

Project Dissertation

A STUDY ON THE ADOPTION OF E-COMMERCE MOBILE APPLICATIONS IN INDIA

Submitted By

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CERTIFICATE

This is to certify that the Project Report titled **A STUDY ON THE ADOPTION OF E-COMMERCE MOBILE APPLICATIONS IN INDIA**, is a bonafide work carried out by **Mr. Vipul Jain** of MBA **2014-16** and submitted to Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-42 in partial fulfilment of the requirement for the award of the Degree of Masters of Business Administration.

Signature of Guide

Signature of Head (DSM)

Date:

Seal of Head

Place: **Delhi**

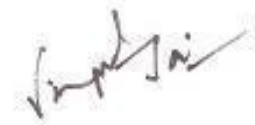
DECLARATION

I **Vipul Jain**, student of MBA 2014-16 of Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-42 declare that the Project Dissertation on **A STUDY ON THE ADOPTION OF E-COMMERCE MOBILE APPLICATIONS IN INDIA**, submitted in partial fulfilment of Degree of Masters of Business Administration is the original work conducted by me.

The information and data given in the dissertation is authentic to the best of my knowledge. This Report is not being submitted to any other University for award of any other Degree, Diploma and Fellowship.

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Vipul Jain

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CONTENTS

Topic	Page No.
CERTIFICATE	I
DECLARATION	II
ACKNOWLEDGEMENT	III
EXECUTIVE SUMMARY	1
1. INTRODUCTION	2
1.1 Ecommerce trends	2
1.2 Mobile Application Trends	3
1.3 Purpose of the study	4
2. LITERATURE REVIEW	5
2.1 Ecommerce: An Overview	5
2.2 About the companies	6
2.2.1 Flipkart	6
2.2.2 Snapdeal	7
2.2.3 Amazon India	8
2.3 M-commerce	9
2.4 Applications	10
2.5 Application Uses	10
3. RESEARCH METHODOLOGY	12
3.1 Significance & scope of the study	12
3.2 Objectives	12
3.3 Hypotheses	12
3.4 Research Design	13
3.5 Research Instrument	13

3.6 Population	13
3.7 Sample Size	13
3.8 Sampling Technique	13
3.9 Research Tools	13
3.9.1 Microsoft Excel	14
3.9.2 SPSS	14
4. ANALYSIS & RESULTS	15
4.1 Charts and Deductions	15
4.2 Regression Analysis	26
4.3 Correlation Analysis	29
5. LIMITATIONS & RECOMMENDATIONS	32
6. CONCLUSION	33
REFERENCES	34
APPENDIX	38
ADHERENCE SHEET	42

FIGURES INDEX

Topic	Page No.
1. Top 10 Retail apps downloads by Country	3
2. Respondent's Gender	15
3. Age	15
4. Ease of access to retail products	16
5. Preference on ecommerce apps vs. their websites	16
6. Time consumption by ecommerce apps	17
7. Ease of use of ecommerce apps	17
8. Mental effort in using ecommerce apps	18
9. Ease of understanding ecommerce apps	18
10. Family's influence on use of ecommerce apps	19
11. Peer's influence on use of ecommerce apps	19
12. User review's influence on use of ecommerce apps	20
13. Access to internet services	20
14. Access to a smartphone/tablet	21
15. Views on 'App only offers'	21
16. Effects of 'App sales/offers'	22
17. Price comparison on websites vs. ecommerce apps	22
18. Absorption in ecommerce apps	23
19. Use of ecommerce apps for entertainment	23
20. Control on notifications of ecommerce apps	24
21. Recommendations in ecommerce apps	24
22. Use intention of ecommerce apps	25
23. Frequency of use of ecommerce apps	25
24. Recommending use of ecommerce apps	26

TABLES INDEX

Topic	Page No.
1. Regression Model Summary	27
2. ANOVA Table	27
3. Coefficients Table	28
4. Correlations	29
5. Hypotheses Testing	30

EXECUTIVE SUMMARY

This report was conducted to examine how the Adoption Intention of ecommerce mobile apps changes with respect to Use behavior of the app, and Immersion into the app. Among the trends studied, all pointed in the direction of a booming mobile ecosystem, which supported the theory that ecommerce mobile apps are a better option than their counterparts i.e. websites.

For proving this theory, primary research was conducted on 221 respondents. They were asked a range of questions from performance expectancy to the joy of using such applications. The majority responded with a favourable answer towards the adoption of ecommerce mobile apps, with major positive correlations between Adoption and performance expectancy at 71%, with effort expectancy at 65%, facilitating conditions at 60%, curiosity at 56% and a few lower relationships with factors such as social influence at 38% or joy at 35%.

But overall all the independent factors had a positive correlation with the dependant factor i.e. Adoption. And the primary data collected supported the calculations with a majority in favour of adopting, using frequently and recommending ecommerce mobile apps to others.

INTRODUCTION

Driven by higher adoption in rustic India, the quantity of mobile internet clients in the nation is expected to achieve 371 million by June 2016. (2015, Mobile Internet in India), released by the Internet and Mobile Association of India (IAMAI) and IMRB International.

Calling out mobile as the development motor for the Internet Industry, a Google India report traces how mass reception of cellular telephones is driving adoption of more up to date services, turning into the essential screen for utilization of media and defining the new client encounters. With more than 200 Million mobile web consumers in the nation, mobile caught 60% offer of all shopping related inquiries and more than half share of all travel related questions. Even for YouTube, more than 60% of hits were currently originating from mobile. In the classifieds area, online occupation postings saw recovery with more than 41% employment related quests originating from cell telephones. (2016, Google India)

With users adopting hyperlocal services, buying beauty products and furniture online, the report highlights the evolving behavior of the Indian users on the Internet, with growing confidence to shop online. And this is seen in the increasing sales figures of various online companies and the start-up boom that the Indian people are seeing.

1.1. E-Commerce Trends

Exceptional development has been seen in 2014, in the eCommerce segment. Driven by quick innovation appropriation, led by the expanding utilization of gadgets, for example, cell phones and tablets, and access to the web through broadband, 3G, and so on, which prompted an expanded online user base. Moreover, supported demographics and a developing web client base helped this development. As far as highlights, the development demonstrated by home grown players, for example, Flipkart & Snapdeal and the tremendous financial investor enthusiasm around these organizations showed the colossal capability of this sector. With the entry of eCommerce giants, for example, Amazon and Alibaba, the competition is pinned to multiply. Both of these two worldwide companies have seemingly endless pockets and the tolerance and the calibre to drive our Indian eCommerce market according to their liking. Likewise, their solid domain knowledge and best practices from their global

experience give them an extra edge. Moreover, these organizations have been a part of business sectors where they have seen the eCommerce market develop and know about the difficulties and techniques to address such issues. Indian organizations understand this, and are hence meaning to proceed with their emphasis on extending vendors and choice on their sites, improving on various client interactions, and giving consistent and fast deliveries, keeping in mind the end goal to contend with the global leaders. Rivalry is expected to proceed, with these eCommerce organizations trying different things with various approaches to pull in clients and expand online activity.

“In 2013, Asia-Pacific rose as the most robust business-to consumer (B2C) eCommerce area on the planet with sales of around 567.3 billion USD, an astonishing growth of 45% more than what was in 2012, positioning it right in front of Europe (482.3 billion USD) and North America (452.4 billion USD). B2C eCommerce sales even expanded globally by almost 24% more than what was in 2012.” This mirrors the colossal undiscovered capability of eCommerce by retail organizations, both in their nation of origin and elsewhere. (PwC, 2015) According to a new industry study, 38 percent of cell phone customers had utilized an app to buy from a retailer, and 56 percent said they wanted to buy through a retailer application in the following year (Adobe, 2013)

1.2. Mobile App Trends

Today almost every new smartphone comes with an e-commerce shopping application (app) already installed. Generally these apps are Flipkart, Snapdeal or Amazon. Additionally, the ‘app only’ deals are a common occurrence for these businesses. But it remains a matter of research as to the effectiveness of these sales promotional strategies in encouraging users to use these mobile apps for the intent of purchase.

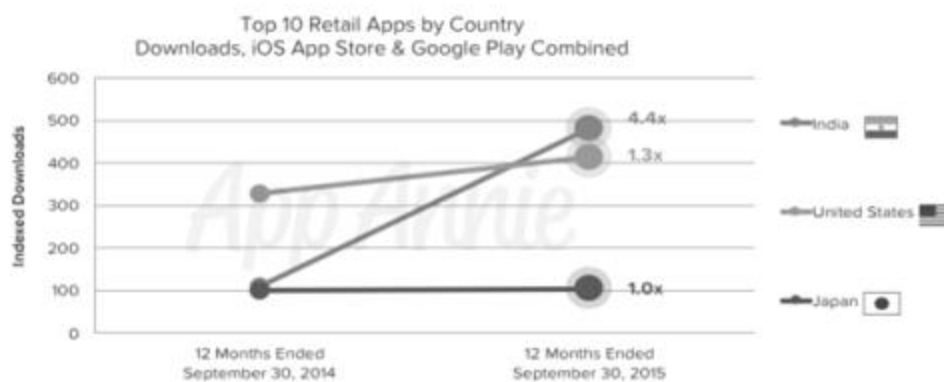


Figure 1.1: 1. Top 10 Retail apps downloads by Country

Source: (BGR, Dec'2015)

This is supported by a latest research by BGR, which shows the growth in downloads of retail apps in both Apple App Store & Google Play Store. The growth in India is enormous at 4.4x which means in just 12 months, the number of retail app downloads in India have grown more than 4 times.

1.3. Purpose of the Study

The purpose of this study is to analyse the present scenario and measure the adoption of ecommerce mobile apps in India. For this study, three major online retailers or e-commerce giants i.e. **Flipkart, Snapdeal and Amazon** have been chosen. The adoption intention will be measured on vital factors such as ease of use, performance expectancy, discounts and curiosity among others. Additionally, the mobile apps of all the three retailers will be ranked on important factors. The study will use questionnaire (on a sample of 200+ respondents) to arrive at the results. The respondents would be chosen using snowball or convenience sampling.

LITERATURE REVIEW

2.1. E-Commerce: An Overview

Electronic commerce (ecommerce) is a sort of plan of action, or fragment of a bigger plan of action, that empowers a firm or individual to direct business over an electronic system, commonly the web. Ecommerce works in every one of the four of the real market sections: business to business (B2B), business to consumer (B2C), consumer to consumer (C2C) and consumer to business (C2B). It can be considered as more of a propelled type of mail-order acquiring through a catalogue. Any item or service can be offered by means of ecommerce, from books and music to monetary services and flight tickets. Also here and there mentioned as "e-trade" or "ecommerce".

Ecommerce has permitted firms to set up a business sector presence, or to upgrade a current business sector position, by giving a less expensive and more effective distribution chain for their items or services. One case of a firm that has effectively utilized ecommerce is Target. This mass retailer has physical stores, as well as has an online store where the client can purchase everything from garments to espresso producers to action toys and figures. When you buy an item or service on the web, you are partaking in ecommerce.

A few points of interest of ecommerce for customers include convenience. It's 24x7 which means E-commerce can be accessed anytime & any day. Also selection, where numerous stores offer a more extensive exhibit of items online than they do in their brick and-mortar outlets. Furthermore, stores that exist just online may offer customers a choice of merchandise that they generally couldn't get their hands on. Be that as it may, ecommerce additionally has its impediments for shoppers such as, limited client administration. On the off chance that you need to purchase a PC and you're shopping on the web, there is no worker you can converse with about which PC would best address your issues. You also have no instant satisfaction. When you purchase something on the web, you need to sit tight for it to be delivered to your preferred location. Moreover you get no capacity to touch and see an item. Online pictures don't generally describe the entire tale around a product or service. E-commerce purchases or exchanges can be below what is expected when the actual item is received by the customer and he finds that it is not the same as he/she had anticipated.

2.2. About the Companies

The companies taken into consideration for this research paper are the 3 giants prominent in India, Flipkart, Snapdeal and Amazon India.

2.2.1. Flipkart



In 2007, when Flipkart was launched, Indian e-trade industry was making its novice strides. The organization is enrolled in Singapore, however their home office are in the city of Bangalore, India.

Sachin Bansal and Binny Bansal, who were working for Amazon.com had a thought to begin an e-trade organization in India. The two are graduates from the class of IIT, Delhi and are locals of Chandigarh, India. They cleared out their employments in Amazon to begin their own business. One can without much of a stretch, call that a dangerous move. In a nation where individuals have different tastes and inclinations, an ecommerce start-up will definitely have gigantic difficulties. In India, individuals regularly want to shop in individual and purchase products they see and like. Today, because of Flipkart, e-trade has gotten to be one of the quickest developing parts in India.

Flipkart started offering books in the first place. It soon extended and started offering a wide assortment of products. Advancing right from the beginning, Flipkart has been home to few of the striking elements of Indian e-business. In the initial couple of years of its presence, Flipkart raised assets through investment financing. As the organization developed in stature, additional financing arrived. Flipkart reimbursed the financial specialists' confidence with dynamite exhibitions of seemingly endless amount of time. In the money related year 2008-09, Flipkart had made deals to the tune of 40 million Indian rupees. This soon expanded to 200 million Indian rupees the accompanying year. Their last round of Fundraising had expanded their worth to \$ 15

billion, be that as it may, as of February 2016, as per Morgan Stanley, their assessed esteem remains at \$11 billion.

Flipkart likewise procured few organizations like Myntra.com, LetsBuy.com and so forth to better their nearness in the business sector. With the passage of Amazon.com in India, the opposition between the organizations has seen numerous takeovers. Flipkart's voyage from a little book e-retailer to India's biggest e-business stage motivates an era of new companies. In a nation where generalizations are basic, Flipkart figured out how to break the standard and change the ecommerce business in India for ever. Flipkart's story demonstrates that on the off chance that you have an awesome thought, and you are a practitioner and not a mastermind, achievement is not far-removed.

2.2.2. Snapdeal



Snapdeal is one of the quickest developing e-business organizations in India today with the biggest online marketplace. In only two years, the organization went from scrapping their gathering coupon business and beginning an online marketplace to end up a billion dollar organization. Its year on year development is very nearly 600%. The normal age of the workforce at Snapdeal is 25. Their qualities – Innovation, Change, Openness, Honesty and Ownership drive them to press for more noteworthy achievement.

Snapdeal set a corner for itself in the circle of e-business in India. In 2010, when Kunal Bahl and Rohit Bansal needed to begin their own particular business, they picked an offline, couponing business and named it MoneySaver. 15000 coupons were sold in three months and the time had come to take the business to the following level.

It was after they met financial specialist Vani Kola that the endeavour truly took off. The initial meeting did not go well but rather after another round of examination, Vani Kola's funding firm chose to put resources into Snapdeal. At first began as an offline business, Snapdeal went online in 2010. It was a rough ride in the initial couple of months. Slip-ups were made, yet lessons were learnt. It is this sort of diligent work and

persistent endeavour to offer the best to the clients that gave Snapdeal its underlying achievement.

At the point when Rohit Bahl figured out how to convince the board, the present type of Snapdeal came to fruition. The very certainty that Snapdeal is esteemed at a billion dollars today is a confirmation to the vision of its owners. At present, more than 50,000 vendors offer around 5 million items on Snapdeal. The organization's incredible development in a limited ability to focus has been a momentous voyage. The organization started to focus on building scale and enhancing speed. At the point when eBay put resources into Snapdeal, they conveyed tremendous experience to the table.

2.2.3. Amazon India



Amazon.com, Inc. frequently referred to as just Amazon, is an American electronic business and distributed computing organization with its headquarters in Seattle, Washington. It is the biggest Internet-based retailer in the United States. Amazon.com began as an online book shop, later differentiating to offer DVDs, Blu-rays, CDs, video downloads, MP3 downloads, book recording downloads, programming, computer games, gadgets, attire, furniture, nourishment, toys and gems. The organization also delivers buyer hardware, Amazon Kindle digital book, Fire tablets, and Fire TV — and is the world's biggest supplier of cloud services. Amazon offers certain low-end items like USB hubs and cables under its in-house brand AmazonBasics.

Amazon has proper retail sites for United States, United Kingdom and Ireland, France, Canada, Germany, Italy, Spain, Netherlands, Australia, Brazil, Japan, China, India and Mexico. Amazon offers universal shipping to certain different nations for some of its items as well. In 2011, it declared an aim to start its sites in Poland and Sweden.

In 2015, Amazon surpassed Walmart as the most profitable retailer in the United States by business sector capitalization.

Amazon formally entered the nation in June 2013, however it's currently the organization's quickest developing geology as far as deals. Amazon additionally says

that it's the greatest online store in India with more than 25 million items available to be purchased. That is around 5 million more than the latest numbers from one of its greatest neighbourhood rivals, Flipkart. Interestingly, Flipkart's owners really both worked at Amazon before leaving in 2007 to assemble their own particular organization. Precisely one day after Flipkart raised a mammoth \$1 billion financing round in June 2014, Amazon said it wanted to empty \$2 billion into its own particular Indian operations. Amazon sees India has a great open business sector than China. That attitude bodes well since Amazon attempted to wind up a major player in China, seeing declining market share since 2008, to some degree in light of the fact that Alibaba is such a neighbourhood top choice. Amazon even opened up its own store on Alibaba's site Tmall.

2.3. M-Commerce

M-commerce or mobile commerce is simply an updated or form of e-commerce. At the point when the business is led with the assistance of cellular devices, it is known as m-commerce. It incorporates, skimming, purchasing, selling, managing, requesting, paying and numerous different exercises. After the development of m-commerce, e-commerce has achieved extraordinary statures since it has expanded its openness, versatility and network. Presently, you don't have to seek a spot to stick to since it simply needs a remote handheld gadget. The most recent innovation behind the achievement of m-commerce is Wireless Application Protocol (WAP), Short Message Service (SMS), Bluetooth, and so forth. It can be utilized as a part of ticket booking, banking, and cash exchange by mobile etc. Obviously, it is likewise sponsored with various faults like little screen don't give a superior feel, absence of innovation in cell phones like memory, less security, less representation, and so forth. As development over these gadgets turns out to be quicker, more secure, and adaptable, there is wide theory that m-commerce will surpass e-commerce as the strategy for decision for computerized business transactions. The commercial ventures influenced by m-business include:

1. Financial administrations, which incorporates versatile management of an account (when clients utilize their handheld gadgets to get to their records and pay their bills) and in addition business administrations, in which stock quotes can be shown and exchanging led from the same handheld gadget would be possible.
2. Shopping/retail, as customers are given the capacity to put in and pay for requests on-the-go.

3. Data administrations, which incorporate the conveyance of money related news, sports figures and activity redesigns to a single device.

2.4. Applications

The term "app" is a short form for the term "application software". It has turned out to be exceptionally famous, and in 2010 was recorded as "Expression of the Year" by the American Dialect Society. In 2009, innovation journalist David Pogue said that more up to date cell phones could be nicknamed "app phones" to recognize them from prior less-refined cell phones. A mobile application is a product application grew particularly for use on handheld, wireless gadgets, for example, cell phones and tablets, as opposed to desktop or PCs. Mobile applications are outlined with thought for the requests and necessities of the gadgets furthermore to exploit any particular capacities they have. A gaming application, for instance, may exploit a phone's accelerometer. Mobile applications are at times ordered according to their nature as internet based or local, which are made particularly for a given platform. A third classification, hybrid applications, joins components of both local and Web applications. Applications that are not already available and preinstalled are most of the times accessible through application stores. They started popping up in 2008 and majority of the time are worked by the proprietor of the portable working framework, for example, the Apple App Store or Google's PlayStore or Windows Store and even the BlackBerry's App Store. Some applications are free, while others must be purchased. More often than not, they are downloaded from the platform to a gadget, yet here and there they can be downloaded to portable workstations or desktop PCs. For applications with a price tag, for the most part a rate, 20-30%, goes to the conveyance supplier, (for example, Play Store or iTunes), and the rest goes to the maker of the application. The same application can thus cost an alternate cost contingent upon the platform being used.

2.5. Application Uses

Mobile applications were initially offered for general efficiency and data recovery, including email, timetable, contacts, and securities exchange and weather check. Nonetheless, huge interest and the accessibility of developer tools drove quick expansion into different classifications, for example, those took care of by desktop softwares. Similarly as with other programming, the blast in number and assortment of applications made discovery a pain, which thus prompted the production of an extensive catalogue for reviewing, proposal, and a collection of sources, not limited to

websites, magazines, and especially devoted web based application exposure sites. In 2014 government administrative offices started attempting to direct and minister applications, especially medical applications. A few organizations offer applications as an optional to give content (media) with specific favourable circumstances over the official site. Just like shopping websites give exclusive offers on mobile app only. Utilization of mobile applications has turned out to be progressively common over phone owners. A May 2012 comScore study reported that amid the past quarter, more mobile users utilized applications than skimming the web on their gadgets: 51.1% versus 49.8% separately. Analysts found that utilization of mobile apps firmly connects with client setting and relies on client's area and time. Statistical surveying firm Gartner anticipated that 102 billion applications would be downloaded in 2013 (91% of them free), which would produce \$26 billion in the US, which is up by a staggering 44.4% on 2012's figure of US\$18 billion. By Q2 2015, it was seen that, the Google PlayStore and the Apple App store alone had created \$5 billion. An examiner report assesses that the application economy makes incomes of more than €10 billion every year inside the European Union, while more than 529,000 occupations have been made in 28 EU states because of the development of the application market.

RESEARCH METHODOLOGY**3.1. Significance & Scope of the Study**

The significance of this study is to determine, whether the trend with respect to the rising mobile applications for online shopping is being accepted by the consumers or not. The scope of this paper is however limited to the residents of India, chosen for their responses, on the principle of Snowball or convenience sampling. And within India, the three top players in the ecommerce segment in India i.e. Flipkart, Snapdeal and Amazon India were chosen based on their popularity.

3.2. Objectives

The objectives of this study include:

1. To identify the factors that affect the adoption intention of e-commerce mobile apps
2. To understand the purchase intention of consumers, shopping through e-commerce mobile apps

3.3. Hypotheses

H_A: Overall Use Behavior and Immersion have a relationship with Adoption intention of ecommerce mobile apps.

H_{A1}: There is a significant and positive relationship between Performance Expectancy and the adoption intention of ecommerce mobile apps.

H_{A2}: There is a significant and positive relationship between Effort Expectancy and the adoption intention of ecommerce mobile apps.

H_{A3}: There is a significant and positive relationship between Social Influence and the adoption intention of ecommerce mobile apps.

H_{A4}: There is a significant and positive relationship between Facilitating Conditions and the adoption intention of ecommerce mobile apps.

H_{A5}: There is a significant and positive relationship between Curiosity and the adoption intention of ecommerce mobile apps.

H_{A6}: There is a significant and positive relationship between Joy and the adoption intention of ecommerce mobile apps.

H_{A7}: There is a significant and positive relationship between Control and the adoption intention of ecommerce mobile apps.

3.4. Research Design

This study is primarily a descriptive study which follows a quantitative approach via survey method, which made use of the perception of the respondents as its main source.

3.5. Research Instrument

The primary data, for this study, has been collected from direct filling of a questionnaire, one of the prominent tools for primary data collection. A questionnaire is set of questions used for gathering information and data from individuals (CDC, 2008). Questionnaire has been designed according to the various factors identified in UTAUT Model and HMSAM (Hedonic Motivation System Adoption Model) and has been circulated using the online mode.

3.6. Population

The population for this research comprises of those people, who reside in India, use online services, and prefer online shopping.

3.7. Sample Size

The sample size for this research was a total of 221 respondents who took the survey floated using the questionnaire method.

3.8. Sampling Technique

Convenience sampling was used to identify respondents and collect data. A convenience sample is one of the main types of non-probability sampling methods. A convenience sample is made up of people who are easy to reach

3.9. Research Tools

For the purpose of deducing meaningful data out of the respondent's answers, the following tools were used for analysing the data.

3.9.1. Microsoft Excel

Microsoft Excel is a spreadsheet developed by Microsoft for Windows, Mac OS X, Android and iOS. It features calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications. It has been a very widely applied spreadsheet for these platforms, especially since version 5 in 1993. Excel forms part of Microsoft Office.

It was used for sorting, filtering and arranging the data in a meaningful format. It was also used to create charts from the data analysed.

3.9.2. SPSS

Statistical Product and Service Solutions or *Statistical Package for the Social Sciences*, SPSS Statistics is a software package used for statistical analysis. Long produced by SPSS Inc., it was acquired by IBM in 2009. The current versions (2015) are officially named IBM SPSS Statistics. Companion products in the same family are used for survey authoring and deployment (IBM SPSS Data Collection), data mining (IBM SPSS Modeler), text analytics, and collaboration and deployment (batch and automated scoring services).

It was used to calculate the mean values of the data collected in addition to finding the regression and correlation values and relations between the independent and dependant factors used in the research.

ANALYSIS & RESULTS

4.1. Charts and Deductions

The questionnaire was floated through various social websites and hosted on Google Forms. A total of 221 respondents contributed their insights through this questionnaire. The respondents were chosen by snowball sampling.

1. The respondents comprised of 86 males and 135 females.

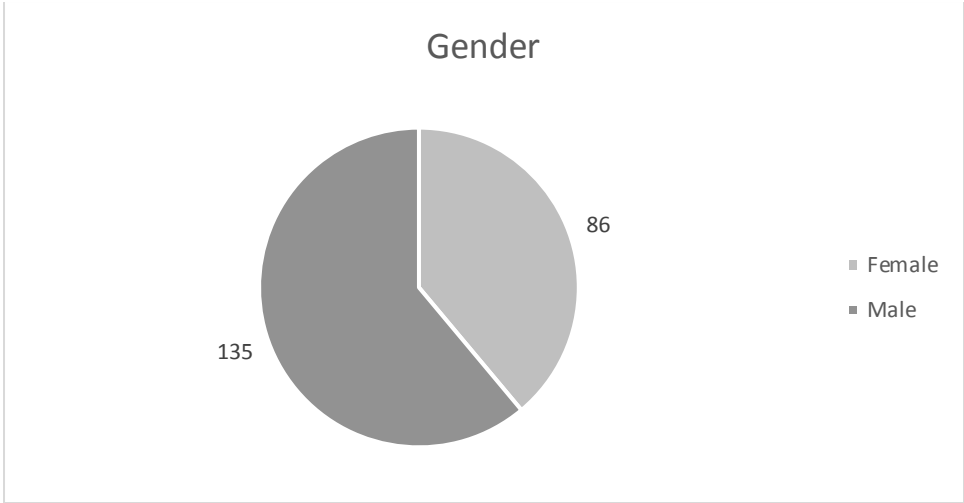


Figure 2: Respondent's Gender

2. The age groups were Below 18, 18-25, 25-30 and Above 30. Among the respondents 148 belong to the age group of 18-25, 60 respondents are from the age group of 25-30 and just 13 are from the age group of 30 and above. None of the respondents are from the age group under 18.

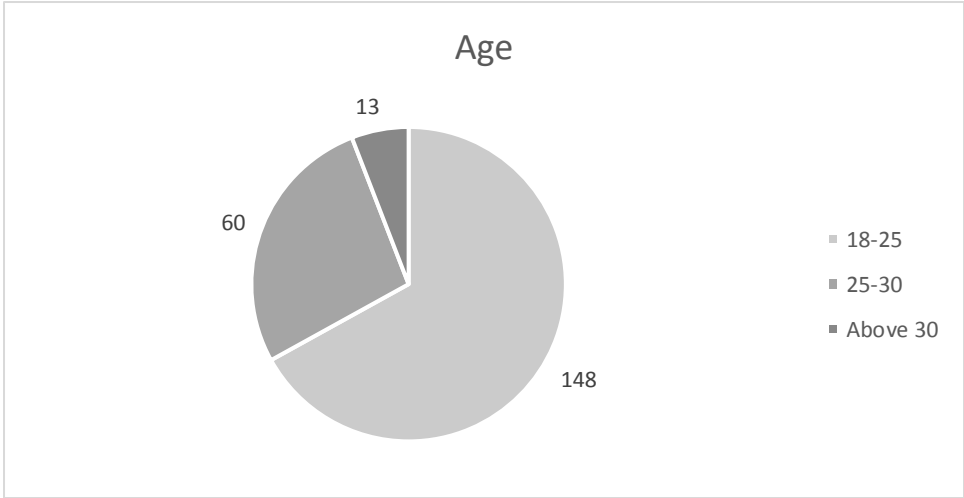


Figure 3: Age

The following questions were all taken on a 5 point Likert Scale, where, 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, and 5-Strongly Agree.

3. A majority of the respondents think that the use of ecommerce mobile apps allows them easy access to the range of products available on the particular seller.

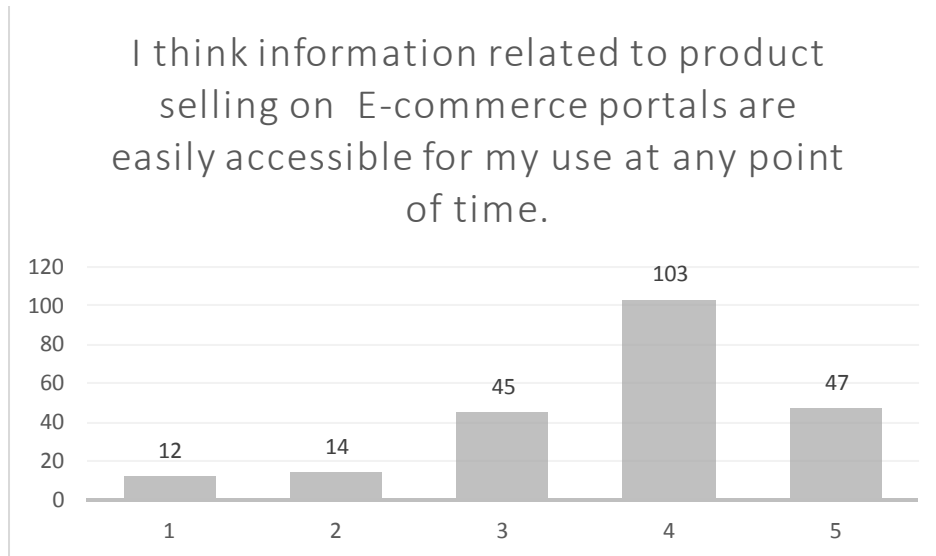


Figure 4: Ease of access to retail products

4. The response regarding the use of ecommerce mobile apps is a bit divided, with 101 respondents in favour and 73 against it. The remaining 47 are neutral and prefer the existence of both the website and the mobile apps.

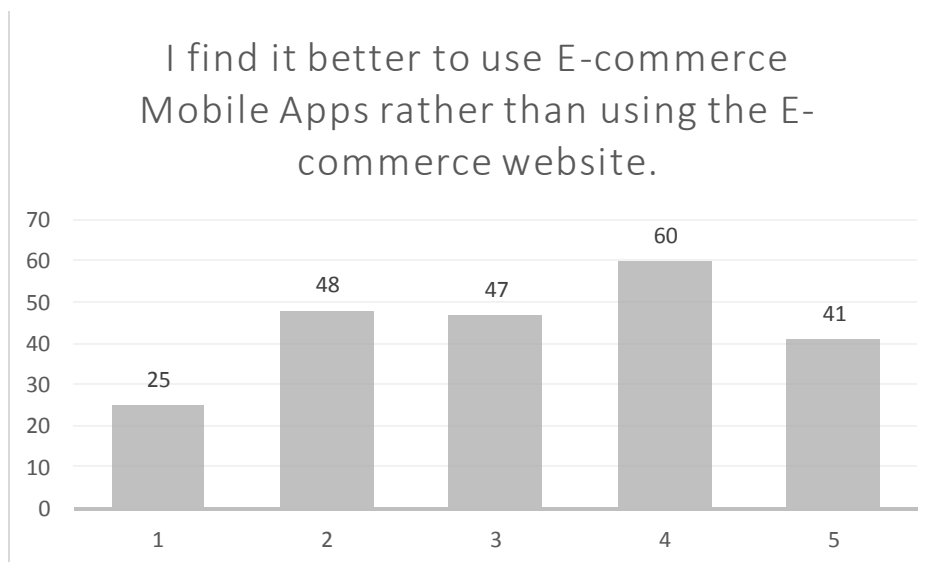


Figure 5: Preference on ecommerce apps vs. their websites

5. The respondents feel that ecommerce mobile apps are less time consuming with 100 in favour and just 33 against it, but an almost equal majority feels neutral about it.

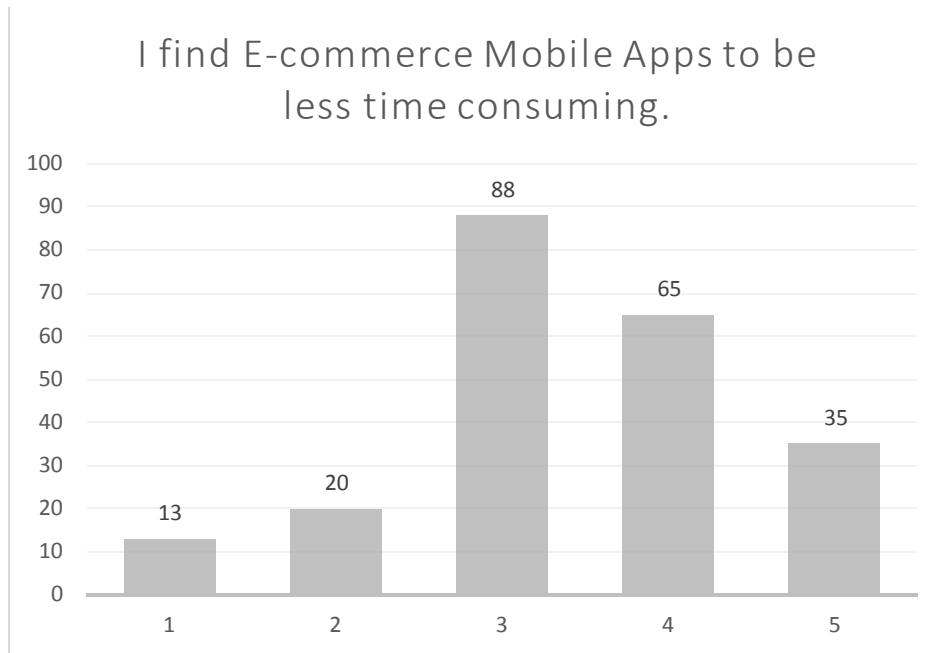


Figure 6: Time consumption by ecommerce apps

6. It was a clear response that people find ecommerce apps easier to use than their counterparts i.e. the websites.

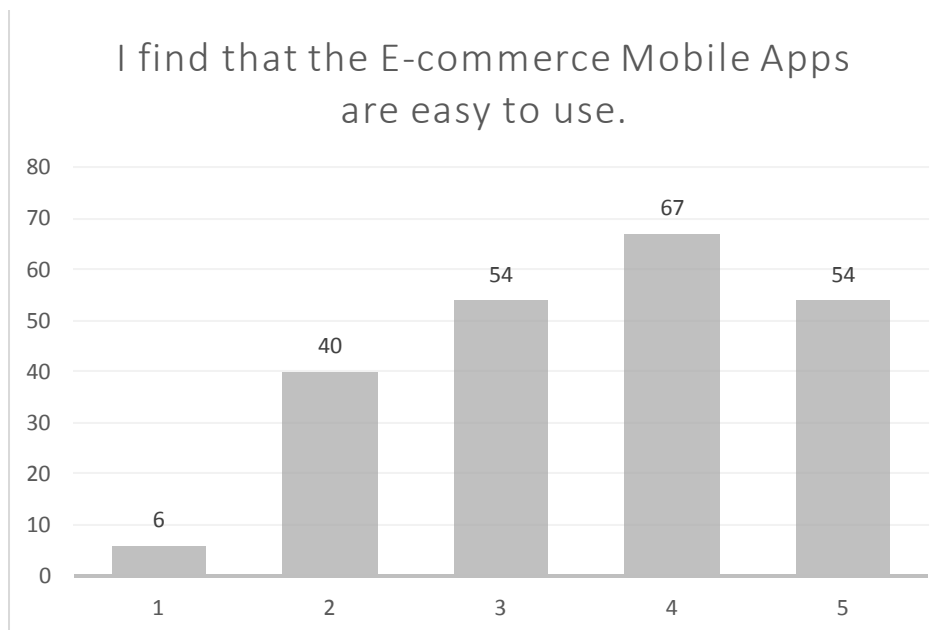


Figure 7: Ease of use of ecommerce apps

7. With accordance of the earlier question, people again chose the ecommerce mobile apps over the websites as they require less mental effort.

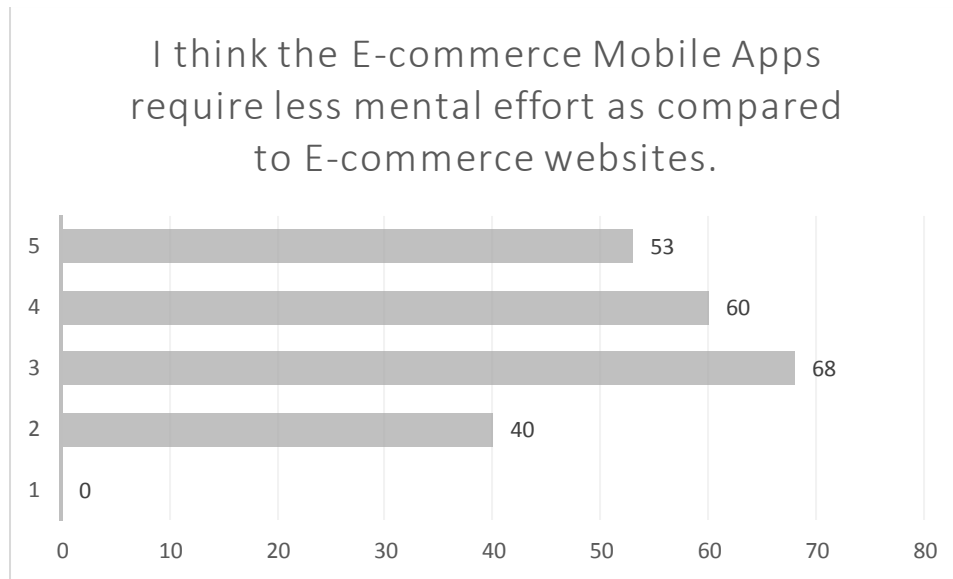


Figure 8: Mental effort in using ecommerce apps

8. The mobile apps take a huge lead in term of ease of use, with 123 respondents finding them easier to use than the websites.

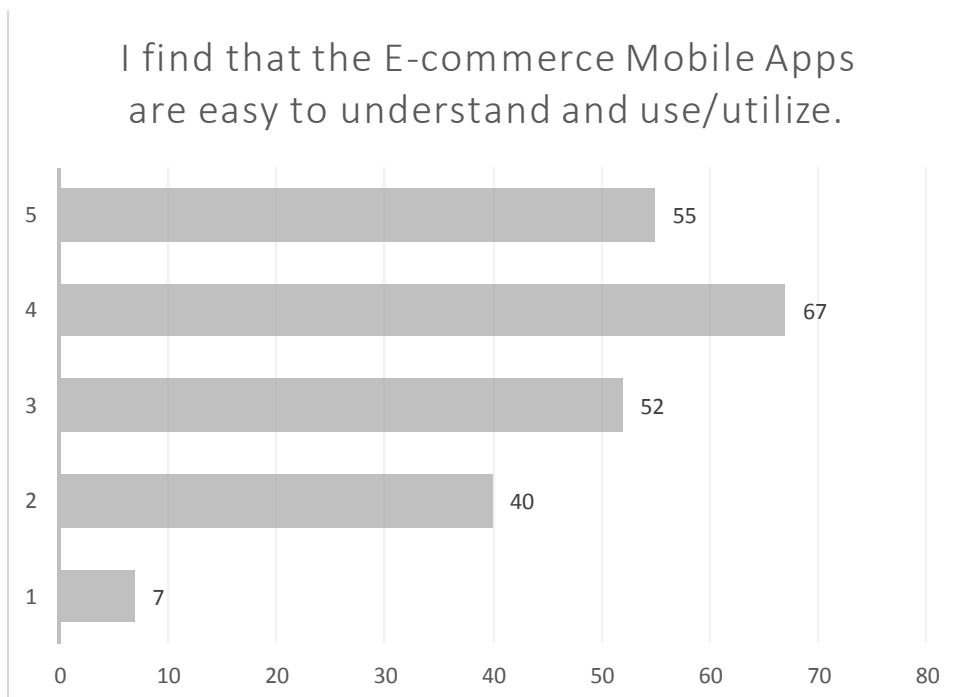


Figure 9: Ease of understanding ecommerce apps

9. It is clear that people are not influenced by their families when it comes to adapting to ecommerce mobile apps. With merely 55 people in favour, it can be seen that the apps are used primarily on the user's own choice.

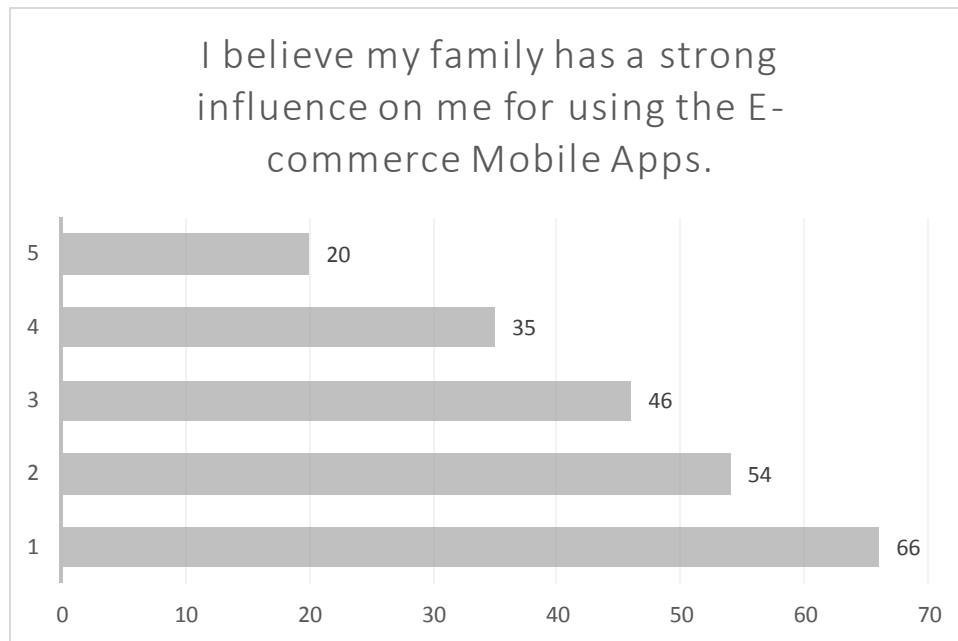


Figure 10: Family's influence on use of ecommerce apps

10. The same goes for the friends. People do not heed to a word of mouth praise by their peers when it comes to ecommerce mobile apps. They use them only if they want to.

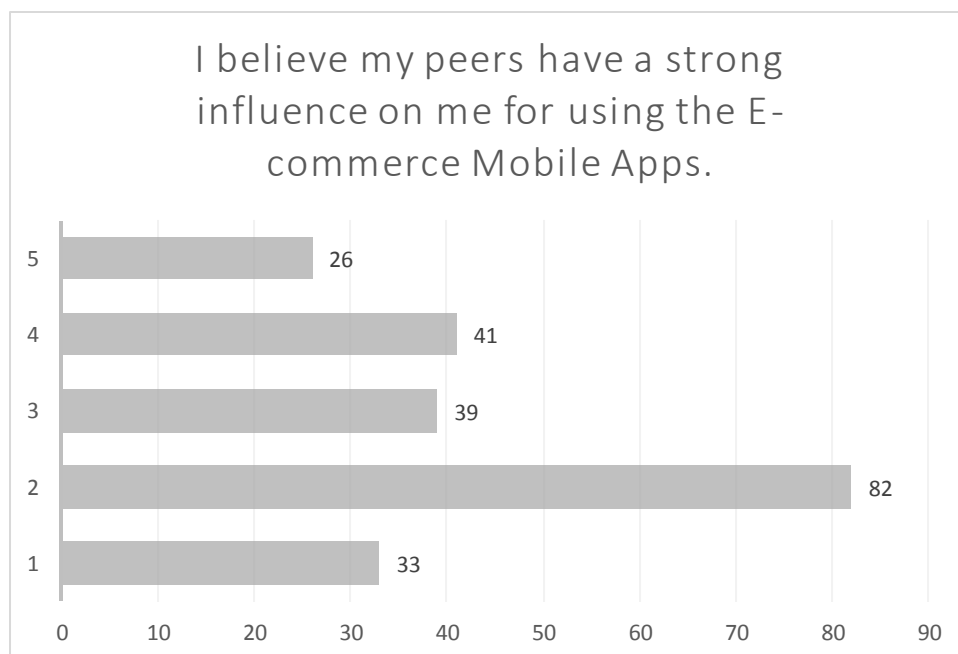


Figure 11: Peer's influence on use of ecommerce apps

11. Surprisingly though, people do believe actual users of these apps. With a majority of 134 respondents saying that reviews left by users on the app pages of these ecommerce apps affects them, it is clear that people do believe in real experiences.

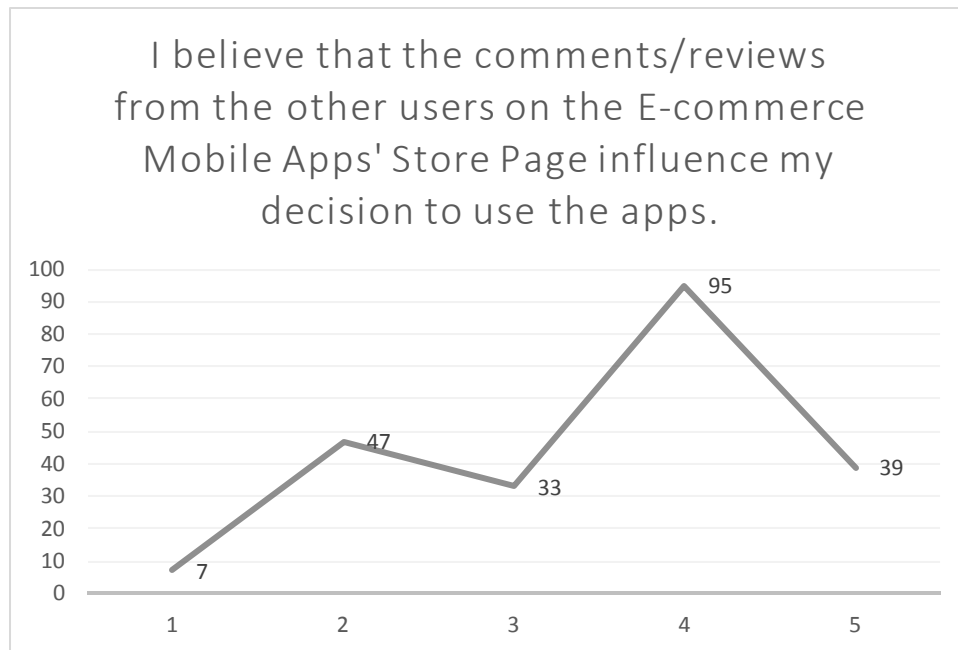


Figure 12: User review's influence on use of ecommerce apps

12. In the current times it is no surprise that people have easy access to internet services. With a huge majority of 161 respondents saying they have such access.

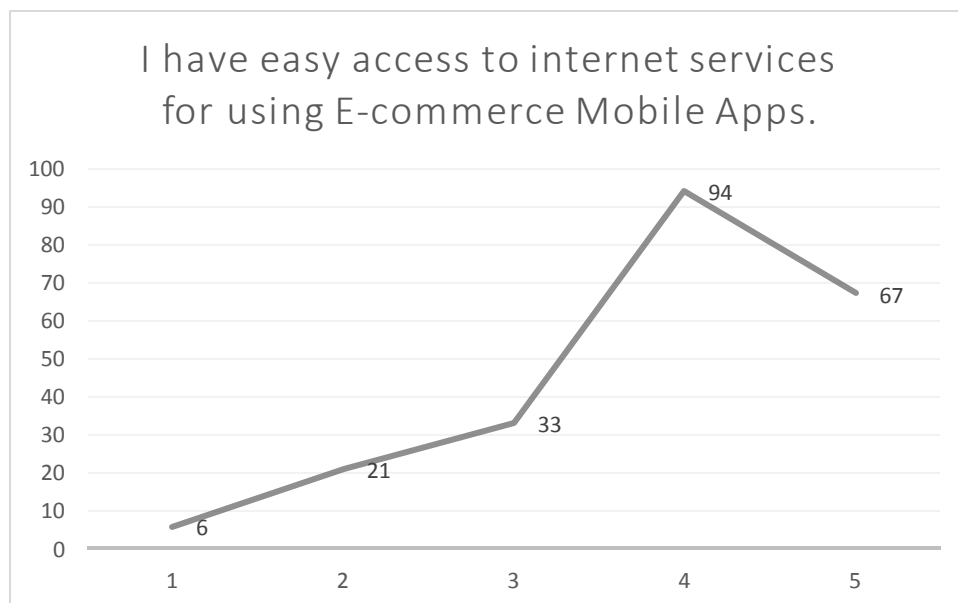


Figure 13: Access to internet services

13. And unsurprisingly since people have access to internet services they do have a smartphone or tablet as well. With 161 respondents owning a device of their own.

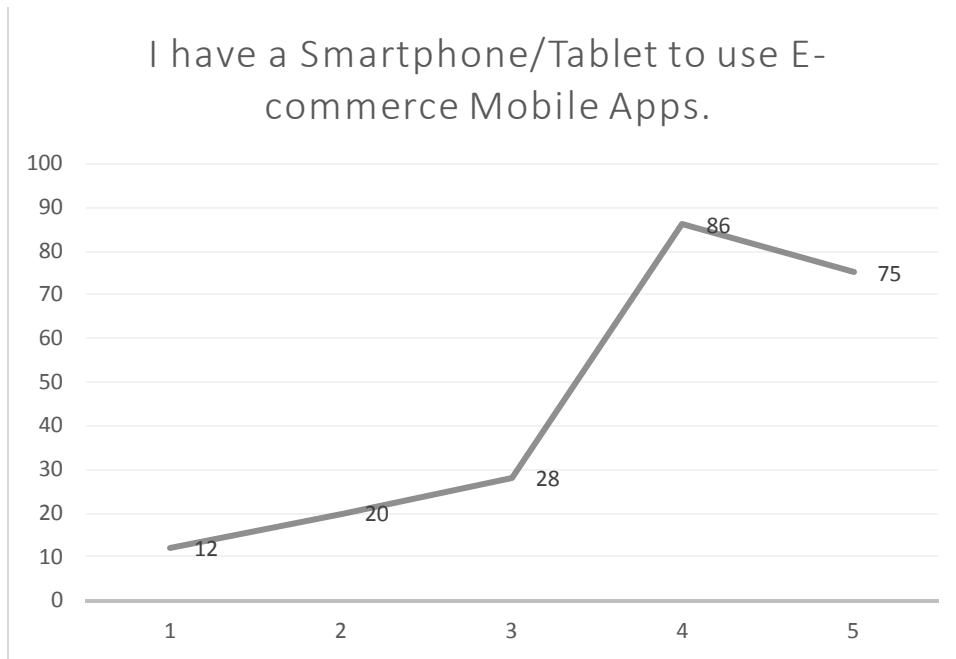


Figure 14: Access to a smartphone/tablet

14. It was also found that people look forward to app only offers. With 148 respondents appreciating the App only offers.

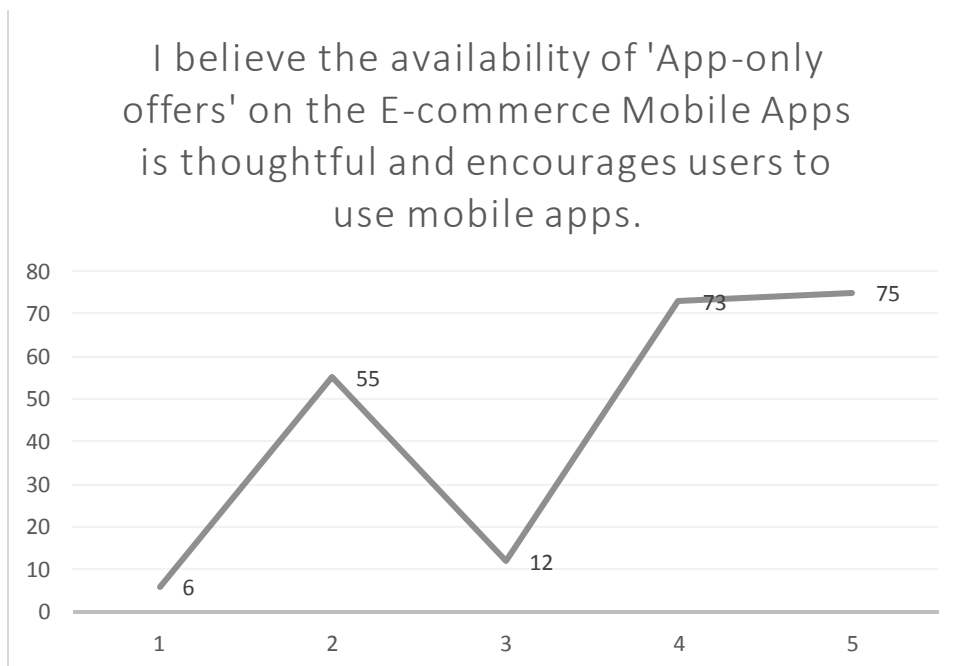


Figure 15: Views on 'App only offers'

15. It was also seen that a majority of people not only appreciate the app only offers, but the simple offer zones arouses their interest to check out more products on offer.

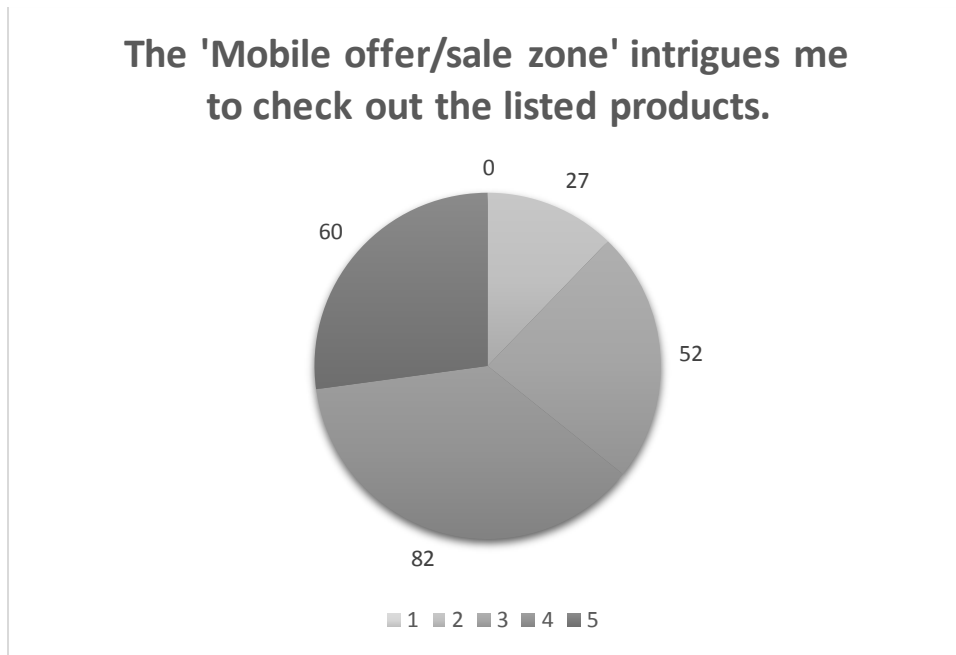


Figure 16: Effects of 'App sales/offers'

16. The price sensitive customers of India also supported the claim that they do check any possible price differences between a product listed on the website and the ecommerce mobile app.

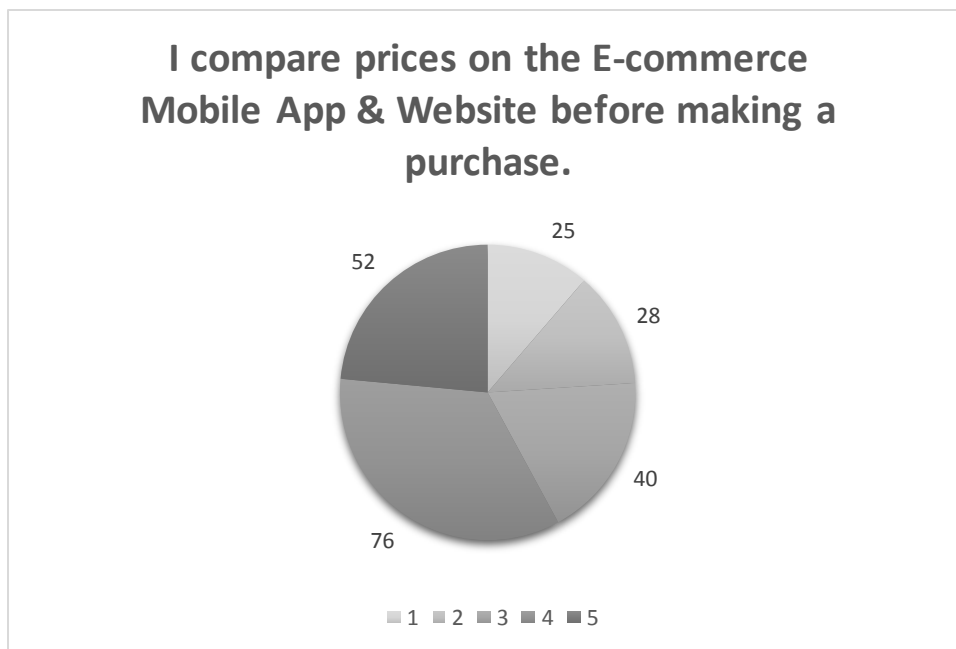


Figure 17: Price comparison on websites vs. ecommerce apps

17. On an immersion front, it was found that for a majority of the customers, using ecommerce mobile apps absorbs people in enjoyment.

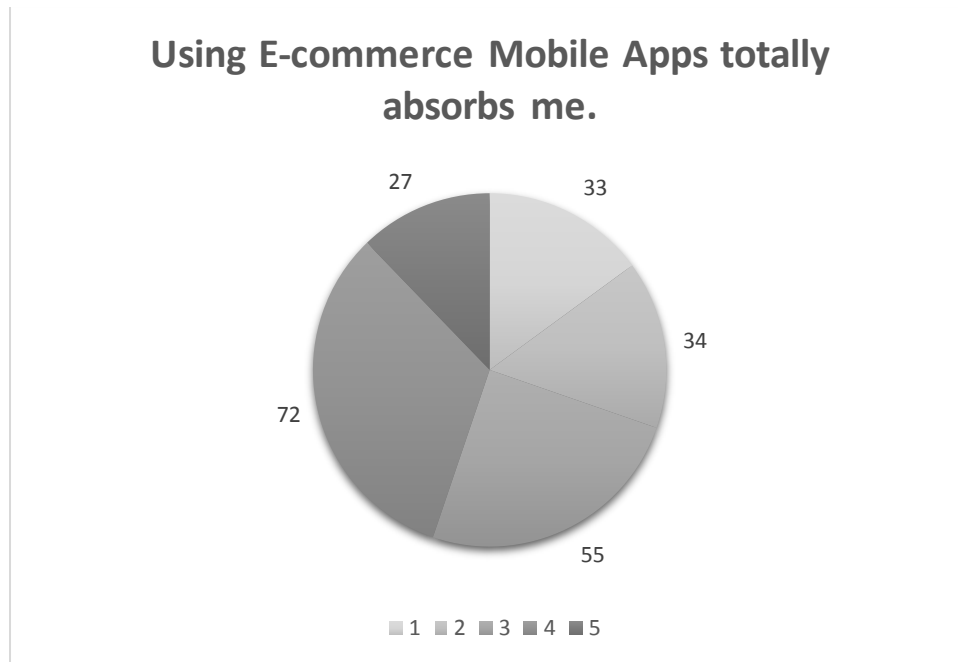


Figure 18: Absorption in ecommerce apps

18. It was also found that almost half of the respondents use ecommerce mobile apps just to browse through to pass time and entertain themselves even if they have no intention of buying per say.

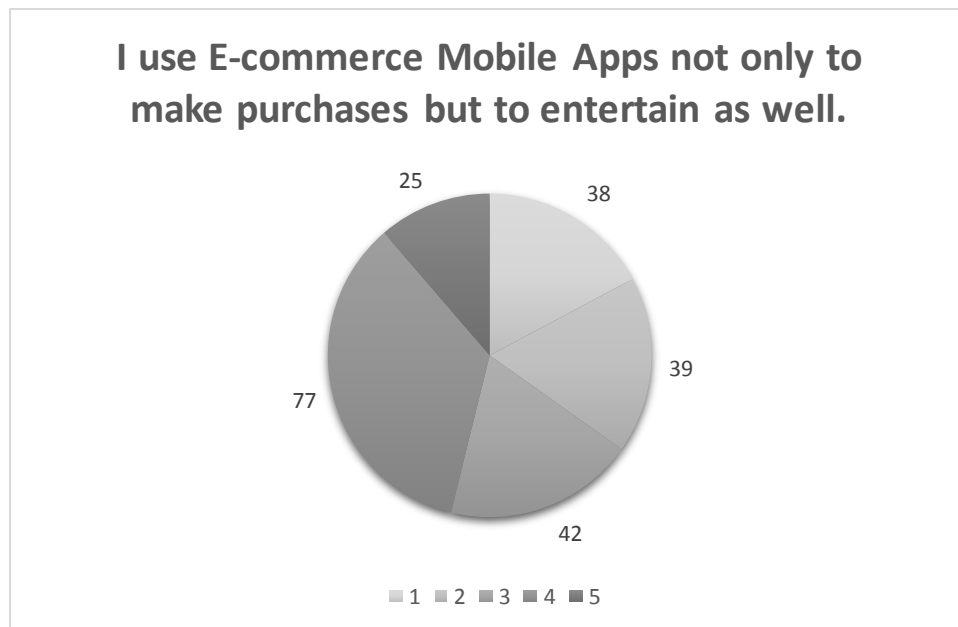


Figure 19: Use of ecommerce apps for entertainment

19. The respondents also said that a majority of them had the notifications from the ecommerce mobile apps under their control.

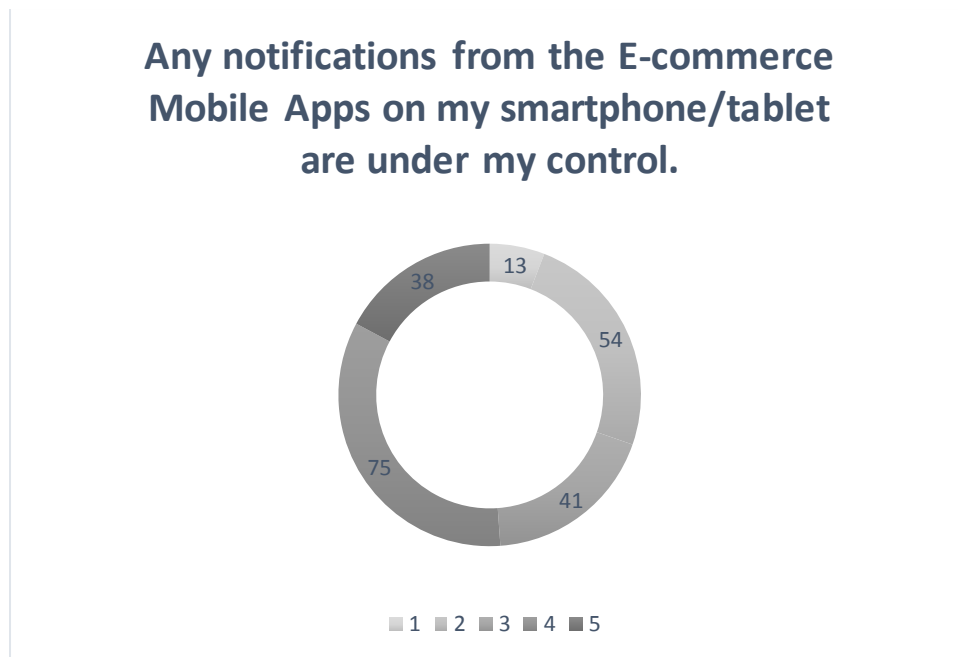


Figure 20: Control on notifications of ecommerce apps

20. Not a lot of people are impressed by the recommendations given on ecommerce mobile apps though. With only 96 in favour and 73 neutral about it.

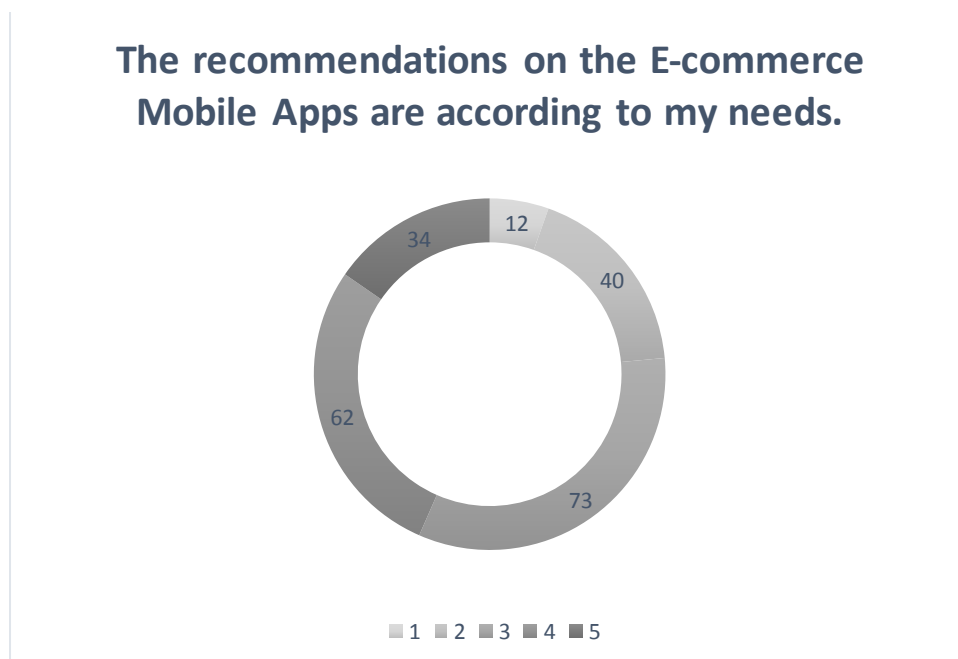


Figure 21: Recommendations in ecommerce apps

21. A positive response was received where 121 respondents agreed that they intend to use ecommerce mobile apps, while only 41 are against it.

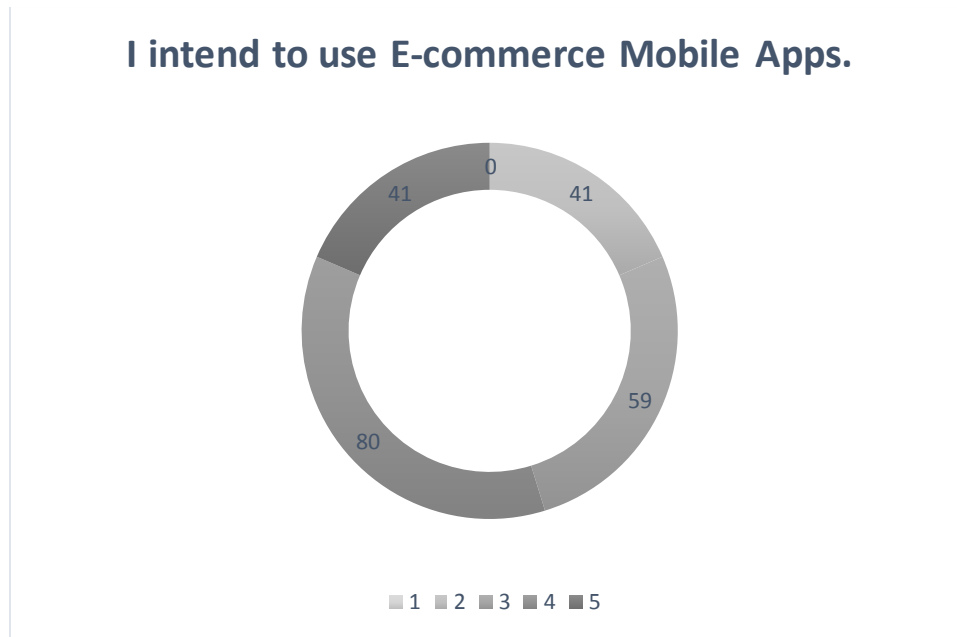


Figure 22: Use intention of ecommerce apps

22. Similarly 108 people said they will use these commerce mobile apps frequently, and 85 were neutral about it, but only a mere 28 respondents were against the frequent use of ecommerce mobile apps.

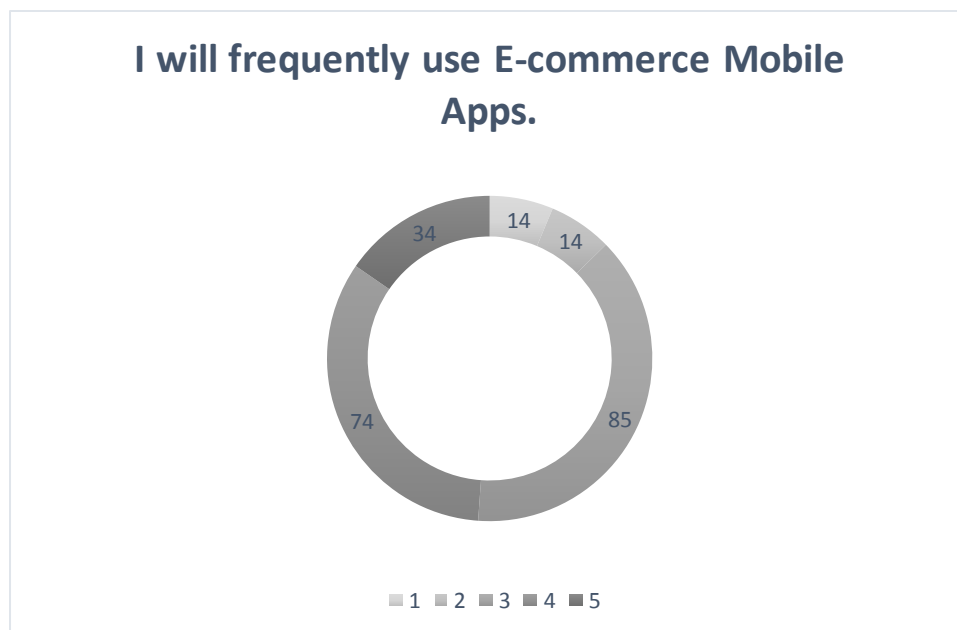


Figure 23: Frequency of use of ecommerce apps

23. Surprisingly people also said that they'd recommend using mobile apps to others. With 107 in favour, 72 undecided and just 42 against it.

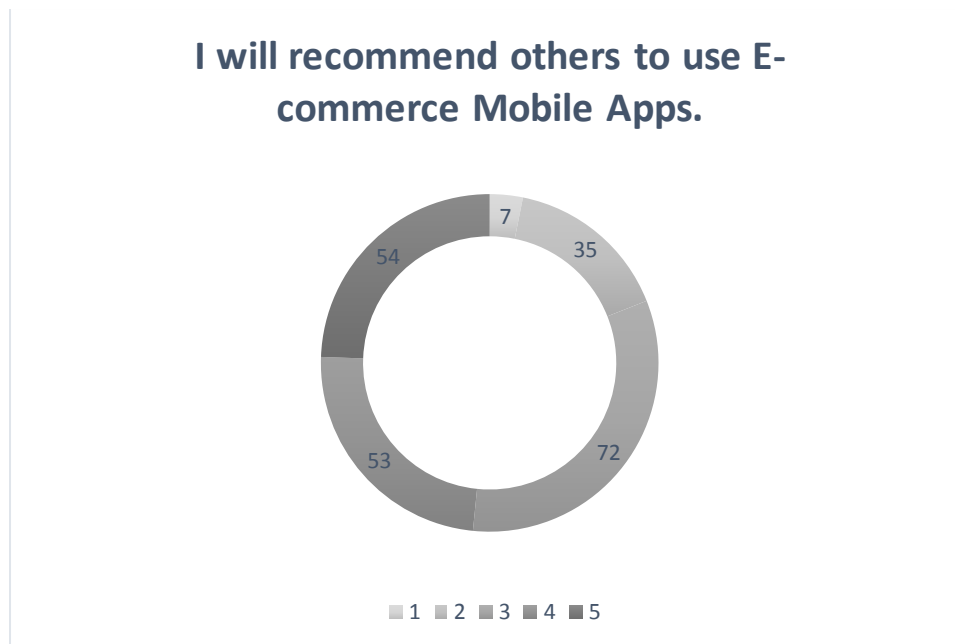


Figure 24: Recommending use of ecommerce apps

From the above data, the responses were arranged in an excel sheet and using SPSS, the following results were found.

4.2. Regression Analysis

Regression analysis is a statistical process for estimating the relationships among variables. In this research we are trying to find the relationship between 7 independent factors/variable and 1 dependant factor/variable.

The factors/variables are:

1. Performance Expectancy (PerfExp)
2. Effort Expectancy (EffortExp)
3. Social Influence (SocialInf)
4. Facilitating Conditions (Facilitating)
5. Curiosity (Curiosity)
6. Joy (Joy)
7. Control (Control)
8. Adoption Intention (Adoption)

Among the above factors/variables Adoption is the only dependant variable while all the earlier 7 factors are independent and are not affected by any other factor/variable.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.794 ^a	.631	.619	.56322	.631	51.996	7	213	.000

Table 1: Model Summary

a. Predictors: (Constant), Control, SocialInf, PerfExp, Joy, Curiosity, Facilitating, EffortExp

A multiple linear regression was calculated to predict Adoption based on PerfExp, EffortExp, Facilitating, SocialInf, Curiosity, Joy, & Control.

We look at the adjusted R^2 , and we can say that 62% of total variance in Adoption is explained by PerfExp, EffortExp, SocialInf, Facilitating, Curiosity, Joy, & Control.

We also see that the difference between R^2 and adjusted R^2 isn't a lot, so we can say that no redundant independent variables were added.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	115.459	7	16.494	51.996	.000 ^b
	Residual	67.567	213	.317		
	Total	183.027	220			

Table 2: ANOVA

a. Dependent Variable: Adoption

b. Predictors: (Constant), Control, SocialInf, PerfExp, Joy, Curiosity, Facilitating, EffortExp

A significant regression equation was found ($F(7+213)=51.996$, $p<.000$) with an R^2 of .619. Also with the Sig value of .000, which is way less than .05 or even .01, we can conclude with strong evidence that the Independent variables help the dependant variable.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.064	.202		-.317	.752
	PerfExp	.438	.083	.433	5.284	.000
	EffortExp	.114	.081	.112	1.417	.158
	SocialInf	.186	.051	.191	3.668	.000
	Facilitating	.097	.067	.097	1.452	.148
	Curiosity	.037	.061	.037	.605	.546
	Joy	.044	.040	.052	1.092	.276
	Control	.143	.051	.152	2.787	.006

Table 3: Coefficients

a. Dependent Variable: Adoption

Participants' predicted Adoption is equal to

$-.064 + .438(\text{PerfExp}) + .114(\text{EffortExp}) + .186(\text{SocialInf}) + .097(\text{Facilitating}) + .037(\text{Curiosity}) + .044(\text{Joy}) + .143(\text{Control})$, where PerfExp, EffortExp, SocialInf, Facilitating, Curiosity, Joy, Control are coded as

1- Strongly Disagree

2- Disagree

3- Neutral

4- Agree

5- Strongly Agree

Among the factors, it was seen that PerfExp (.000), SocialInf (.000) and Control (.006) were significant predictors of Adoption, while EffortExp (.158), Facilitating (.148), Curiosity (.546) and Joy (.276) weren't.

4.3. Correlation Analysis

Correlation and regression analysis are related in the sense that both deal with relationships among variables. The correlation coefficient is a measure of linear association between two variables. Correlation coefficients are always between +1 and -1. +1 means perfect positive and -1 means perfect negative correlation, which means they are exactly on a straight line.

		Perf Exp	Effort Exp	Social Inf	Facilit ating	Curi osity	Joy	Cont rol	Adopt ion
PerfEx p	Pearson Correlati on	1	.742**	.156*	.676**	.661**	.266**	.444**	.718**
	Sig. (2- tailed)		0	0.021	0	0	0	0	0
	N	221	221	221	221	221	221	221	221
EffortE xp	Pearson Correlati on	.742**	1	.436**	.632**	.474**	.236**	.258**	.647**
	Sig. (2- tailed)	0		0	0	0	0	0	0
	N	221	221	221	221	221	221	221	221
SocialI nf	Pearson Correlati on	.156*	.436**	1	.187**	.234**	.284**	.207**	.381**
	Sig. (2- tailed)	0.021	0		0.005	0	0	0.002	0
	N	221	221	221	221	221	221	221	221
Facilita ting	Pearson Correlati on	.676**	.632**	.187**	1	.644**	.256**	.487**	.608**
	Sig. (2- tailed)	0	0	0.005		0	0	0	0
	N	221	221	221	221	221	221	221	221
Curiosi ty	Pearson Correlati on	.661**	.474**	.234**	.644**	1	.252**	.425**	.562**
	Sig. (2- tailed)	0	0	0	0		0	0	0
	N	221	221	221	221	221	221	221	221
Joy	Pearson Correlati on	.266**	.236**	.284**	.256**	.252**	1	.452**	.351**
	Sig. (2- tailed)	0	0	0	0	0		0	0
	N	221	221	221	221	221	221	221	221

Control	Pearson Correlation	.444**	.258**	.207**	.487**	.425**	.452**	1	.500**
	Sig. (2-tailed)	0	0	0.002	0	0	0	0	0
	N	221	221	221	221	221	221	221	221
Adoption	Pearson Correlation	.718**	.647**	.381**	.608**	.562**	.351**	.500**	1
	Sig. (2-tailed)	0	0	0	0	0	0	0	0
	N	221	221	221	221	221	221	221	221

We can see that PerfExp has a correlation of .718 with Adoption, which shows a positive and strong linear relationship between the two variables.

Also, the level of significance chosen was 0.05. And studying the table it can be seen that all the significance values (Sig) are under 0.05, ranging from .002 to 0.021. So the correlations are statistically significant.

There is enough evidence to suggest that the correlation we observed does exist in the population and they did not occur by chance.

Hypothesis	Variables		Adoption Intention	Conclusion	Remarks
HA1	Performance Expectancy	Pearson Correlation	.718	Supported	At 0.01 level of significance
		Sig (2-tailed)	.000		
HA2	Effort Expectancy	Pearson Correlation	.647	Supported	At 0.01 level of significance
		Sig (2-tailed)	.000		
HA3	Social Influence	Pearson Correlation	.381	Supported	At 0.01 level of significance
		Sig (2-tailed)	.000		

H _{A4}	Facilitating Conditions	Pearson Correlation	.608	Supported	At 0.01 level of significance
		Sig (2-tailed)	.000		
H _{A5}	Curiosity	Pearson Correlation	.562	Supported	At 0.01 level of significance
		Sig (2-tailed)	.000		
H _{A6}	Joy	Pearson Correlation	.351	Supported	At 0.01 level of significance
		Sig (2-tailed)	.000		
H _{A7}	Control	Pearson Correlation	.500	Supported	At 0.01 level of significance
		Sig (2-tailed)	.000		

Table 5: Hypotheses Testing

Table 5 shows the correlation between the Use behavior and Immersion with the adoption of ecommerce mobile apps. And it shows the results for the alternate hypotheses we took. We can see that all the hypotheses are supported by the calculations from the correlation table. With varying correlations, all are indeed positive and at a 0.01 level of significance. This is strong evidence to support the hypotheses.

LIMITATIONS AND RECOMMENDATIONS

5.1. Limitations

During the research paper certain limitations were faced, which include

1. There was a time limit for this research that was close to 3 months.
2. Only the top 3 e-commerce giants were chosen i.e. Flipkart, Amazon & Snapdeal.
3. Sample size can be a limiting factor.
4. Lack of generalizability.
5. This research is limited to the audience of India, and it may yield different results with consumers outside India.

5.2 Recommendations

From the analysis done on the primary data and after going through the secondary data, a conclusion was reached. Based on that, the following recommendations can be given.

1. A strong correlation was found between Adoption and performance expectancy. It can be said that organizations should target consumers focusing on the intangible benefits of mobile apps such as less time consumption.
2. Using the correlation between Adoption and social influence it can be recommended that using families and peers as a motivating factor isn't a good tactic since, it has strong relation with adoption and less positive correlation.
3. The adoption and control factors have a strong relation too, so it is advisable to provide users with options which they can alter to their use. This gives them a sense of pride in using the app and engages them better.
4. Organizations need not devote a lot of resources into making their apps easy to use and understand. The relation between adoption and effort expectancy isn't marginal and can be set aside on a low priority. It can be inferred that people using such apps are confident about using them.
5. It is also clear that people have good access to the latest technology and are well equipped with it. So organizations can make strategies taking it for granted that the consumers have the resources to use their apps.
6. It is recommended that this research be done on a larger scale using Stratified random sampling to gain more accurate and better insights on this topic.

CONCLUSION

Since the main objective of the study is to understand the influence of Use behavior and Immersion on adoption of ecommerce mobile apps, at first, literature review was carried out. Based on the literature review it is concluded that, there is a relationship between Use behavior and Immersion on adoption of ecommerce mobile apps. Hypotheses were developed from the study of the literature review in order to find out the relationship between Use behavior and Immersion on adoption of ecommerce mobile apps. A theoretical model was developed based on the literature review by taking into account the identified dimensions of Use behavior and Immersion and dependent variable Adoption intention and perceived relation among them.

For the study of the variables, 12- item questionnaire was used to Use behavior and 6- item questionnaire was used to study Immersion. Also, the 3-item questionnaire was used to study Adoption intention. A total of 221 questionnaires were used for analysis and SPSS was used for finding out result of data analysis.

To conclude, the motivation behind this research was to expand the hypothetical structure taken using UTAUT and HMSAM, to give new understanding into ecommerce mobile apps research in a developing nation like India, where the mobile ecosystem is on the rise. Independent variables, for example, performance expectancy, effort expectancy, social influence, facilitating conditions, curiosity, joy and control were included the in proposed model.

The proposed model utilized a descriptive research method with a 21 question survey to gain in depth knowledge regarding the factors chosen. Such an in depth approach gives a thorough base for future exploration supporting the adoption of ecommerce mobile apps. The findings give helpful knowledge to ecommerce retail organizations and others to create proper business techniques to enhance their use of mobile ecosystem.

From the correlation, it is clear that all the factors have strong correlation with adoption of ecommerce mobile apps. Also from the study it is safer to say that, there is a significant relationship between overall Use Behavior and Immersion and Adoption intention of ecommerce mobile apps. Hence, we can infer that consumers' adoption intention is influenced by the image that they have in their mind regarding the use behavior and the immersion in the mobile apps of ecommerce companies.

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APPENDIX

Research Questionnaire

5/3/2016

A Study Into The Adoption Of E-Commerce Mobile Applications In India

A Study Into The Adoption Of E-Commerce Mobile Applications In India

Focusing on the commonly known apps Flipkart, Amazon & Snapdeal.

*Required

1. **Gender ***

Mark only one oval.

- Male
 Female

2. **Age ***

Mark only one oval.

- Below 18
 18-25
 25-30
 Above 30

Use Behavior of E-commerce Mobile Apps

Please rate the factor on a scale of 1-5, where,
1- Strongly Disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly Agree

3. **I think information related to product selling on E-commerce portals are easily accessible for my use at any point of time. ***

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

4. **I find it better to use E-commerce Mobile Apps rather than using the E-commerce website. ***

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

5. **I find E-commerce Mobile Apps to be less time consuming. ***

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

https://docs.google.com/forms/d/1JHPk9HjgTaBeYuzd0FkzAngknCBBKQISxanb_y3Mc/edit?usp=drive_web

1/4

6. I find that the E-commerce Mobile Apps are easy to use. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

7. I think the E-commerce Mobile Apps require less mental effort as compared to E-commerce websites. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

8. I find that the E-commerce Mobile Apps are easy to understand and use/utilize. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

9. I believe my family has a strong influence on me for using the E-commerce Mobile Apps. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

10. I believe my peers have a strong influence on me for using the E-commerce Mobile Apps. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

11. I believe that the comments/reviews from the other users on the E-commerce Mobile Apps' Store Page influence my decision to use the apps. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

12. I have easy access to internet services for using E-commerce Mobile Apps. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

13. I have a Smartphone/Tablet to use E-commerce Mobile Apps. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

14. I believe the availability of 'App-only offers' on the E-commerce Mobile Apps is thoughtful and encourages users to use mobile apps. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Immersion into the E-commerce Mobile Apps

Please rate the factor on a scale of 1-5, where,

1- Strongly Disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly Agree

15. The 'Mobile offer/sale zone' intrigues me to check out the listed products. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

16. I compare prices on the E-commerce Mobile App & Website before making a purchase. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

17. Using E-commerce Mobile Apps totally absorbs me. **Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

18. **I use E-commerce Mobile Apps not only to make purchases but to entertain as well. ***

Mark only one oval.

1 2 3 4 5

Strongly Disagree Strongly Agree

19. **Any notifications from the E-commerce Mobile Apps on my smartphone/tablet are under my control. ***

Mark only one oval.

1 2 3 4 5

Strongly Disagree Strongly Agree

20. **The recommendations on the E-commerce Mobile Apps are according to my needs. ***

Mark only one oval.

1 2 3 4 5

Strongly Disagree Strongly Agree

21. **I intend to use E-commerce Mobile Apps. ***

Mark only one oval.

1 2 3 4 5

Strongly Disagree Strongly Agree

22. **I will frequently use E-commerce Mobile Apps. ***

Mark only one oval.

1 2 3 4 5

Strongly Disagree Strongly Agree

23. **I will recommend others to use E-commerce Mobile Apps. ***

Mark only one oval.

1 2 3 4 5

Strongly Disagree Strongly Agree



ADHERENCE SHEET

Particulars	Last Date	Signature of Mentors	
Title of the Project/Area of Topic Finalization	21/1/16		
Literature Review/Objectives of the study	02/2/16		
Methodology	18/2/16		
Questionnaire/Data Collection tools	03/3/16		
Data Collection	17/3/16		
Analysis	24/3/16		
Conclusion and Recommendations	01/4/16		
First Draft	15/4/16		
Final Report/Binding and Submission	03/5/16		