectively. Mobile shopping developers should create a platform for the m-shoppers where m-shoppers can connect with other m-shoppers who are having ~~have~~ a similar interest in buying a product. Word of Mouth is a great tool to market a product.

Mobile shopping application developers should concentrate on increasing the online platforms through which m-shoppers can share their opinions with the other m-shoppers. In case of educational qualifications, it was found that there was a significant association between the ease of use of smartphone application and mobile apps. Hence, mobile application developers of the smartphone should consider the education of the m-shoppers & their perspective while developing the mobile apps.

6.7.2.6: Findings & Implications of the research study based on the results of the Chi-Square Test on Price of Shopping from Smartphone Application vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers:

M-shoppers used to buy products in a Brick and Mortar shop where they can interact with the sellers, touch and feel the products before buying a product. They can even bargain with the sellers for the discount on the price of the product. M-shoppers would like to know the price of the product or any hidden cost involved in the online shopping market.

Most m-shoppers with the different demographical background variables of Age, Gender, Educational Qualifications, Income and Marital Status did not reveal a difference of opinion regarding selected criteria viz., the cost of special express delivery, online products are slightly high priced and the online product is having hidden cost. Sellers on mobile shopping applications should ensure that they do not burden the m-shoppers with over cost than the nearby physical stores or in supermarkets.

In fact, sellers can reduce the price of the products that are sold online, considering the waiting period of the m-shoppers and cost-saving which is not available in a physical store. Setting a competitive price on a product is a winning strategy for a seller especially on mobile shopping applications.

6.7.2.7: Findings & Implications of the research study based on the results of the Chi-Square Test on Perceived Usefulness of Smartphone Applications vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers:

Most smartphone users used the smartphone for online shopping purpose and tend to go on same online shopping websites frequently if m-shoppers like the services provided by the online sellers. Since, m-shoppers visit particular shopping applications often, they expect to avail the services of the same online seller in the form of mobile shopping applications.

The researcher had attempted to analyse the perceived usefulness of the smartphone applications across the selected cities of Vadodara, Ahmedabad, Rajkot and Surat vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers.

In case of the perceived usefulness of wish list helping to make the shopping later, the researcher conducted the research studies in the cities of Vadodara, Ahmedabad, Surat and Rajkot amongst the smartphone users who ~~do~~ did online shopping using smartphones. Most of the m-shoppers had considered wish list that helped them to make online shopping later ~~is~~ as very useful. The smartphone users in Vadodara city with regard to selected background variables of Age, Gender and Income had revealed a difference of opinion regarding the wish list help to them in making online shopping later. Smartphone application developers should therefore consider of having the wish list options for online m-Shoppers.

Considering the perceived usefulness of option of 'playing Video of the product available', most m-Shoppers had found it really useful to know about all the features of products. Mobile application developers should consider including of the videos of the product in the mobile applications so that m-shoppers can get the idea of product well before buying it.

M-shoppers in the Vadodara, Ahmedabad and Surat cities with different Age Group, Marital Status, Income and Educational Status had exhibited a difference of opinion about the perceived usefulness of playing video to know the product well. Mobile shoppers in Rajkot city too had reported similar opinions based on their Age, Gender, Income, Educational qualifications and Marital Status, about playing video of the product.

With regard to selected criteria 'perceived usefulness of mobile shopping applications is easy in navigating from one search to another', the researcher had conducted the studies in the Vadodara, Ahmedabad, Surat and Rajkot cities among the m-Shoppers who made online shopping vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers. Mobile shopping application developers should build mobile shopping applications with good navigations facilities so that the m-Shoppers can do the navigation from one search to another.

The smartphone users in the Ahmedabad, Surat and Rajkot cities with different Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers did not have much different opinion about the selected criteria 'perceived usefulness of mobile shopping applications is easy in navigating from one search to another'.

The online shoppers with the background of Age, Income, and Educational Qualifications of Vadodara city too had revealed a difference of opinion about the perceived usefulness of mobile shopping applications are easy in navigating from one search to another.

Before making a purchase of a product, a m-shopper would tend to check with other similar items. This research study was conducted to know about the criteria 'perceived usefulness of similar products getting displayed on the mobile shopping applications along with the main search' in Vadodara, Ahmedabad, Surat and Rajkot cities vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers. Most of the m-shoppers had agreed with the selected criteria viz., 'perceived useful of similar products getting displayed on the mobile shopping applications along with the main search' in the Vadodara, Ahmedabad, and Rajkot cities respectively. Smartphone users ~~in~~ of the Surat city with the background of Age, Income and Educational Qualifications of m-Shoppers too had reported a difference of opinion regarding the 'perceived usefulness of similar products getting displayed on the mobile shopping applications along with the main search'. Mobile shopping application developers along with the online sellers should provide the option of similar products displayed on the mobile shopping applications.

The most critical aspect of shopping in the mobile application is that the image should be visible clearly. It was inferred from the research study that the perceived usefulness of unclear image affected the shopping decisions in Vadodara, Ahmedabad, Surat and Rajkot cities vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers. Online shoppers of both the gender in Vadodara and Surat cities had displayed a different opinion about the perceived usefulness of unclear image affecting the shopping decision. Sellers on mobile shopping applications should ensure that clear images are being posted to the m-shoppers.

M-shoppers should have the privilege of returning the disliked products to the sellers. The research study was conducted on the perceived usefulness of online sellers' refunding the price of products as soon as they receive the product back in Vadodara, Ahmedabad, Surat and Rajkot cities vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers. It was found with regard to m-shoppers in Vadodara and Ahmedabad cities on the gender background was having difference of opinion on the perceived usefulness of online sellers refunding the price of products as soon as they receive the product back. Online sellers should therefore arrange for the m-shoppers to refund the price of the product once it is returned back by them to sellers.

Before making any online purchase, m-shoppers tend to check the background of the seller to ensure that they get value for the money.

The researcher had conducted a research study on perceived usefulness of checking the information about the sellers in application among the m-shoppers in Vadodara, Ahmedabad, Surat and Rajkot cities vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers. Most m-shoppers' check the background of the sellers in shopping applications. Online sellers should post their information on mobile shopping applications with user experience ratings so that m-Shoppers can place the online order based on the rating given by the users.

The researcher had conducted a research study on selected criteria of 'perceived usefulness of mobile shopping applications suggesting products while selecting a product among the mobile shoppers' in the Vadodara, Ahmedabad, Surat and Rajkot cities vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers Mobile shopping application developers should put their efforts into auto-suggesting similar products to the m-shoppers alike it is done in a physical store by the salesperson. The m-Shoppers in the Surat and Ahmedabad cities with the selected background variable of marital status had revealed different opinion about the perceived usefulness of mobile shopping applications in terms of suggesting products while selecting a product.

The research study had revealed about the selected criteria 'perceived usefulness of in case of non-availability of the product, the option of sending information, as soon as it becomes available influence shopping decision' in the selected Vadodara, Ahmedabad, Surat and Rajkot cities vis-à-vis Age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers. Most mobile shoppers believed about the criteria 'perceived the facility in case of non-availability of the product, the option of sending information, as soon as it becomes available influence shopping decision' as useful irrespective of their background of Age, Gender, and Income. The marital status of the m-shoppers in the Ahmedabad and Surat cities had revealed an influence on the opinion of the m-shoppers related to the criteria 'in case of non-availability of the product, the option of sending information, as soon as it becomes available influence shopping decision'. Online sellers on mobile applications should have developed the notification system to communicate with the m-shoppers when the product is available for a sale.The researcher had conducted a study on the perceived usefulness of Smartphone being useful for selected criteria viz., anytime shopping, payment option is easy in mobile shopping applications, mobile apps. have barrier to Indian languages, paid apps. are better than free apps, mobile app is useful in saving shopping time, sellers are approachable through application, tracking of delivery in shopping applications gives accurate information on stock availability while looking for a product influence the shopping decision, shoppers become more inclined to make shopping when the shopping application is installed in the smartphone, quick response of m-tailors on FAQ affects shopping decision, sellers accept exchanged products returned by shoppers, easy refund of price encourages online shopping, availability of EMI options on shopping apps. affects the shopping decision, phone number of delivery agent provided in message helps a lot, and downloading mobile shopping applications gives first time benefits in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot vis-à-vis age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers.

The research study had revealed that the online sellers of mobile shopping applications and the mobile shopping application developers should pay more attention on the usefulness of Smartphone for criteria viz., anytime shopping, payment option is easy in mobile shopping applications, mobile apps. have barrier to Indian languages, paid apps. are better than free apps, mobile app. is useful in saving shopping time, sellers are approachable through application, tracking of delivery in shopping applications gives accurate information on stock availability while looking for a product influence the shopping decision, shoppers become more inclined to make shopping when the shopping application is installed on the smartphone, quick response of m-tailors on FAQ affects affect shopping decision, sellers accept exchanges products returned by shoppers, easy refund of price encourages online shopping, availability of EMI options on shopping apps. affect the shopping decision, phone number of delivery agent provided in message helps a lot, and downloading mobile shopping applications gives first time benefits.

Smartphone manufacturers should consider the specifications of the smartphone while developing mobile shopping applications. Mobile shopping applications should be compatible with all the m-shoppers irrespective of their age, income, gender, educational qualifications and marital status. The study of m-shoppers' perceived usefulness of the mobile applications with its compatibility to the smartphones vis-à-vis age, income, gender, educational qualifications and marital status was conducted. The chi-square test shown the results that the perceived usefulness of the compatibility of the mobile applications with the smartphone did not reveal any significant relationships with the age, income, educational qualification and marital status in all the selected cities of Vadodara, Ahmedabad, Surat and Rajkot. However, the gender was found as having a significant relationship with the compatibility of mobile applications only in the Rajkot city of the State of Gujarat.

Mobile developers should consider the size of mobile shopping applications while developing it . and put efforts to ensure that it should occupy less space in the smartphone.

The research study was conducted to analyse the perceived usefulness of smartphone batteries giving enough time to make online shopping vis-à-vis age, income, gender, educational qualifications and marital status of m-Shoppers The results of the chi-square test had shown that the perceived usefulness of size of shopping applications consumed a lot of memory space in smartphone did not reveal any significant relationship with the age, Income, Gender, Educational Qualifications and Marital Status of m-Shoppers.

6.7.2.8: Findings & Implications of the research study based on the Overall Opinion of selected Smartphone Users on Trust in Smartphone Applications vis-à-vis Age; Income; Educational Qualifications and Marital Status of m-Shoppers.

The dependency of selecting mobile shopping applications was based on the level of trust of m-shoppers on a mobile shopping application. The researcher tried to find out the overall opinion of smartphone users about the trust they were having on mobile shopping applications vis-à-vis Age; Gender; Income; Educational Qualifications and Marital Status of m-Shoppers.

The age group of smartphone users had a significant influence on the overall opinion on selected criteria viz., the trustworthiness of mobile shopping, frequently asked questions available on the shopping applications are helpful in shopping, customer service of online sellers on mobile applications would influence repurchasing, downloading mobile shopping applications stealing the personal information from the phone, the possibility of the wrong item getting dispatched and customer review in shopping applications affecting shopping decision with related to trust among the selected mobile shoppers in the Vadodara and Surat cities of the State of Gujarat. The mobile applications developers should customize the smartphone users' experience on mobile shopping applications considering the trustworthiness of mobile applications; the availability of frequently asked questions on the mobile application customer service of online sellers on mobile applications that strengthen the repurchasing intention; avoiding the risk of stealing the personal information while downloading mobile shopping applications.

The age group of the m-shoppers in the Ahmedabad and Rajkot cities did not reveal a significant relationship with selected criteria such as viz., mobile shopping applications are being trustworthy, frequently asked questions available on the shopping applications are helpful in shopping, customer service of online sellers on mobile applications would influence repurchasing, downloading mobile shopping applications stealing the personal information from the phone, the possibility of the wrong item getting dispatched and customer review in shopping applications affecting shopping decision respectively.

In Surat, Vadodara and Ahmedabad, the researcher had found out that the educational qualifications had played an important role in developing the trust of mobile shoppers which influences the overall opinion on mobile shopping applications as being trustworthy, FAQs available on the shopping applications are being helpful in shopping, customer service of online sellers' influences repurchasing, the possibility of downloading mobile shopping applications could steal the personal information from the phone, the possibility of the wrong item getting dispatched & delivered, customer review in shopping applications affecting shopping decision, the possibility of the wrong item getting delivered respectively. Mobile shopping application developers should design and customize the mobile applications based on the m-shoppers' educational background information collected from mobile shoppers during the signing up activity on mobile shopping applications. Considering the gender of the m-shoppers, their overall opinion on criteria 'product delivered was found as different as it is appearing online' and 'customer review in shopping applications affecting shopping decision' too was found as different in Ahmedabad and Surat cities of the Gujarat State.

The researcher had inferred that the income of the m-shoppers influenced the trust and overall opinion on selected criteria viz., mobile shopping apps are being trustworthy, FAQs available on the shopping apps are being helpful in shopping, the influence of customer service of online retailers on repurchasing intention, downloading mobile shopping applications stealing the personal information from the phone, a possibility of the wrong item getting dispatched & delivered, customer review in shopping applications affecting shopping decision in Vadodara, Ahmedabad and Surat cities of the Gujarat State.

The mobile shopping application developers should focus on customizing mobile applications as per the income group of the m-shoppers. Customized mobile applications as per the income can save the time of the m-shoppers by identifying the right product within their estimated budget.

The research study had analysed the influences of marital status on trust on mobile shopping applications. The research study had reported that the marital status of the m-shoppers was affecting the overall opinion on trust on mobile shopping application with regard to downloading mobile applications causing malicious virus installed in the mobile device, FAQs available on the shopping apps. are being helpful in shopping, a possibility of the wrong item getting dispatched and delivered respectively.

The research study had revealed that m-shoppers' opinion on the trust related to selected criteria, viz., Online retailers monitoring the activities of the shoppers on the Smartphone, frauds taking place in mobile shopping, shoppers prefer shopping products via shopping applications that are reputed and well known and the necessity to use a high-security payment gateway like retina scanner, fingerprint, or OTP, did not reveal differences across all the selected cities of Vadodara, Surat, Ahmedabad and Rajkot respectively.

6.7.2.9: Findings & Implications of the research study based on the Overall Opinion of selected Smartphone Users on the Quality of Smartphone Applications and recommendations to others vis-à-vis Perceived Usefulness, Perceived Ease of Use, Price and Trust

The researcher had tried to study the overall opinion of the selected smartphone users on the quality of smartphone applications and m-shoppers' intention to recommend it to other smartphone users vis-à-vis perceived usefulness, perceived ease of use, price and trust of m-Shoppers. Word of mouth has more impact on the m-shoppers than the advertisements through media. An opinion of a customer and his expression about the products sold online will influence the shopping opinions of other m-shoppers. The researcher had put efforts to study the m-shoppers' intention ~~to~~ for its recommendations to others based on the perceived usefulness, perceived ease of use, price and trust.

The research study had revealed that the perceived usefulness, perceived ease of use, price and trust on quality of smartphone application and smartphone attributes was having a strong influence on m-shopper's efforts to recommend m-shopping to others.

The researcher had studied the m-shoppers' intention to recommend m-shopping, to others based on perceived usefulness, perceived ease of use, price and trust. Smartphone being useful for anytime shopping, payment option is easy in applications. Mobile shopping applications have barrier to Indian languages, unclear image affects the shopping decision, applications are useful in saving shopping time, tailor made suggestions are useful in selection of the products, sellers are being approachable through application. Similar products getting displayed on mobile shopping applications along with main search, easiness of mobile shopping applications for navigating from one search to another, tracking delivery in application giving accurate information made m-shopping really favourite to all.

Installed applications for shopping, gives first time benefit, quick response of online sellers affecting shopping decision, sellers accepting product returned by shoppers, easy refund of price encouraging online shopping. Sellers refunding price as they receive product back, and EMI options was affecting the shopping decision. M-Shoppers checking information on sellers in applications, and phone number of delivery agent provided there was found helpful in Vadodara, Ahmedabad, Surat and Rajkot cities respectively. Online sellers on mobile applications and mobile shopping application developers should focus on improving the usefulness, ease of use, price and trust so that the mobile shoppers would recommend it to their friends, relatives, colleagues and other mobile shoppers.

In case of the paid applications being better than free applications, the researcher had found no relationship with perceived usefulness, perceived ease of use, price and trust in recommending to other shoppers in each of the selected cities of Vadodara, Ahmedabad, Surat and Rajkot respectively.

Smartphone user's opinion on recommending the shopping applications to the other shoppers in Vadodara city vis-à-vis the selected criteria viz., Video is being useful to know all features of products, waiting for special offers and discounts to shop online, and delivery cost affecting the shopping decision to continue to shop more from the applications too had revealed no relationship with perceived usefulness, perceived ease of use, price and trust.

Regarding the smartphone users' opinion on selected criteria viz., shoppers enjoy the product description available in applications, try-it-on facility increasing the chance to buy, shoppers preferring shopping product in reputed applications vis-à-vis perceived usefulness, perceived ease of use, price and trust also revealed no relationship in recommending to others in Ahmedabad, Surat and Rajkot cities respectively.

6.7.2.10: Findings & Implications of the research study based on the Overall Opinion of selected Smartphone Users on the Quality of Smartphone Applications and continuance to Purchase vis-à-vis Perceived Usefulness, Perceived Ease of Use, Price and Trust

The researcher had put efforts to study the overall opinion of the selected smartphone users on the quality of smartphone applications and m-shoppers' intention to purchase continuously vis-à-vis perceived usefulness, perceived ease of use, price and trust of m-Shoppers. The success of mobile shopping industry is based on the m-shoppers' continuous intention to buy.

The research study is helpful in developing an understanding whether the perceived usefulness, perceived ease of use, price and trust of a m-shoppers influences the continuance intention to purchase. Significant influence among the mobile shoppers in the Vadodara, Ahmedabad, Surat and Rajkot cities on their overall opinion about their continuous intention to purchase was found for selected criteria viz., Customer service will influence repurchasing, possibility of wrong item dispatched, online product are high priced, online product have hidden cost, downloading applications can steal personal information, downloading application causing malicious virus installed, online retailers monitor activities of shoppers, frauds might take place in m-shopping, and necessary to use high security payment gateway.

Smartphone manufacturers and mobile shopping application developers should concentrate on improving the aforesaid parameters to retain the m-shoppers for continuous shopping.

Regarding the perceived ease of use of product description available in the application, the overall opinion of smartphone users in Ahmedabad, Surat and Rajkot cities did not reveal any significant relationship with their continuous intention to shop using mobile shopping applications. The smartphone users in the Surat and Rajkot cites too did not reveal any significant relationships with their continuance intention to shop online related to try it on facility available in mobile shopping application. The smartphone users' opinion in Ahmedabad, Surat and Rajkot cities had reported no significant relationships with their perceived usefulness of mobile shopping applications related to the intention to continuous shopping vis-à-vis paid applications are better than free applications and stock availability influencing shopping decisions.

The researcher had conducted a study on the attributes of the smartphone in relation with m-shoppers' continuous intention to shop online using mobile shopping applications vis-à-vis perceived ease of use, perceived usefulness, trust and price in Vadodara, Ahmedabad, Surat and Rajkot cities of the Gujarat State . Perceived usefulness of mobile applications is being compatible to the smartphone, smartphone batteries giving enough time to make online shopping, the brightness of the smartphone affects the outdoor mobile shopping and smartphone reducing the physical search to collect product information had a significant influence on the m-shoppers' overall opinion of continuous shopping using a smartphone. The smartphone manufacturers should ensure that the compatibility of smartphone for mobile shopping, enough battery power to make online shopping, and brightness of smartphone at par with the expectation of the m-shoppers so that the smartphone manufacturer can retain the mobile shoppers to make the online shopping.

Smartphone manufacturers should make sure that they manufacture a smartphone that displays the natural colour of the product as it having a strong correlation with the m-shoppers' intention to shop continuously across the selected cities of Vadodara, Ahmedabad Surat and Rajkot in the State of Gujarat.

It can be inferred from the research study that the screen size and zooming features in the smartphone had a very significant relationship with the m-shoppers intention to continue the mobile shopping in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot of the State of Gujarat. Smartphone manufacturers should put efforts to improve the quality and size of the smartphone, and zooming features as it has a significant correlation with m-shoppers' intention to continue to shop online.

The research study revealed results that the smartphone users believe that the quality of the smartphone is decided by the price of it. Safety facility in the smartphone also induces m-shoppers to buy as found in each of the selected cities of Ahmedabad, Vadodara, Surat and Rajkot Gujarat State.

6.7.2.11: Findings & Implications of the Research Study Based on the Overall Opinion of Selected Smartphone Users on Smartphone Attributes and their Recommendations to Other Smartphone Users to Shop on Smartphone Applications

The researcher has deployed efforts to study the overall opinion of selected smartphone users on attributes of smartphone considering the factors of perceived usefulness, perceived ease of use, trust and price in the selected cities of Vadodara, Ahmedabad, Surat and Rajkot of the State of Gujarat. It was inferred that screen size of the smartphone, zooming feature, display of natural colour of the product, price of the phone, compatibility of mobile applications to Smartphones, long-lasting battery capacity of the smartphone, the brightness of the smartphone, and price of the smart phone decides the Quality of the smartphone, which was found as having significant association with their recommendations to other smart phone users for m-shopping. Smartphone manufacturers should focus on the attributes of the smartphone such as screen size, displaying natural colour, good quality phone for an affordable price, brightness and durability of the battery power to continuous shopping online. Some of the features of smartphones matter a lot and because of which interest in online shopping occurs, once the m-shopper is satisfied only then a recommendation to other smartphone users is likely to happen in near future.

6.8: FINDINGS & IMPLICATIONS OF OVERALL SATISFACTION ON EXPECTATIONS & EXPERIENCES ON QUALITY OF SMARTPHONE APPLICATIONS & SMARTPHONE ATTRIBUTES:

6.8.1: Overall Satisfaction on Expectations on Quality of Smartphone Applications:

The researcher had put efforts to find out the smartphone users' opinion on the quality of the mobile shopping applications. Mobile applications were built-in programmes for use of the smartphones. Online sellers reach out to the help of mobile application developers to build an application for their shopping website.

Mobile applications help the m-shoppers to browse through the product that they were interested. Shopping applications were designed by the developers for the easy use of mobile shoppers and the mobile applications come as handy to m-shoppers for any reference. There were various driving factors that affected m-shoppers such as availing discounts, easy purchasing and tracking, easy refunding, and user friendliness.

M-shoppers downloaded multiple applications in their smartphones for different products and convenience. With the help of smartphone applications, the mobile shoppers were able to browse through number of photos to understand the products and services better.

Smartphones were perceived and found as very much useful for anytime shopping especially with the help of smartphone shopping applications, shoppers can make their mobile shopping at their convenience.

Most of the m-shoppers considered downloading mobile shopping applications, makes payment option easier, not only that, they believe that m-shopping using mobile applications helped them to save time.

Since, mobile shopper does a lot of searches in general before finalizing a product and or service, shopping applications help them to navigate easily from one search to another search.

M-shoppers were expecting that mobile shopping applications helped m-shoppers to track the consignment on accurate basis. Online sellers were keen to introduce the mobile shopping applications to their shopping websites, so that the mobile shopper will have more inclination to make online shopping using mobile with the help of installed mobile applications in their smartphones.

The intention of mobile shoppers to download the mobile shopping applications is to have better shopping experience. The mobile shopping developers should concentrate on developing the layout of the shopping applications which should be user-friendly. M-shoppers would like to meet other m-shoppers or to know their opinion about the product and or services. Most of the Mobile shoppers had preferred to shop by making use of such mobile shopping applications that were trustworthy and they were equally hesitant to use such shopping applications that were having bad and trust issues. Few m-shoppers were afraid of malicious virus getting installed with the downloading of shopping applications and getting personal information getting stolen by the shoppers. So, downloading of the unknown applications were not the preferred choice of the m-shoppers. Size of the shopping applications is a concern of a mobile shopper. If a particular shopping application is consuming more space in a smartphone, most m-shoppers tend to uninstall it.

With regard to the overall satisfaction of smartphone users in meeting the expectation of mobile applications' quality, majority (60.6 per cent) of the m-shoppers were found as satisfied. Very few (5.2 per cent) of them were found as highly satisfied with the mobile applications quality. 10.8 per cent of the m-shoppers were found as dissatisfied with the quality of mobile applications.

6.8.2: Overall Satisfaction on Expectation on Mobile Attributes:

Smartphones come in different sizes with different configurations. Mobile shoppers prefer the smartphones that were supportive for the online shopping. Screen size of a smartphone influences the mobile shopping. It helps the m-shoppers to have clear view of the products. Zooming facility helps the m-shoppers to know the closer look of a product and to analyse in depth various attributes of the products. Since, online shopping has the lack of touch and feel factor, it is very much important for the mobile phones to display the natural colour of the product to help the m-shoppers to have a right choice. Since, mobile phone is a handheld device, the support of the battery backup is very much important attribute of a smartphone. Battery power of a smartphone influences the m-shoppers' desire to buy the phone. A smartphone with a good memory space is most preferred attribute of a smartphone. Since, m-shoppers download multiple shopping applications, the smartphone needs to have enough memory space to accommodate installed shopping applications.

Smartphone stores sensitive and personal information, that's why m-shoppers were looking for smartphones that should have enough safety facilities like password lock, pattern lock, fingerprint and face detection. Some m-shoppers even prefer the smartphones with the multi-layer facilities.

Brightness of a smartphone influences the anywhere shopping decision especially the outdoor shopping. Price of a smartphone plays a cutting-edge winning point compared to other smartphones.

Regarding the overall satisfaction on the attribute of smartphone, majority (61.8 per cent) of the m-shoppers were fund to be satisfied. Very few of them (5.3 per cent) were found as highly satisfied with the attributes of smartphone. 10.9 per cent of the m-shoppers were found as dissatisfied with the quality of mobile applications.

6.8.3: Smartphone Users' Overall Satisfaction on Mobile Shopping:

Regarding the overall satisfaction on mobile shopping experience, majority (61.2 per cent) of the m-shoppers were satisfied. Very small number (5.3 per cent) of the m-shopper were found as highly satisfied with the shopping experience in mobile shopping. 10.9 per cent of the m-shoppers were found as dissatisfied with the overall shopping experience.

6.8.4: Smartphone Users' Intention to Continue to Do Mobile Shopping:

Considering the intention to continue to shop more, majority (58.1 per cent) of the m-shoppers agreed that they would continue to shop using mobile phone. Very less number (5.9 per cent) of the m-shopper had strongly agreed for the continuance of shopping using smart phones whereas 11.3 per cent of them had disagreed to continue to more shopping using smartphone.

6.8.5: Smartphone Users' Intention to Recommend the Mobile Shopping to Other Smartphone Users:

While considering the recommendation to other smartphone users, majority (57.4 per cent) of the m-shoppers had agreed to recommend to others, while (5.7 per cent) of them had strongly agreed to recommend to others to shop using mobile shopping applications. 11.1 per cent of the m-shoppers had disagreed to recommend others to shop using mobile shopping applications.

6.9: CITY WISE SUMMARY OF FINDINGS OF M-SHOPPERS' OVERALL OPINION ON MOBILE APPLICATION QUALITY AND SMARTPHONE ATTRIBUTES AND IT'S IMPLICATIONS:

The researcher had analyzed the city wise overall satisfaction of the smartphone users in the State of Gujarat.

Table Number: 6.4: City wise Overall Satisfaction of the Smartphone Users

Items	Overall Opinion	Vadodara	Ahmedabad	Surat	Rajkot	Overall
		(Number and Percentages of Selected Respondents)				
Mobile Applications Quality	Dissatisfied	20 (06.7)	63 (12.6)	49 (11.5)	29 (11.0)	161(10.8)
	No Opinion	116 (38.8)	96 (19.2)	85 (20.0)	51 (19.3)	348(23.4)
	Satisfied	149 (49.8)	316 (63.2)	271(63.6)	167 63.3)	903(60.6)
	Highly Satisfied	14 (04.7)	25 (05.0)	21 (04.9)	17 (06.4)	77 (05.2)
Smartphone Attribute	Dissatisfied	19 (06.4)	64 (12.8)	50 (11.0)	29 (11.0)	162(10.9)
	No Opinion	116 (38.8)	87 (17.4)	77 (18.1)	48 (18.2)	328(22,0)
	Satisfied	149 (49.8)	324 (64.8)	278(65.3)	169(64.0)	920(61.8)
	Highly Satisfied	15 (05.0)	25 (05.0)	21 (04.9)	18 (06.8)	79 (05.3)
Overall Satisfaction as a mobile shopper	Dissatisfied	21 (07.0)	63 (12.6)	49 (1.5)	29 (11.0)	162(10.9)
	No Opinion	114 (38.1)	93 (18.6)	81 (19.0)	49 (18.6)	337(22.6)
	Satisfied	148 (49.5)	319 (63.8)	275(64.6)	16964.0)	911(61.2)
	Highly Satisfied	16 (05.4)	25 (05.0)	21 (04.9)	17 (06.4)	79 (05.3)
Continue to shop more from the app	Disagree	25 (08.4)	64 (12.8)	50 (11.7)	30 (11.4)	169(11.3)
	No opinion	125 (41.8)	100 (20.0)	88 (20.7)	54 (20.5)	367(24.6)
	Agree	130 (43.5)	308 (61.6)	265(62.2)	16261.4)	865(58.1)
	Strongly Agree	19 (06.4)	28 (05.6)	23 (05.4)	18 (06.8)	88 (05.9)
Recommend shopping on app to others	Disagree	24 (08.0)	63 (12.6)	50 (11.7)	29 (11.0)	166(11.1)
	No opinion	128 (42.8)	105 (21.0)	92 (21.6)	59 (22.3)	384(25.8)
	Agree	128 (42.8)	305 (61.0)	262(61.5)	15960.2)	854(57.4)
	Strongly Agree	19 (06.4)	27 (05.4)	22 (05.2)	17 (06.4)	85 (05.7)

6.9.1: Overall Satisfaction of the Smartphone Users in Vadodara City:

The researcher had segregated city wise data. Considering the Vadodara city, Nearly, half of the (49.8 per cent) smartphone users were found as satisfied with the quality of the mobile applications. 6.7 per cent users were found as dissatisfied with the quality the mobile applications. Very few mobile shoppers (4.7 per cent) were found as highly satisfied with the quality of the mobile applications.

49.8 per cent smartphone users were found as satisfied with the attribute of smartphones in the Vadodara city. 6.4 per cent smartphone users were found as dissatisfied with the attribute of smartphone. 5 per cent smartphone users were found as highly satisfied with the attribute of the smartphone.

Considering the overall satisfaction of the smartphone users as a mobile shopper, 49.5 per cent smartphone users were found as satisfied. 7 per cent of smartphone users were found as dissatisfied with the overall experience as mobile shopper in the Vadodara city . 5.4 per cent smartphone users only were found as highly satisfied as mobile shopper.

Regarding the intention to continue to shop more from the mobile shopping applications, 43.5 per cent of them had agreed that they had intention to shop more. 8.4 per cent had disagreed with their intention to shop more using the mobile applications. 6.4 per cent smartphone users had strongly agreed that they had intention to shop more in the Vadodara city.

42.8 per cent smartphone users had agreed that they would recommend shopping on using applications of mobile to others. 8 per cent smartphone users had disagreed to recommend others to shop online using mobile applications. 6.4 per cent had strongly agreed to recommend the mobile shopping on applications in the smartphone in the Vadodara city.

6.9.2: Overall Satisfaction of the Smartphone Users in city of Ahmedabad City:

In the Ahmedabad City, majority (63.2 per cent) of the smartphone users were found as satisfied with the quality of the mobile applications. 12.6 per cent smart phone users were found as dissatisfied with the quality of the mobile applications. Very few (5 per cent) smartphone users were found as highly satisfied with the quality of the mobile applications.

64.8 per cent smartphone users were found as satisfied with the attribute of smartphones in the city of Ahmedabad city. 12.8 per cent smartphone users were found as dissatisfied with the attribute of smartphone. Only 5 per cent smartphone users were found as highly satisfied with the attribute of the smartphone.Considering the overall satisfaction of the smartphone users as a mobile shopper, 63.8 per cent smartphone users were found as satisfied. 12.6 per cent of smartphone users were found as dissatisfied with the overall experience as mobile shopper in the Ahmedabad city. Only, 5.4 per cent smartphone users were found as highly satisfied as mobile shopper.

With regard to the intention to continue to shop more from using applications of the mobile shopping, 61.6 per cent had agreed that they had intention to shop more. 12.8 per cent had disagreed with their intention to shop more using the mobile applications and only 5.6 per cent smartphone users had strongly agreed with the criteria that they had intention to shop more in the Ahmedabad city.

61 per cent smartphone users had agreed that they would recommend mobile applications for shopping on to others. 12.6 per cent smartphone users disagreed to recommend others to shop online using mobile applications. 5.4 per cent had strongly agreed to recommend the mobile shopping on applications in the smartphone in Ahmedabad city.

6.9.3: Overall Satisfaction of the Smartphone Users in ~~of~~ Surat city:

In the city of Surat, majority (63.6 per cent) smartphone users were satisfied with the quality of mobile applications. 11.5 per cent users were found as dissatisfied with the quality of the mobile applications. Few (4.9 per cent) smartphone users were found as highly satisfied with the quality of the mobile applications. 65.3 per cent smartphone users were found as satisfied with the attribute of smartphones in Surat city. 11 per cent smartphone users were found as dissatisfied with the attribute of smartphone. 4.9 per cent smartphone users were found as highly satisfied with the attribute of the smartphone.

Considering the overall satisfaction of the smartphone users as a mobile shopper, 64.6 per cent smartphone users were found as satisfied. 1.5 per cent of smartphone users were found as dissatisfied with the overall experience as mobile shopper in Surat city. 4.9 per cent smartphone users were found as highly satisfied as mobile shopper. Regarding the intention to continue to shop more from the mobile shopping applications, 62.2 per cent had agreed that they had intention to shop more.

11.7 per cent had disagreed with the intention to shop more using the mobile applications. 5.4 per cent smartphone users had strongly agreed that they had intention to shop more in the city of Surat.

61.5 per cent had agreed that they would recommend shopping on applications to others. 11.7 per cent smartphone users had disagreed to recommend others to shop online using mobile applications. 5.2 per cent had strongly agreed to recommend the mobile shopping on applications in the smartphone in Surat city.

6.9.4: Overall satisfaction of the smartphone users in city of Rajkot:

In Rajkot city majority (63.3 per cent) of the smartphone users were found as satisfied with the quality of the mobile applications. 10.8 per cent users were found as dissatisfied with the quality of mobile applications Least (6.4 per cent) smartphone users were found as highly satisfied with the quality of the mobile applications.

64 per cent smartphone users were found as satisfied with the attribute of smartphones in the Rajkot city. 11 per cent smartphone users were found as dissatisfied with the attribute of smartphone. 6.8 per cent smartphone users were found as highly satisfied with the attribute of smartphone.

Considering, the overall satisfaction of the smartphone users as a mobile shopper, 64 per cent smartphone users were found as satisfied. 11 per cent of smartphone users were found as dissatisfied with the overall experience as mobile shopper in the Rajkot city. Only, 6.4 per cent smartphone users were found as highly satisfied mobile shoppers.

Regarding the intention to continue to shop more from the mobile shopping applications, 61.4 per cent had agreed that they had intention to shop more. 11.4 per cent had disagreed with their intention to shop more using the mobile applications. 6.8 per cent smartphone users had strongly agreed that they had intention to shop more in Rajkot city.

60.2 per cent smartphone users had agreed that they would recommend shopping using mobile applications to others. 11 per cent smartphone users had disagreed to recommend others to shop online using mobile applications. 6.4 per cent had strongly agreed to recommend the mobile shopping on applications in the smartphone in Rajkot city.

6.10: FINDINGS OF MARKET PERFORMANCE ANALYSIS

Table Number 6.5: Overall Market Performance Analysis and Customers' Satisfaction Score

Sr.No.	Selected Items	Pm	Im	Im/ pm	SL
01	Smartphone apps are Compatible to the phone	3.95	3.47	0.88	**S**
02	Screen size of Smartphone affects online shopping	4.03	3.62	0.90	**S**
03	Zooming feature helps to know the product well	4.09	3.44	0.84	**S**
04	Smartphone displays natural colour of the product	3.93	3.49	0.89	**S**
05	Smartphone batteries give enough time to do online shopping	3.94	3.66	0.93	**S**
06	Size of shopping apps consume lot of memory space	3.93	3.76	0.94	**S**
07	Smartphone has the safety facilities on it	4.11	3.69	0.90	**S**
08	Brightness of the smartphone affects the outdoor m-shopping	3.95	3.67	0.93	**S**
09	Smartphone reduces the physical search to collect info	3.98	3.76	0.98	**DE**
10	Price of the phone decides the Quality of the smartphone	4.03	3.76	0.93	**S**
11	Downloading the app provides better shopping experience	4.05	3.53	0.87	**S**
12	Payment option is easy in mobile apps	3.99	3.46	0.87	**S**

Sr.No.	Selected Items	Pm	Im	Im/ pm	SL
13	Wish list helps to do the shopping later	3.97	3.40	0.86	**S**
14	Mobile apps have barrier to Indian languages	4.01	3.47	0.86	**S**
15	Unclear image affects the shopping decision	3.93	3.38	0.86	**S**
16	Playing video of the product in the app is useful	3.93	3.23	0.82	**S**
17	Paid apps are better than free apps	4.12	3.59	0.87	**S**
18	Wait for the special offers and discounts to shop online	4.37	3.67	0.84	**S**
19	Mobile app is useful in saving shopping time	3.87	3.70	0.96	**DE**
20	Product suggestion in mobile app is useful	4.08	3.57	0.88	**S**
21	Shoppers feel proud in mobile shopping	3.98	3.41	0.86	**S**
22	Shoppers enjoy shopping on the Smartphone	3.94	3.46	0.88	**S**
23	Shoppers enjoy the convenience of shopping on mobile apps	3.96	3.54	0.89	**S**
24	Shoppers enjoy the product description available in the App	3.87	3.66	0.95	**DE**
25	Shoppers enjoy comparing the products online	3.99	3.43	0.88	S
26	Attractive appearance of the shopping app involves shoppers	3.96	3.49	0.88	**S**
27	Smartphone is useful for anytime shopping	3.95	3.35	0.85	**S**
28	Sellers are approachable through application	3.95	3.05	0.77	**DS**
29	Similar products should be displayed on the shopping app	4.12	3.40	0.83	**S**
30	Mobile shopping apps are easy in navigating	4.02	3.49	0.87	**S**
31	Tracking shopping app gives accurate information	4.01	3.61	0.90	**S**
32	Information on stock availability influence the shopping	4.01	3.59	0.89	**S**
33	In case of non-availability, option of sending information	4.06	3.51	0.86	**S**
34	Shoppers become more inclined to shop when app is installed	3.94	3.54	0.90	**S**
35	Try-it-On facility increases the chance to buy from the app	4.05	3.54	0.87	**S**
36	Mobile shopping apps are trustworthy	4.15	3.41	0.82	**S**
37	Customer review in shopping app affects shopping decision	4.10	3.46	0.84	**S**
38	FAQs available on the shopping apps help in shopping	3.90	3.43	0.88	**S**
39	Downloading mobile app gives first time benefits	3.99	3.54	0.89	**S**
40	Shoppers prefer test product or free samples	3.98	3.12	0.79	**DS**
41	Shopper would like to connect with other shoppers	4.02	3.00	0.75	**DS**
42	Quick response of m-tailors on FAQ affect shopping decision	4.00	3.33	0.83	**S**
43	Sellers accept exchanges products returned by shoppers	4.08	3.63	0.89	**S**
44	Easy refund of Price encourages online shopping	3.93	3.60	0.92	**S**
45	Online sellers refund price of products as they receive product	3.96	3.58	0.90	**S**
46	Availability of EMI options affect the shopping decision	4.03	3.39	0.84	**S**
47	Shoppers check the information about the sellers	3.93	3.45	0.88	**S**
48	Phone number of delivery agent helps a lot	4.08	3.48	0.85	**S**
49	Product delivered differ as it appears online	4.00	3.39	0.85	**S**
50	Delivery cost of a product will affect the shoppers 'decision	4.01	3.40	0.85	**S**
51	Customer service of m-tailor will influence repurchasing	3.97	3.38	0.85	**S**
52	Possibility of wrong item getting dispatched& delivered	4.02	3.36	0.84	**S**
53	Online Products are slightly high priced	3.96	3.54	0.89	**S**
54	Online Products have hidden cost	4.02	3.41	0.85	**S**
55	Downloading an app can steal the personal info from phone	4.25	3.62	0.85	**S**
56	Downloading app can cause malicious virus installed on cell	4.45	3.62	0.81	**S**
57	Online retailers monitor the activities of the shoppers'	4.29	3.54	0.82	**S**
58	Frauds may take place in mobile shopping	4.22	3.46	0.82	**S**
59	Shoppers prefer shopping products via reputed shopping apps,	4.34	3.48	0.80	**S**
60	Use high security payment gateway	4.30	3.58	0.83	**S**

Note: DE= Delighted; S= Satisfied and DS= Dissatisfied

Overall m-shoppers were found as satisfied, when measured, their expectation and actual experience, with reference to mobile attributes and quality of mobile applications has influenced m-shopping.

In case of mobile attributes “Smartphone reduces the physical search to collect info” was the selected statement that was found as smartphone users’ ‘Delight’ experienced as by m-shoppers, while in case of quality of mobile application, there were several criteria, in which m-shoppers felt delighted such as “Mobile app is useful in saving shopping time”; and “Shoppers enjoy the product description available in the App”.

There were few criteria where m-shoppers were also found to be dissatisfied in case of selected statements such as viz., “Sellers are approachable through application”; “Shoppers prefer test product or free samples” & “Shoppers would like to connect with other shoppers”, in these cases m-shoppers experienced less than their expectations.

6.10.1: Implications of Market Performance Analysis:

Overall satisfaction showed that smartphone manufacturers & developers of smartphone applications are working as per the expectations of m-shoppers and there are only few areas where m-shoppers’ expectations were not met, so developers have to give special attention to design mobile applications in such a way that mobile shoppers would be able to connect with other mobile shoppers, such as nowadays m-shoppers read the reviews written by other shoppers and get influenced by them, but still there is a chance that reviews might be fake.

It would be better, if there is a chance to chat with other mobile shoppers or call them, though it will revoke the privacy concern, which mobile shoppers will understand later.

In some cases, such as smartphone reduces the physical search, m-shoppers really experienced this, rather they must have had better experience than they might have expected. Similarly, m-shoppers had great experience of savings of time in using mobile for shopping and product description which really helped them in selecting and comparing products online, so manufacturers of smartphone and developers of smartphone application should maintain this and the criteria where m-shoppers had felt satisfied, still there is a scope to improve upon these attributes and quality of smartphone application to change satisfaction in to delight.

6.11: STRUCTURAL EQUATION MODELING [SEM] USING PATH ANALYSIS CONSIDERING MOBILE APPLICATIONS AND ATTRIBUTES WITH CUSTOMERS’ SATISFACTION WITH THE SHOPPING EXPERIENCE USING SMART PHONE:

In order to test the conceptual structural model of this research study, the researcher has developed the model to study and test the relationships among the different constructs using AMOS-SEM. Figure Number 6.1 shows standardized estimates of the model of the research study. Statements reflecting the construct are displayed through a rectangular box whereas constructs of the research study are shown in an oval shape. Arrows show the relationship between the statement and construct, and from one construct to another.

Numeric values between the statements and the constructs are the factor loading of the statement for the construct, whereas numeric values between the constructs are the t-value for the relationships among the variables of the construct. The numeric value in the oval shape is the R^2 value of the construct.

Structural Equation Model (SEM) of Relationship among Perceived Usefulness, Perceived Ease of Use, Trust and Price Sensitivity of Quality of Smartphone Applications and Smartphone Attributes with Customers' Satisfaction on Shopping Experience Using Smart Phone.

Figure Number 6.1: Structural Equation Model Showing Relationship between Perceived Usefulness, Perceived Ease of Use, Trust, Price with Overall Satisfaction, Continuous purchase and Intension to Recommend

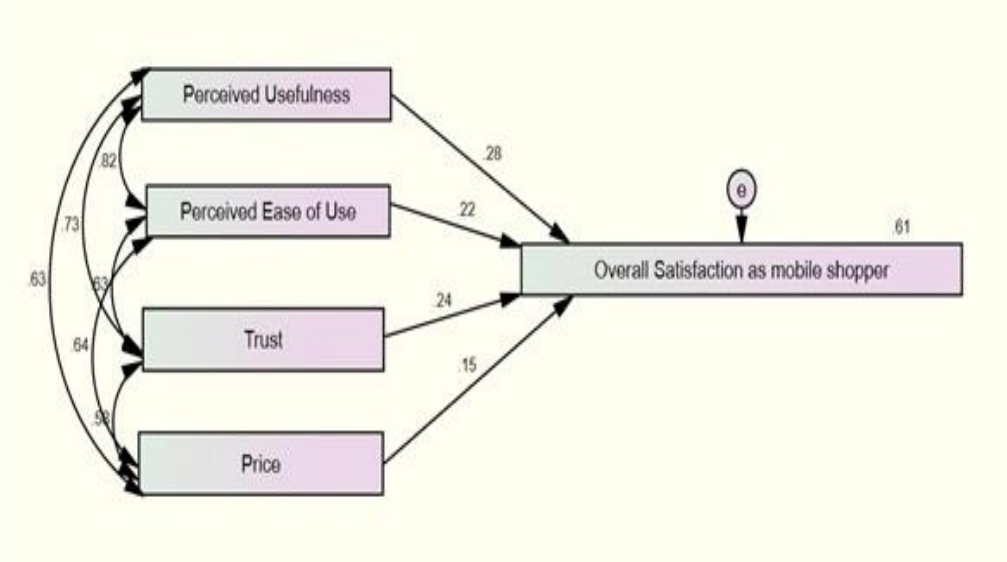


Table Number 6.6: Fit Indices of Measurement Model [Model as Given in Figure Number:6.1]

Name of the Index	Model fit Indices	Most Ideal Values
CMIN (Chi-square or Minimum Discrepancy Chi-square)	32.728	-
GFI (Goodness of Fit Index)	0.994	1.00
NFI (Normed-Fit Index)	0.997	0.95
RFI (Relative Fit Index)	0.985	0.90
CFI (Comparative Fit Index)	0.998	0.90
AGFI (Adjusted Goodness of Fit Index)	0.957	0.90
RMR (Root Mean Square Residual)	0.040	0.08
RMSEA (Root Mean Square Error of Approximation)	0.069	0.08

The Model Fit Indices as given in Table Number 6.6 considering the Structural Equation Model [SEM] showing the relationship between overall Satisfaction of mobile shopper with price (PR); perceived ease of use (PE); perceived usefulness (PU), and trust (TR) on smartphone attributes and quality of smartphone shopping application. Each single-headed arrow represents a regression weight. The value shown against two-sided arrows is the correlation between selected observed variables. Correlation values amongst the Perceived Usefulness, Perceived ease of use, Price and Trust are high showing that all are significantly related leading to perceived usefulness and single arrows toward overall satisfaction shows that Price has least influence towards overall satisfaction.

There are some other variables other than selected four variables that also assumed to affect Overall Satisfaction as Mobile Shopper for which the model assumes '1' as standardized regression weights which specifies that other variables must weight 1 in the prediction of preference to stay in next visit. The values shown with single-sided arrow (0.28, 0.24, 0.22, and 0.15) are standardized regression weights. The value 0.61 is the squared multiple correlations of the other four observed factors related to mobile apps and attribute that affect overall Satisfaction as Mobile Shopper.

It means that the overall satisfaction as mobile shopper considering four variables related with customers' satisfaction is influenced mainly by variable, viz., Perceived usefulness (0.28), Trust (0.24), Perceived enjoyment (0.22) and Price (0.15) respectively.

Figure Number:6.2: Structural Equation Model Showing Relationship between Perceived Usefulness, Perceived Enjoyment, Trust, Price with Intension to Recommend Through Mediating Variables

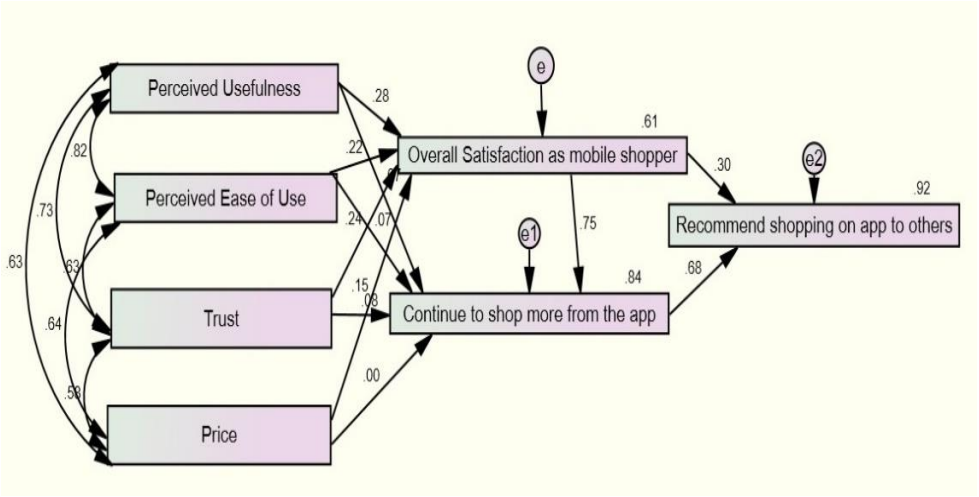


Table number: 6.7: Fit Indices of Measurement Model

Name of the Index	Model fit Indices	Most Ideal Values
CMIN (Chi-square or Minimum Discrepancy Chi-square)	32.728	-
GFI (Goodness of Fit Index)	0.994	1.00
NFI (Normed-Fit Index)	0.997	0.95
RFI (Relative Fit Index)	0.985	0.90
CFI (Comparative Fit Index)	0.998	0.90
AGFI (Adjusted Goodness of Fit Index)	0.957	0.90
RMR (Root Mean Square Residual)	0.040	0.08
RMSEA (Root Mean Square Error of Approximation)	0.069	0.08

The Model Fit Indices as given in table number- 6.7, considering the Structural Equation Model [SEM] showing the relationship between intention to Recommend shopping app to others, intention to continue to use the mobile app, overall Satisfaction as mobile shopper price (PR); perceived enjoyment (PE); perceived usefulness (PU), and trust (TR) and shows that model is fit.

The above-given **Figure Number 6.2** is the Structural Equation Model using Path Analysis for portraying the influence of price (PR); perceived enjoyment (PE); perceived usefulness (PU), and trust (TR) through 02 mediating variables i.e., intention to continue to use the mobile app, and overall Satisfaction as a mobile shopper which results in to recommend to others to use mobile apps.

In the above simple Regression Model where 01 observed variables, the 'Recommendation to Others', is predicted as a linear combination of the other 04 observed variables, viz., price (PR); perceived enjoyment (PE); perceived usefulness (PU), and trust (TR) respectively considering the 02 mediating variables i.e. intention to continue to use the mobile app, overall Satisfaction as a mobile shopper which results into the recommendation to others to use shopping applications for m-shopping.

Each single-headed arrow represents a regression weight. The value shown against two-sided arrows is the correlation between selected observed variables, which shows that there is significant relation among four variables and leading to overall satisfaction and continuous purchase intention with m-shopping applications.

Figure Number 6.3: Structural Equation Model Showing Relationship between Mobile Application Quality, Mobile Attributes with Intension to Recommend Through Mediating Variables

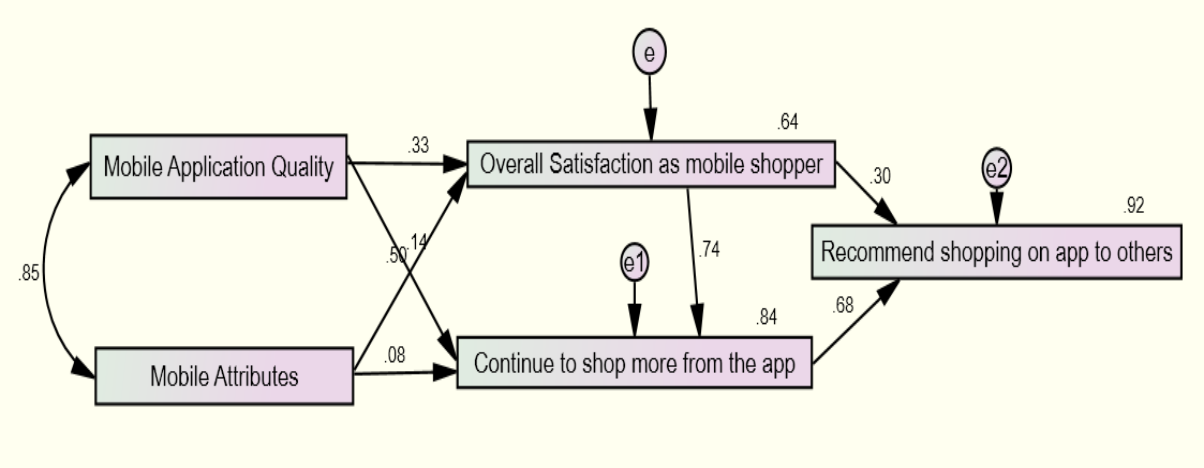


Table number: 6.8: Fit Indices of Measurement Model

Name of the Index	Model fit Indices	Most Ideal Values
CMIN (Chi-square or Minimum Discrepancy Chi-square)	13.573	-
GFI (Goodness of Fit Index)	0.993	0.95
NFI (Normed-Fit Index)	0.997	0.95
RFI (Relative Fit Index)	0.986	0.90
CFI (Comparative Fit Index)	0.997	0.90
AGFI (Adjusted Goodness of Fit Index)	0.946	0.90
RMR (Root Mean Square Residual)	0.085	0.08
RMSEA (Root Mean Square Error of Approximation)	0.092	0.08

The above-given **Figure Number 6.3** is the Structural Equation Model using Path Analysis for portraying the influence of Mobile application quality and mobile attributes through 02 mediating variables i.e. intention to continue to use the mobile app, overall Satisfaction as a mobile shopper which results in to recommend to others to use mobile apps.

In the above simple Regression Model where 01 observed variables, the 'Recommendation to Others', is predicted as a linear combination of the other 02 observed variables, viz., Mobile application quality and mobile attributes respectively considering the 02 mediating variables i.e. intention to continue to use the mobile app, overall Satisfaction as a mobile shopper which results into the recommendation to others to use social media. Each single-headed arrow represents a regression weight. The value shown against two-sided arrows is the correlation between selected observed variables.

Figure Number 6.4: Structural Equation Model Showing Relationship between Mobile Application Quality, Mobile Attributes with Overall Satisfaction, Intention to Continue to Shop and Recommend Shopping App to Others Through Mediating Variables

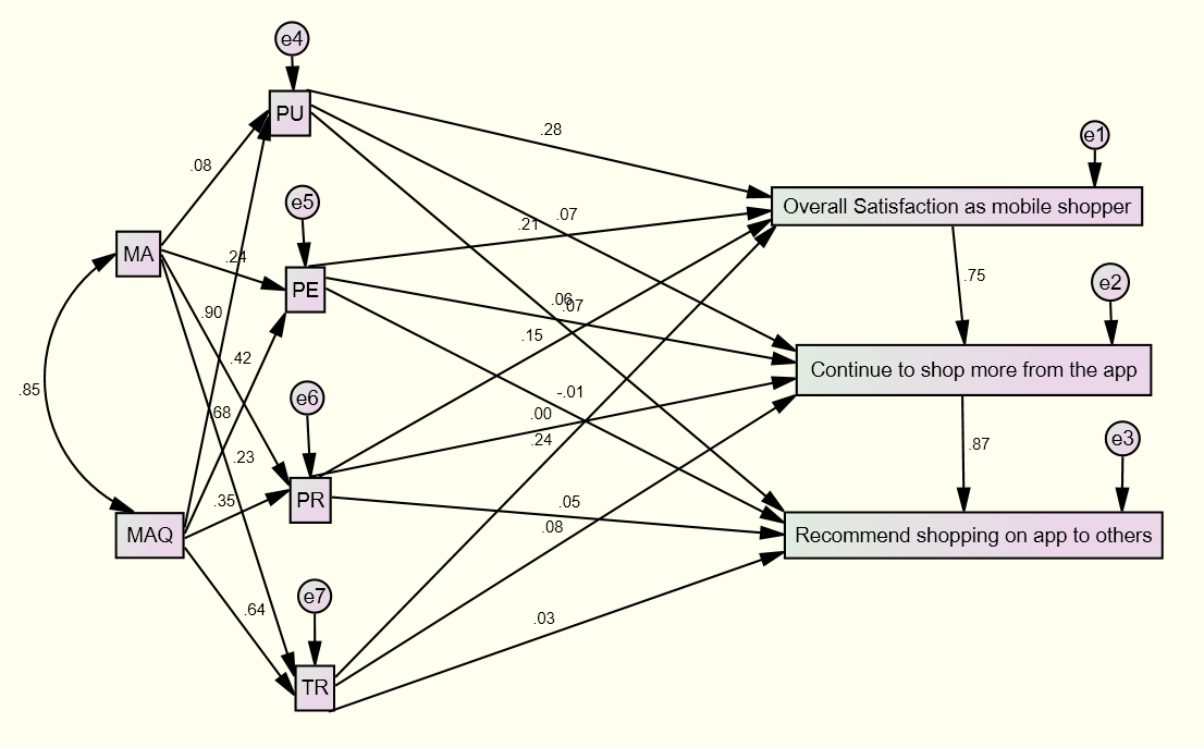


Table Number 6.9: Fit Indices of Measurement Model [Model as Given in Figure Number:6.4]

Name of the Index	Model fit Indices	Most Ideal Values
CMIN (Chi-square or Minimum Discrepancy Chi-square)	13.573	-
GFI (Goodness of Fit Index)	0.993	0.95
NFI (Normed-Fit Index)	0.997	0.95
RFI (Relative Fit Index)	0.986	0.90
CFI (Comparative Fit Index)	0.997	0.90
AGFI (Adjusted Goodness of Fit Index)	0.946	0.90
RMR (Root Mean Square Residual)	0.085	0.08
RMSEA (Root Mean Square Error of Approximation)	0.092	0.08

Finally, this model is showing that intermediary variables, viz., price (PR); perceived enjoyment (PE); perceived usefulness (PU), and trust (TR) of independent variables such as smartphone attributes and Quality of smartphone are influencing the Overall satisfaction of m-shopper which will lead to a recommendation to others for m-shopping and m-shoppers will continue to purchase online, in this way null hypotheses will be rejected.

6.12: Chapter Six: Conclusions, Recommendations & Suggestions of the Research Study:

The chapter of conclusions, recommendations and suggestions of the research study concluded the research study with the final notes on the influence of smartphones attribute and the mobile applications quality in m-shoppers' shopping behaviour. This chapter had suggested the improvement in the attributes on smartphone to the smartphone manufacturers and the quality improvement to the mobile shopping app developers. The researcher has also mentioned the limitations of the research study and offered directions to the further research studies to the research in the future. The researcher had provided valuable recommendations and Bibliography to cite the references used and sources of secondary data and other needed information i.e. 'Bibliography' and 'Webliography' respectively.

From the research study, it was concluded that quality of smartphone application and smartphone attributes influences the overall satisfaction of the m-shoppers which has led to continuance intention to shop using smartphone and recommendation to others for m-shopping.

The responses for the attributes under this research study on smartphone application & smartphone attributes were found affected by Demographic profile of the m-shoppers under the research study. The differences in the responses were also found amongst the m-shoppers of selected cities of the Gujarat State for the variables under this research study viz., Vadodara, Surat, Rajkot and Ahmedabad. From the results, it can be concluded that, quality of smartphone applications & attributes of smartphone play an important role in increasing perceived usefulness of m-shopping. Thus, if the developers of the smartphone applications consider these features while designing the applications of shopping, it would help the smartphone application developers to improve its perceived usefulness in the mind of m-shoppers. Perceived usefulness was leading to intention of continuance to purchase and recommendation to others. The results of the research study confirmed the importance of TAM in the adoption of technology by m-shoppers.

6.12.1: RECOMMENDATIONS OF THE RESEARCH STUDY:

In this section, the researcher has offered recommendations based on the findings and results of the empirical research study conducted in the selected cities of the Gujarat State.

6.12.1.2: RECOMMENDATIONS TO SMARTPHONE MANUFACTURERS:

Use of smartphone is different for different mobile user according to their age and in order to increase the use of smartphone among m-shoppers, smartphone manufacturers should keep in mind the requirement of different age groups.

- Smartphone manufacturers should focus on the design of smartphones as per the requirement of male & female m-shoppers differently. The researcher had collected data from large number of female shoppers who were involved in m-shopping, it implies that manufacturer should plan beautiful and feminine touch to the mobile phones in terms of easy to carry in the purse or in hand. Since, female smartphone users like to carry the mobile phones in their hands unlike men who keep it in their pockets, smartphones need to have some attractive colours and design to show off to others.
- Smartphone manufacturers should focus on the families to sell their mobile phones. Families that have many members and not able to afford costly smartphone for each member, smartphone manufacturers can come up with the idea of smartphone packages that consist of smartphones with different functionalities as per the age group and need of the family members. For example, big fonts option and easy navigations for elderly parents, smartphone with sleek look for the female family members and smartphones with limited accessibility to the children in the home for their online classes and studies. Smartphone manufacturers can provide discounted price for the family package of the smartphones.
- Smartphones that are in mid-price range are the most sold among the m-shoppers. Smartphone manufacturers should focus on retaining the existing m-shoppers with attracting a new m-shopper considering the keen competition at price range. Smartphone manufacturers can consider to offer enhanced various facilities in the smartphone compared to their competitors. To illustrate, solid built quality; resistant to water and increased security facilities can be winning points for a smartphone manufacturer.
- Brand name plays a very important role while selecting a Smartphone. It is suggested that the smartphone manufacturers should develop a reliable brand name and retain it. A smartphone manufacturer with good brand name should maintain the integrity of their brand value by delivering the reliable products to consumers and should focus on their research and development department and the quality check before the smartphones are dispatched to markets.
- Brand building is an essential part of a marketing strategy especially smartphone manufacturers that are facing intensive competition. M-shoppers who spend his or her hard-earned money on purchase of smartphone heavily rely on the brand name. Smartphone manufacturers should develop an effective m-shopper support for any hardware and operation issues that may arise in the use smartphone. Once the credibility of a brand is lost, it is hard to get it back. So, smartphone manufacturers should have effective quality control system in place before the smartphone is consigned to the market and they should make every effort to save the brand name.
- The players who are not having good brand value should focus on building it by manufacturing the smartphones that are sturdy, reliable and durable.

- Considering the look and feel of a smartphone, the manufacturers should develop a technology in smartphones that would accommodate more functionalities and facilities without affecting the look and feel of a smartphone. Most of the m-shoppers had expressed that they were buying smartphones that were having good and friendly look. The modern look of a smartphone increases the possibilities of high sales of a particular smart phone. M-shoppers tend to look forward for more advanced ~~in~~ technology and wish to buy and carry a device that is futuristic compared to their counterparts and friends. Smartphone manufacturers should therefore focus on the sleek and modern look and design of a smartphone.

  If the feel of a smartphone is not good, feeling heavy, and if it is difficult to hold in the hand for a long time, m-shoppers are likely to switch over to some other brand that would give good them positive feeling with comfort.
- Smartphone manufacturers should motivate their Research and Development Departments to come up with innovative ideas to increase the functionalities in the smartphone. Since m-shoppers compare the similar products within the price range and seek the guidance of their friends and relatives, the smartphone manufacturers should provide the functionalities that are user-friendly and advanced technologies to their previous products. Smartphone manufacturer should analyse the functionalities given by their competitors, and produce the smartphones that are user friendly and can perform complex activities.
- With the increase in number of cybercrimes, theft and misplacing of smartphones, smartphone manufacturers should make every effort on increasing and improving the safety features in the smartphones. There are numerous safety features as well as facilities that are available such as Face and Voice Recognition, Finger Print, Lock Pattern and Password. M-shoppers tend to choose a smartphone that offers good security features and facilities. Smartphone manufacturers should manufacture smartphones with fool proof and easy security functions. Smartphone manufacturers should focus on easy authentication facility to the smartphone users and tracking of phone in case of theft. Sometimes consumers are hesitant to go for complicated security protocols in the mobile phone with the fear of forgetting the password or retrieving the password when it is forgotten. Therefore, smartphone manufacturers should focus on easy authentication facility to the smartphone users. They can even provide customer support over the call-in case of any emergency with related to security. They can even provide customer, Friends or previous purchased m-shoppers' comment on the sales page will have very positive impact on the m-shoppers to make the buying or purchasing decision.
- Smartphone, manufactured for meeting up the specific needs of elderly m-shoppers, will have tremendous scope to improve the features of smartphone for elderly mobile shoppers especially in the size of Screen, Keypads, Colour contrast, and ease of handling the smartphone body.
- Big keypad is required for elderly m-shoppers, while touch pad is popular among young m-shoppers.

- Screen size is also very important in case of elderly m-shoppers, they prefer large display to get the clarity of the products' images.
- Smartphone manufacturers should focus on the device which should be handy and easy to carry.
- Smartphone manufacturers should consider making Smartphone that are easy to carry by female mobile shoppers, because they prefer to carry in hand.
- Smartphones that are designed for couples recommended to have both male and female version of same model. Smartphones can be made with same specifications for both male and female versions but with different sizes.
- Considering the look and feel of a smartphone, the manufacturers should develop a technology in smartphones that would accommodate more functionalities and facilities without affecting the look and feel of a smartphone.
- Most of the m-shoppers were buying smartphones that were having good and attractive look. The modern look of a smartphone increases the possibilities of high sales of a particular smart phone.
- M-shoppers tend to look forward for more advanced technology and wish to buy and carry a device that is futuristic compared to their counterparts and friends. Smartphone manufacturers should therefore focus on the sleek and modern look and design of a smartphone.
- If the feel of a smartphone is not good, feeling heavy, and if it is difficult to hold in the hand for a long time, m-shoppers are likely to switch over to some other brand that would give good them positive feeling with comfort.
- As per the study, most mobile shoppers changed the brand of Smartphones when they wanted to upgrade. Thus, it is recommended that Smartphone manufacturers should reach out to the buyers of their Smartphones to know their feedback and provide necessary customer support whenever needed.
- Smartphone manufacturer should also reach out to the existing premium customers whenever new upgrades are released and try to explain them the additional features than their previous Smartphone. In this way, customer retention is possible and can mitigate people switching to different brands while upgrading Smartphones.
- Considering Smartphone getting hanged, the manufacturers should focus in increasing the RAM and capacity of the processer in Smartphones that can even withstand multiple applications have been opened up in Smartphones.
- The lagging issue in a smartphone has to be fixed so that the user experience of the mobile shopper is pleasant.
- The study has revealed Smartphones with higher price range had low share in the market compared to the mid-range Smartphones. To increase the sales of high-end Smartphones among mid-range customers, marketers need to come up with a successful strategy. Marketers can introduce a discounted sales price to the existing customers of the same brand.

- Instead of going for a generic price rate, marketers can personalise the price considering the integrity and loyalty of Smartphone users to their brand. This way customer retention and moving mid-range customers to high-range is feasible.
- Majority mobile shoppers has responded that they would do mobile shopping once in a month or fortnightly. To increase the frequency of mobile shopping, mobile shoppers should be reminded with any special offer or grand sale. At present, the mode of communication of grand sales happens on alert messages. Sometimes, messages can be unread or omitted when multiple messages are to be read by mobile shoppers or there are possibilities of messages getting deleted accidently. Mobile shoppers might not be aware of any special discounts unless they log-in mobile shopping applications. So, there are numerous chances that a mobile shopper to miss out or forget to do mobile shopping. To increase the frequency of mobile shopping and to remind the mobile shoppers about any specific product availability, in collaboration with Smartphone manufacturers, mobile shopping application developers can send pop-up alerts and push-messages similar to that of OS upgradation. Therefore, mobile shoppers need not to open the SMS messages or to check shopping applications to stay updated in their busy schedule. Reward points are great motivators to mobile shoppers, however integrated reward points would increase the sales proportion. It is recommended to accumulate or combine the reward points with other family members' reward points while buying items.
- Majority of mobile shoppers were found to be Android users in the study conducted. Android has been the most preferred mobile operating system compared to other operating systems available in market. Android developer of Google and OHA (Open Handset Alliance) should focus in eliminating any software glitch. Few consumers are not regularly updating the patches or new releases by the Android developers, reason being, the size of the installation files is too big to accommodate in the smartphones. The smartphones with lower configuration tend to hang after the update of the patches and the new version of the Android operating system. Some consumers are concerned about the data consumption for the operating system update. Android should focus on developing a software that are user friendly and consume fewer mobile data and not required for Wi-Fi connection. Android mobile operating system developers should focus on controlling malware and any intrusive software that could steal the information of the consumers.
- Online retailers should keep the consumers informed about their products and services through various mediums. Online retailers should create a very effective advertising or sales promotion to reach out to the existing consumers and the potential buyers.
- The study has shown that the most m-shoppers shop in the afternoon. To increase the sales in the morning time, marketers can introduce schemes of "early bird wins" offer, in which, first few shoppers get extra benefits compared to the last buyers. To increase sales in the late nights, it is suggested to offer clearance sale with few additional benefits or reward points.

- Compared to the normal face to face shopping, where buyers can take the delivery of the product immediately, in mobile shopping, there is a waiting period of delivery time of a product. Once the product is placed, the curiosity and eagerness of seeing the product with real eyes is getting increased. So that, the online sellers should ensure that the on-time delivery is maintained as per the timeline. When there is a frequent delay from a particular mobile shopping application, consumers hesitate to use the same shopping applications again. On time delivery is a key aspect in mobile shopping for the retention of the existing customers.
- Since mobile shopping is based upon the internet connectivity, the smartphone manufacturers should produce phones that can detect the low frequency of the internet service. Mobile shopping provides an opportunity to shop anywhere. To make the dream of anywhere shopping possible, the smartphones with powerful internet reception capacity is required.

6.12.1.3 RECOMMENDATIONS TO SMARTPHONE SHOPPING APPLICATION DEVELOPERS:

- This research study recommends the mobile shopping application developers to build applications keeping in mind the demographic profile of mobile shopper of the products & services provided by the m-tailer.
- Online sellers should update the information available on the websites. When the product is out of stock, it should be mentioned clearly, not at the time of the check-out of a product. The seller's details and contact numbers should be mentioned clearly and updated as on date.
- Smartphone shopping application developers should focus on the creating very strong online communities that comprise the mobile shoppers. They need to create a platform on which consumers can interact with each other and share their product experience that will eventually lead to the buying of that product.
- The mobile application developers should focus on developing applications that are entertaining and easy to use. More the time mobile shoppers spend in mobile shopping applications, the possibilities of buying increases. It is recommended to mobile application developers to build applications that create curiosity in exploring products and provide multiple choices to make buying decision. The mobile application should be interactive with attractive layout and interesting interactive sessions like video descriptions and voice assistants.
- The study has revealed that mobile shoppers preferred to download mobile applications as well. Online retailers should differentiate the customers who are purchasing directly on a web page and the consumers who put efforts in downloading the shopping applications. The online retailers can come up with innovative ideas to encourage the m-shoppers to download the application by giving them incentive as a bonus points or discount coupons.

- Mobile shopping applications developers should focus on developing applications that are user friendly, and has the facility to easy purchase and tracking the orders that are placed.
- Few mobile shoppers had stated that they had faced issues with internet connectivity. Mobile shopping application developers should focus on developing an application that consume less internet data so that the consumers can have the uninterrupted shopping experience.
- The study has revealed that the mobile shoppers are looking for a considerable information of a product or about a seller before placing order. Mobile shoppers have a lot of questions about a product. The information that are provided by the sellers will help the consumers to know the product better. Online seller should make efforts to provide all the necessary information about the products. Few online retailers tend to miss the basic information about a product assuming buyers would be expert in handling the products, especially the products that are used by the professionals like engineers or any skill-based tools. The recent phenomenon of shortage of labours for household chores, some products are bought by the non-professionals for home house. In such a case, the instructions given by the sellers on basic functionalities or operations of a tool can help the consumers to make the buying decision.
- The study was conducted on the aspect of "perceived usefulness" too. The important objective of downloading a shopping application is for the convenience of use. Browsing a product or doing a shopping on mobile applications should give some special experience than browsing on a web portal. If it is not going to make any ease of use or provide convenience to the shoppers, the possibility of downloading a mobile application becomes minimal. The mobile application developers should consider the layout of the applications, and the journey of the mobile shopping while developing the applications. The mobile applications that are more user friendly and interactive, are the applications that are preferred by the mobile shoppers.
- The study had analysed the multi dimension of mobile shopping experience. The main cause of consumers leaving the mobile shopping from a particular application is the difference in the delivered products than the products that were shown in the shopping applications especially the colour, the size, versions and type of a product.
- The researcher had analysed mobile shoppers' satisfaction with the shopping experience. It is recommended that online sellers should increase customer satisfaction not only on online but offline too. They can send customer service executives to mobile shopper place itself. When a product was bought, if it is having complex operations, the sellers need to give demo of a product by making a service engineer or customer support executive visiting the place of the consumers itself.
- Online sellers should not stop their service once the product is delivered. They need to go beyond their comfort zone by calling or asking customers about the shopping experience with them.

- The customer feedback call does not require to be a longer one, however, even a shorter, quicker and core to the points call can also help the consumers to feel that the sellers are caring the customers beyond the sales.
- Pricing of a product online is a cutting edge for a successful sale. The price that are displayed along with the product display should not get changed once the order is placed. If the delivery or transaction cost is more compared to the original price of a product, consumers get disappointed with the overall cost of purchasing a product, not only that, they feel betrayed and disappointed for not able to buy the product that they desired. Once the sense of high cost involved in the product, consumers start to look for same product in a local market for bargaining and early delivery. Considering the cost involved in mobile shopping, the sellers should decide to sell the products at a honest price range, so that the consumers can afford to own a product that they desired online.
- The online sellers should be transparent with their transactions to the consumers. The price that is displayed in the shopping applications should not be changed to a higher amount than the quoted amount on the product.
- Since the screen size of a smartphone is considerably smaller than the desktop monitors, the sellers have to provide the pictures that are of high definition. The application developers should enhance the zooming features in the mobile shopping applications so that the consumers can have a closer look at the product that they are going to choose to buy.
- Mobile application developers should understand the need of female shoppers by providing numerous options of a product and connect with other female shopper to develop the consumer network and share their opinions and comments about the applications and the products sold on mobile applications.
- Mobile application developers should think of creating applications that are easy to operate by family members who did not have proper education and not familiar with functionalities of Smartphone.
- Mobile shopping applications should be developed in a such a way that it can be operated by any age group with ease of use.
- Mobile application developers should understand the need of female shoppers by providing numerous options of a product with maximum images and Videos and facility of chatting with other mobile shoppers should also be developed to share their opinions and comments about the Smartphones, its features and also on quality of mobile shopping applications.
- Android has emerged as the most preferred mobile operating system compared to other operating systems available in the market. Android developer of Google and OHA (Open Handset Alliance) should therefore focus in eliminating any software glitch.

- Few m-shoppers do not regularly update the patches or new releases developed and offered by the Android developers considering reasons being viz., the size of the installation files is too big to accommodate in the smartphones. The smartphones with lower configuration tend to hang after the update of the patches and the new version of the Android operating system. Some m-shoppers are concerned about the data consumption while updating operating system. Android mobile operating system developers should focus on developing a software that are user friendly. Android mobile operating system developers should focus and on controlling malware and any other intrusive software that could steal the information of the m-shoppers.
- Online retailers should send alert messages to the m-shoppers with regard to launch of new handset or smartphone in the market and also on offering of special discounts. Most of the online retailers follow these tactics however some special discounts or offerings can also be given to the repeat buyers of smartphones as well as mobile shopping applications. Online retailers should focus on the m-shoppers who are having their mobile shopping applications logged in so that the live updates can be given to them.
- Mobile shopping has the advantage of anywhere shopping. M-shoppers shop online on the go. Few m-shoppers make use of the Internet facility available in the office to access the free Wi-Fi to browse the interested products in using mobile shopping applications. Online retailers should consider to offer early bird offering or discount to the m-shoppers who make the mobile shopping at a particular time. To encourage the mobile shopping at the leisure time in the home, the m-tailors can give special offer or benefits to the m-shoppers who shop at the late night. To increase the, round the clock sales, some new launched or any special products can be displayed during the odd hours to the m-shoppers when the less Internet traffic jam is there so that the orders can be placed without any hurdles or issues of Internet connectivity.
- The success of mobile shopping is mainly dependent on the screen time of a m-shopper. The more the time m-shoppers spend on the mobile shopping applications to know or browse the products, the probability of buying or shopping decision is more. Mobile shopping applications developers should therefore consider the ease of use of the smartphone users while using the shopping applications. The developers should focus on developing the shopping applications that would keep the m-shoppers in tact with the shopping applications. The interesting lay out of the shopping applications or the similar product suggestions with various price range can keep the m-shoppers engaged in the mobile shopping. Considering the background of the m-shoppers and previous purchase or buying history, the mobile shopping application developers may consider to design the mobile application so that the m-shoppers can find the content available in the mobile shopping applications related to them. When the m-shoppers will feel the sense of belongingness, their screen time on mobile shopping applications would certainly increase.

- Online retailers should keep the m-shoppers informed about their products and services through various mediums. Online retailers should create a very effective advertising or sales promotion scheme to reach out to the existing m-shoppers and the potential buyers or shoppers.
- Mobile application developers should focus on creating very strong online communities that would comprise of the mobile shoppers. They need to create a platform on which m-shoppers can interact with each other and share his or her product experience that would eventually lead to the buying or shopping of the smartphone. Family Members, Colleagues Smartphone manufactures may focus on developing a set of smartphones for couples. Mobile Smartphone manufacturers should come up with ideas in the smartphones that are in pair with the variant of same model for married couple or smart phone users who are in the relationships. This would increase the use of smartphone among the married or committed m-shoppers.
- Online retailers should differentiate between the shoppers who are purchasing or shopping directly on a web page and the m-shoppers who have put their efforts in downloading the shopping applications. The online retailers can consider to come up with innovative ideas so that online shopper will download the mobile shopping applications. Mobile shopping applications developers should focus on developing user-friendly applications, and may consider to provide the facility for easy purchase and also for tracking of the orders that are placed. Since the screen size of a smartphone is considerably smaller than the desktop monitors, the sellers may explore to provide the pictures of high definitions. The application developers should enhance the zooming features in the mobile shopping applications so that the m-shoppers can have a closer look at the product which they wish to online buy or shop with least difficulties.
- Since, mobile shopping is based upon the Internet connectivity, the smartphone manufacturers should produce smart phones that can detect the low frequency of the Internet service. Mobile shopping provides an opportunity to shop from anywhere. To make the dream of anywhere shopping of smartphones possible with powerful Internet reception capacity is required. Mobile shopping application developers should focus on developing an application that consume less Internet data so that the m-shoppers can have the uninterrupted pleasant shopping experience.
- Smartphone manufacturers should focus upon increasing the RAM and capacity of the processer in the smartphones that can even withstand multiple applications have been opened up in the smartphone. The lagging issue in the smartphone have to be fixed so that the smartphone user experience of the mobile shopper is pleasant. The online sellers should be transparent with their transactions to the m-shoppers. The price that is displayed in the shopping applications should not be changed to a higher amount while completing the purchase. Mobile shoppers should trust the seller on the price and quality of the product. Online sellers should update the information available on the websites.

- When the product is out of stock, it should be mentioned clearly, not at the time of the checkout of a product. The seller's details and contact numbers should be prominently mentioned clearly and updated as on date.
- Compared to the normal face to face shopping, where buyers or online shoppers can take the delivery of the product immediately, in mobile shopping, there is a waiting period of delivery time of a product or mobile handset. Once the order is placed, the curiosity and eagerness of seeing the product or smartphone with real eyes becomes very intense. the online sellers therefore should ensure that the on-time delivery schedule is maintained as per the timeline. When there is a frequent delay from a particular mobile shopping application, m-shoppers hesitate to use the same shopping applications again. On time delivery is a key aspect in mobile shopping for the retention of the existing customers.
- Mobile shoppers have a lot of questions about a product. The information that is provided by the sellers will help the m-shoppers to know the product better. Online seller should make efforts to provide all the necessary information about the products. Few online retailers at times tend to miss providing of such basic information about a product or application assuming the buyers or shoppers would be expert in handling the products and or services especially the products that are used by the professionals like engineers or any skill-based tools. The recent phenomenon of shortage of labours for household chores, some products were bought by the non-professionals for home house. In such a case, the instructions given by the sellers on basic functionalities or operations of a tool can help the m-shoppers to make the buying or shopping decision.
- For elderly m-shoppers, smartphone manufacturers and mobile shopping application developers should personalise the functionalities in their technologies. A smartphone application can be developed with the easy navigations and user-friendly menu options to make easy buying or shopping process in the smartphone.
- Mobile shopping application developers should consider the ease of use of the shoppers while shopping through installed applications. The important objective of downloading a shopping application is for the convenience of use. Browsing a product or shopping on mobile applications should deliver some special experience than browsing on a Web Portal. If it is not going to make any ease of use or provide convenience to the mobile shoppers, the possibility of downloading a mobile application becomes minimal. The mobile application developers should therefore consider the layout of the applications, and the journey of the mobile shopping while developing the mobile applications. The mobile applications that are more user-friendly and interactive are always preferred by the mobile shoppers.
- The main cause of m-shoppers leaving the mobile shopping is that the delivered products look different than the products that were shown or are displayed online in the shopping applications especially considering its colour, the size, versions and type of a product etc.

- The mind of a m-shoppers perceives a particular product or mobile application while placing an order of it. Since the shopping environment happens virtually, the imagination of a product or mobile application induces the shopping urge of the m-shoppers. By thinking of a look of a product or the functionalities of a product, online m-shoppers make the purchase or shopping. Even though the shopping environment is virtual, the product is real and tangible. When the imagination does not meet the reality of a product, m-shoppers get disappointed and anxious about continuing the mobile shopping. So, image of product that is smartphone or mobile handset should resemble the actual product delivered to mobile shoppers.
- Online sellers should increase the customer service at their place itself. When a product that is smartphone or mobile handset is bought, if it is having complex operations, the sellers need to give demonstration of a product by asking a Service Engineer or Customer Support Executive visiting the place of the m-shoppers itself. Online sellers should not stop their service once the product that is smartphone or mobile handset is delivered. They need to go beyond their comfort zone by calling or asking customers about the shopping experience with them. The customer feedback call does not require to be a longer one, however, even a shorter, quicker and core to the points, and such call can also help the m-shoppers to feel that the sellers takes care of the customers beyond the sales.
- M-shoppers should build the trust on the sellers with regard to the payment gateways, and not having any malicious virus installed along the with the mobile shopping applications. The mobile shopping application developers should ensure that the trust of the m-shoppers is not broken. Due to the increased number of cybercrimes, frauds in case of online cash transactions, the personal information is being getting stolen, the m-shoppers still have the mind block of going to online purchasing especially the applications that require bank details to be saved in the mobile applications itself. To break the fear of the m-shoppers, both the seller on mobile applications and software developers should involve essential safety measures that are satisfactory to the m-shoppers. Since, mobile shopping happens without face to face interaction, and based on the trust and faith on the sellers and with the help and use of the mobile shopping applications, the trust of the m-shoppers should be protected and cherished. The payment must be OTP based.
- Pricing of a product online is a cutting edge for a successful sale. The price that are displayed along with the product display and it should not get changed once the order is placed. If the delivery or transaction cost is more compared to the original price of a product, m-shoppers feel cheated and disappointed with the overall cost of purchasing or shopping a product, not only that, they feel betrayed and disappointed for not able to buy the product that is smartphone or mobile handset that s/he had desired. Once the sense of high cost involved in the product, that is smartphone or mobile handset m-shoppers start to look for the same product that is smartphone or mobile handset in the local market for bargaining and early delivery.

Considering the cost involved in mobile shopping, the sellers should decide to sell the products at the honest price range, so that the m-shoppers can afford to own a smartphone or mobile handset that they desired online. Transaction cost or delivery cost should be avoided by the m-tailors.

- Online sellers should focus on the m-shoppers so that they would certainly make recommendation of their mobile shopping applications to their fellow colleagues, friends, acquaintance, and families. Word of Mouth of a m-shopper is a key factor in overall mobile commerce. A satisfied customer will serve as an ambassador to any mobile shopping application. Considering, the overall satisfaction of a customer and their desire to shop more using the mobile applications, it would certainly determine the development of the mobile commerce.

6.12.2: SUGGESTIONS OF THE RESEARCH STUDY:

An attempt in this section had been made to offer suggestions concerning significant areas where improvement is expected from the smartphone manufacturers and the mobile shopping application developer related to the opinions of the m-shoppers in the selected cities of Gujarat:

6.12.2.1: SUGGESTIONS TO THE SMARTPHONE MANUFACTURER:

- It is suggested that the smartphone manufacturers should focus on the functionalities provided in their smartphones. The growing technology in the smartphone manufacturing industry speedily outdate an existing market of a smartphone. To hold a place on the market and to be a leader, the smartphone manufacturers should offer new functionalities in mobile phones. M-shoppers do not want to be proved outdated in front of their friends, families and relatives of their age group. It is suggested that the smartphone manufacturers should get feedback from the recent buyers and process the feedback with the help of research and development departments to meet the expectations of the m-shoppers. It is very much important to reach out to the old customers to understand the wear and tear problem of using a smartphone constantly. So that, the manufacturers can develop the smartphones that will lost long or function well enough till the users decide to replace it.
- Since smartphones are wireless device, the battery back-up of the smartphones plays a vital role in using it. Smartphones are used for anywhere calling and shopping. Considering the use of the smartphones anytime from anyplace, the manufacturers should produce smartphones with good battery backup. The m-shoppers suffer when the battery is dead during an important phone calls or online cash transactions. The poor battery backup can affect the m-shoppers' accessibility to the mobile shopping at any time.

- It is suggested that the manufacturers should focus on the battery back-up considering the size of the screen and functionalities in the smartphones. The manufacturers need to make smartphones with good battery that does not leak or catch fire or burst when exposed to any abnormalities.
- It is suggested that the quality of the smartphone screen is comfortable for good screen time experience to the m-shoppers. Since, mobile commerce is carried out on the screen of the smartphone, the highly quality of the screen size becomes necessity. The poor quality of the display of the screen will impact the experience in mobile shopping. It is suggested to the smartphone manufacturers that they should concentrate on developing high quality screen in the smartphones so that in return it would increase the possibility of the mobile commerce. The screen that were good in quality, scratch proof and toughened glass will open up the new possibilities of mobile commerce. The good screen quality will be a crowd-puller to the mobile commerce industry. When a smartphone screen displays the natural colour of the product, the m-shoppers is more inclined to do the shopping in mobile shopping applications.
- The success of the mobile commerce heavily dependent on the connectivity to the Internet. The purpose of smartphone has drastically changed from voice calls to mobile data. The first-generation cellular phones did not have the option of GPRS or any internet mobile connectivity. Later on, as the technology had grown up, the integration of the mobile data into cell phones, had created millions of opportunities to explore the new markets. One among them is mobile commerce. The smartphones with the low frequency of internet reception will not support the online transactions. The m-shoppers who face frequent dysconnectivity to their mobile data, get frustrated and stop doing any online transactions. The smartphones with good reception to the Internet connectivity will be a life saver of a mobile commerce. It is suggested that the smartphone manufacturers should focus on manufacturing smartphone that could adapt the new generation mobile data and accommodate faster Internet access.
- The results of the research have suggested that the improved facility of security and privacy is a must for the smartphone user's information in this growing era of increased cybercrime. The smartphone manufacturers should focus on enhancing the security in the smartphones. A m-shopper data should be protected since it is valuable and personal. It is suggested that the smartphone manufacturers should offer high end safety facility to the mid-range smartphones too. It is due to the privacy is same for all the customers irrelevant to their age, gender, and income group. Middle and low budget m-shoppers cannot be ignored at the fact of their privacy details also important.
- The suggestion has been made that the smartphones that were having Internet connectivity should be provided high end protection against any malware or spyware attack.
- The smartphone users prefer the look and feel as important attributes of smartphone. Even a famous branded smartphone with unpleasant look will not win the heart of a m-shopper.

- The manufacturer should consider the look and feel of the smartphone while manufacturing it. It is suggested that the smartphone manufacturers need to consider the light weight, handy, and sleek look of the smartphone. The rich look of a smartphone with good solid outer case with high quality materials will attract the m-shoppers. Manufacturers should use solid, clear and feather touch glass for touchpad. Enhanced scratch proof, and toughened glass will induce the m-shoppers to fall for the better quality and better-looking smartphones. It is suggested that the manufacturers should focus on the colour of the case of the smartphones. Instead of using dull colours, they should use the colours that will attract the millennials and all the age groups. Smartphone manufacturers can design the case of the smartphones with floral designs and multi colours for the female users.
- Brand name plays a very important role while selecting the smartphone. It is suggested that the smartphone manufacturers should develop a reliable brand name and retain it. The smartphone manufacturers with good brand name should maintain the integrity of their brand value by delivering the reliable products to the m-shoppers. The smartphone users get disappointed when their trusted brand names fail them. It is suggested that the manufacturers with good brand value should focus on their research and development department and the quality check before the smartphones were dispatched to the market. The players who are not having good brand value should focus on building it by manufacturing the smartphones that are sturdy, reliable and durable. By listening to the constant feedback of the customers, a manufacturer can develop and build his brand value. The other reason for customers buying branded phones were for their integrated customer care centres all across India even global. It is suggested that the customer care centres should respond to the customer queries and offer solutions to the problems.
- It is suggested that the customer care centres should respond to the customer queries and offer solutions to the problems. Even the franchised customer support centre staff should be given training on the new updates in technology. They need to be trained on treating the customers respectfully irrespective of the price range of the smartphones that they own.

6.12.2.2: SUGGESTIONS TO SMARTPHONE SHOPPING APPLICATION DEVELOPERS:

- M-shoppers will start using the mobile application when it is easy to navigate than the web version of the same shopping site. The quality of the mobile shopping applications is determined by the ease of use. The application should help the m-shoppers to browse through the products easily at their convenience and knowledge level. The layout of the mobile shopping application should direct m-shoppers to navigate within the application to find out the desired product that m-shoppers are looking for. It is suggested to the mobile shopping application developers to personalize the shopping applications as per the information provided by the customers when they signed up in the mobile application.

- Personalization of the mobile applications will create the sense of belonging to the aged m-shoppers and they will be able to do the shopping on mobile applications. The younger generation will continue to explore the mobile applications and will have access to the latest innovative products.
- The eye-catching appearance of the design of the mobile application should be pleasing to the eyes of m-shoppers and bring crowds towards the applications. It has been suggested that lay out and appearance of the mobile application should be designed in a such a way that keep the m-shoppers intact with the shopping experience and bring them back again and again to shop on mobile shopping applications.
- From the evolution of e-Commerce, the mobile commerce has become a new trend. There are numerous smartphone models were available in the market. Mostly, m-shoppers also buy smartphones based on their income and age group. The smartphones come with countless mobile technology. On the other hand, numerous mobile shopping applications were also getting released in the market. M-shoppers install mobile shopping applications based on the compatibility of the mobile applications. The desire to keep on shopping on mobile shopping applications is determined by the user experience with the shopping applications. It has been suggested that mobile application developers should concentrate on developing the applications that were technically compatible with the smartphones of all different ranges. Any lagging issue in the applications will lead to the dissatisfaction of the m-shoppers that will eventually end up with the uninstallation of the mobile applications. It has been suggested that the mobile application should display the natural colour of the product, and compatible with playing videos, and zooming option to see the products in details.
- M-shoppers will start using the mobile application when it is easy to navigate than the web version of the same shopping website. The quality of the mobile shopping applications is determined by the ease of use. The application should help the m-shoppers to browse through the products easily at their convenience and knowledge level. The layout of the mobile shopping application should direct the m-shoppers to navigate within the application to find out the desired product that m-shoppers are looking for. It is suggested to the mobile shopping application developers to personalize the shopping applications as per the information provided by the customers when they signed up in the mobile application. Personalization of the mobile applications will create the sense of belonging to the aged m-shoppers and they will be able to do the shopping on mobile applications. The younger generation will continue to explore the mobile applications and will have access to the latest innovative products.

6.13: LIMITATIONS OF THE RESEARCH STUDY:

- The research study was done based on the empirical field survey conducted by the way of informal discussion with the selected respondents by filling up the structured-non-disguised questionnaire. The respondents have to take some time away from their regular chores to fill up the questionnaire. Considering the ambiguity of the smartphone users to respond the questionnaire that might lead to hurried and incorrect answers, distorted analysis and findings of the research study, researcher had made efforts to minimize the ambiguous responses by checking the filled questionnaire.
- The researcher had conducted the empirical study based on the primary data collected from the urban population of the Gujarat state. So, it would be inappropriate to generalize it as representation and fit for the entire population of Gujarat.
- The research study was carried out only in the four selected cities viz., Ahmedabad, Surat, Vadodara and Rajkot of the Gujarat State. This research work does focus to cover the whole representation of all urban customers.
- The findings of the research study entitled to the limitations of restricted sampling size, sampling design as followed by the researcher in the research study.
- Errors due to misunderstanding or misinterpretation of the smartphone users' inattention might or might not have influenced and affected results of this empirical research study systematically.
- The opinion of the respondents changes as per their user experience with time. The opinion of smartphone users tends to differ as per the rapid change in the smartphone technology and the software development in the creation of mobile shopping application than the time period of research study conducted.

6.14: DIRECTIONS FOR FUTURE RESEARCH STUDY:

- The research study has the implications on the quality of mobile applications and the attribute of smartphones. A research study can be considered on the users' experience with the quality of the shopping websites accessed on the mobile phone among the smartphone users.
- The research study was conducted ~~on~~ in four major cities of the Gujarat State. A similar study or comparative empirical research studies can be conducted in the other cities of Gujarat State. In the future, the similar kind of research study can be conducted at the national level in the other States of India too. The future research study would be helpful in understanding the m-shoppers' behaviour that is influenced by the diverse socio-culture in India.
- The researcher had conducted the research study in the data collected from the end user or m-shoppers with the aspect of mobile commerce. On the other hand, there are countless players who ~~do~~ make shopping on mobile for commercial purpose.

- They would order the products in bulk and sell to them to the individual retailers or the m-shoppers. There is a big cash transaction involved in online trading. A research study can be conducted to understand the behaviour of the sellers and buyers in online trading carried out on smartphones.
- Mobile commerce involves the wide range of products. This research study did not focus on any market for a particular product. A detailed research study can be conducted on a product-based market. For example, cosmetic is a huge product dimension on mobile shopping. Similarly, there are various product segments such as Electronics, Household Utensils, and Groceries etc. This research study would help the sellers to understand the challenges experienced by the m-shoppers particularly with related to the products.
- The researcher had conducted a general study on mobile shopping application and it does not analyse any influence of m-shoppers' behaviour on any particular mobile shopping applications. In future, a research study can be conducted to see the influence of any particular application on behaviour of m-shoppers, this will help in redesigning mobile shopping applications and enhance the m-shoppers' experience with the mobile shopping applications.
- There is a scope of further researches as it does not analyse any influence of individual Smartphone attribute on m-shoppers' behaviour. In future, a research study can be conducted to see the influence of any particular mobile feature on behaviour of m-shoppers, this would help in redesigning the smartphone attributes, which will enhance the m-shoppers' experience in m-shopping.

6.15: CONCLUSIONS OF THE RESEARCH STUDY:

Mobile commerce is the future of the business. Since, the need for desktop computers has been reduced due to the wide availability of handheld wireless devices of tab and smartphones to a common m-shopper. The smartphone manufacturers and mobile shopping application developers should coin this opportunity. The millennials and the newer generation that are born in the era of information technology are going to be the potential m-shoppers for the mobile shopping. It is going to be the normal for the millennials to order their desired products online than the traditional way of shopping in a Brick and Mortar store. Since, the screen time of the new age shoppers has increased in general, the application developers should retain the m-shoppers on their advanced technology of mobile shopping applications with the interactive functionalities that would keep the m-shoppers engaged online in their smartphones. Mobile Commerce is purely a trust-based business both for the m-Shoppers and the sellers. M-Shoppers are willing to buy a product from an unacquainted seller and willing to do the money transfer believing that the right product with good condition will be delivered.

This trust is not built in a single day, but it is developed over a time with good feedback of the existing customers, reliable technology of the applications, honesty of the bank in handling the cash transactions, and the product is dispatched to the customers' place by the hands of trusted delivery men.

Building this wide and reliable network among the online sellers, techies that develop the mobile shopping applications, wallet developers, bank service providers and their applications and the consignment operators were the success of this new era business of mobile commerce. The attitudes of sellers to the customers and their satisfaction index will determine their successful path in the mobile commerce. The negligible attitude of the sellers towards the customers feedback will put them out of business. Providing proper heed to the challenges faced by the customers and their issues will help the online seller to secure their success place in the growing industry of mobile commerce.

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