

Augmenting Consumer Satisfaction in Smartphone Based Online Shopping

Deepshikha Aggarwal, Deepti Sharma and Archana B Saxena

Jagan Institute of Management Studies, Delhi, India
deepshikha.aggarwal@jimsindia.org

Abstract

The growth in the usage of mobile phones has been an ongoing process. The mobile phones that support internet connectivity and enable the users to download various applications are called smartphones. People are using their smartphones not just for communication but for a plethora of other purposes. Shopping through various ecommerce applications has gained popularity among most of us. The main facilitator for increased usage of mobile devices is the ease and inexpensive availability of internet services everywhere. This paper highlights the usage of smartphones based shopping and various factors that influence the users towards making the decision to shop through mobile phone applications. We have analyzed the data collected through various sources and derived results through the application of various statistical tools. The results indicate that certain factors such as ease of shopping and time saving play a major role in encouraging the people to use mobile shopping applications.

Keywords: Mobile shopping, Data Analytics, ecommerce, Correlation, Customer satisfaction

1. INTRODUCTION

Consumer satisfaction is the focal point all businesses and it directly leads to their success. Online shopping is one of the most widely used methods of shopping these days and smartphone based shopping through various ecommerce apps is gaining popularity (Criteo, 2017).

The digital age is symbolized by the development and growth of the Internet and its penetration into the daily lives of the users. Online shopping is one of the most common things for which people are using internet today as it is the most convenient way for consumers to shop for products and services anytime anywhere. With the growing use of smartphones and other mobile devices (Wang, 2015), mobile shopping is the more popular kind of online shopping being used by the shoppers for the routine shopping activities. The retailers in the online marketplace are working towards understanding the trend on mobile shopping and are working towards the development of mobile platforms (Rigby, 2013). The consumer expectations from mobile shopping are different from those of the regular shopping and therefore the design of mobile shopping sites and apps requires a good understanding of customer behavior for attaining consumer satisfaction. It is important for the retailers to understand the factors that motivate the people to engage in mobile shopping and how is the consumer perception towards mobile shopping similar or different from other types of shopping channels. (Ström, 2014)

The growth and development of mobile communication technologies and widespread usage of smartphones has led to the penetration of mobile devices into the online shopping sector, thus leading to the development of numerous mobile apps for shopping (Wang, 2015). This growth has led to the development of the smartphone based online shopping model at a global level.

2. LITERATURE REVIEW

Researchers across the world have worked on the topic of online and mobile shopping especially in developed countries as this trend is more popular in these locations (Einav, 2014). Consumers' purchasing decisions have been studied to understand the factors influencing the mobile shopping behavior (Ferri, 2013). Researchers have found that one of the factors that impacts the consumers is the advice from others. The research conducted by Ferri, Patrizia and Guzzo by means of extensive interviews (Ferri, 2013) led to the results that stated that the core impetus for mobile shopping is social influence. Other factors that were found to play an influential role include flexibility, freedom, and saving time. Researchers have also examined the impact of age and gender on the online shopping behavior of consumers (Lian, 2014). Most of the research conducted on online shopping is based on the concept of quantitative assessment of user behavior. But in order to deeply understand the

consumer motivation towards choosing mobile shopping, we need to study the factors that influence the shopping decision of the consumers on mobile devices from a qualitative perspective. In order to fulfil this motive, we have researched on certain qualitative factors on the basis of their influence on the mobile shopping experience of the consumers. The factors considered for the research include enhancement of shopping effectiveness, ease of use, pleasantness of shopping experience, completeness of information about products, speed of delivery, ease of returning or exchanging, ease of payment, technical skills of the user, security and trust.

3. RESEARCH MODEL AND HYPOTHESES

Smartphone and other mobile devices based online shopping also referred to as mobile shopping is not just different from traditional offline shopping but is also different from the usual ecommerce. The reason for this difference is unique features of mobile shopping. The mobility of mobile devices and the widespread availability of mobile networks offer the users the prospect to use their mobile devices for shopping anywhere and anytime. The shopping is performed with the help of mobile apps installed by the users on their mobile devices. This facility is not available in any of the traditional shopping methods. Numerous factors influence customer satisfaction during mobile shopping. In this study, we have proposed a model for assessing the influence of various factors on the user satisfaction during mobile shopping (Fig. 1).

The following hypotheses have been formulated based on the different factors considered for the study:

1) Perceived usefulness

Perceived usefulness is the level of usability of the mobile shopping apps for the consumers and it is expressed by how the users feel about the mobile shopping with respect to saving time and saving money while shopping.

H1: Perceived usefulness has significant influence on consumer satisfaction

2) Perceived Ease of Use

Perceived ease of use is an indicator of the ease provided by the mobile shopping apps for the consumers. It is also indicated by how the shopping experience of consumers is enhanced, how easy are the returns and exchanges and how easy are the payments.

H2: Perceived Ease of Use has a significant influence on consumer satisfaction

3) Service quality of mobile shopping apps

The quality of service of mobile shopping apps is indicated by the pleasant experience of the consumers, the speed of delivery of products and the completeness of information about the products and services on the mobile app.

H3: Service quality of mobile shopping apps has a significant influence on consumer satisfaction

4) Performance of mobile shopping apps

Performance of mobile shopping apps is indicated in the trust and security that they are able to provide the users. Good technical skills of the user may also play a role in usage of mobile shopping apps.

H4: Performance of mobile shopping apps has a significant influence on consumer satisfaction

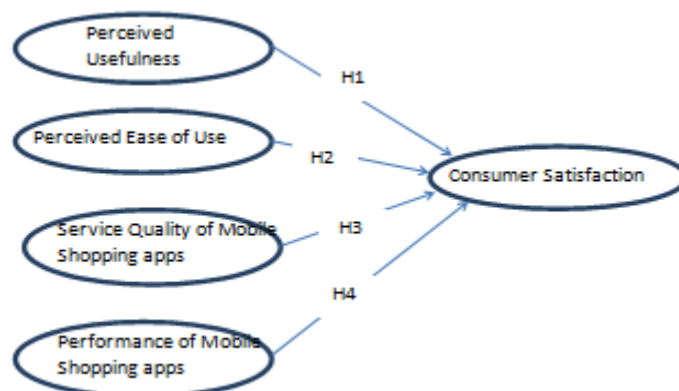


Fig 1: Consumer Satisfaction Model for Mobile Shopping

4. RESEARCH METHODOLOGY

The objective of this research is to find the impact of different factors on the consumer satisfaction with respect to mobile shopping. This study has been conducted through a questionnaire designed by including indicators for measuring the factors considered for formulating the hypothesis. The indicators are collected by informal interviews and related literature. The factors influencing the consumer satisfaction that have been considered here are perceived usefulness, perceived ease of use, service quality of mobile shopping apps and performance of mobile shopping apps. Different indicators for these factors have been chosen and feedback is collected from the users of mobile shopping apps. The data hence collected has been analyzed to derive the results.

4.1. DATA COLLECTION

The data has been collected on the basis of various factors considered to be important for the decision making process of the users for online shopping (Vaggelis Saprikis, 2018). The adoption pattern for mobile shopping by consumers is affected by the factors such as usefulness, ease of use, convenience, etc. (Aggarwal, 2019). A questionnaire was designed on the basis of the factors. The questionnaire was circulated by means of email and WhatsApp messaging to around 150 people. Total number of responses received was 122 out of which 102 responses were received from the people who are familiar to using mobile shopping apps and only these responses have been used in the study to derive results.

Table 1: Data Demographics

| | | Frequency | Percent (%) |
|-----------|----------------|------------------|--------------------|
| Gender | Male | 60 | 58.8 |
| | Female | 42 | 41.2 |
| Age Group | 20 - 35 years | 60 | 58.8 |
| | 35 to 50 years | 32 | 31.4 |
| | Above 50 | 10 | 9.8 |

4.2. DATA ANALYSIS

Data analysis has been done using correlation. We have used Pearson’s correlation. In statistical terms correlation is used to study the association between two quantitative variables. The association is said to be linear when increase or decrease in the value of one variable leads to a fixed amount of unit increase or decrease in the other.

The correlation coefficient is measured in the range from + 1 to - 1. If the correlation coefficient between two variables is expressed by either + 1 or -1, then it is called complete correlation between the variables. When the increase in value of one variable leads to the increase in value of the other variable then the correlation is said to be positive (+1) and when the decrease in the value of one variable leads to the decrease in the value of the other variable, it is known as negative correlation (-1). Complete absence of correlation between two variables is represented by 0.

4.3. MEASUREMENT OF FACTORS

The different factors considered for the study have been formulated into questions given to the participants of the survey. The responses have been recorded on a Likert scale between 1 and 5, where 5 shows that the respondent strongly agrees, 4 shows that the respondent agrees, 3 shows a neutral response, 2 shows a disagree and 1 shows that the respondent strongly disagrees. The following section describes the questions used within each factor.

The factors used to analyze the data are as follows:

- 1) Perceived Usefulness – This factor has been measured considering the following points:

| |
|--|
| Use of mobile based applications for shopping saves time |
| Use of mobile based applications for shopping is cheaper |
| It is easier to shop using the mobile apps |

2) Perceived Ease of Use– This factor has been measured considering the following points:

| |
|--|
| Use of mobile based applications enhances the shopping effectiveness |
| It is easy to return or exchange the products using mobile apps for shopping |
| It is easy to make payments using mobile apps for shopping |

3) Service Quality of Mobile Shopping Apps– This factor has been measured considering the following points

| |
|---|
| Using mobile apps for shopping is a pleasant experience |
| Decision to use mobile applications for shopping depends on proper descriptive information about the products |
| Decision to use mobile applications for shopping is impacted by the delivery speed of the products. |

4) Performance of Mobile Shopping Apps– This factor has been measured considering the following points

| |
|--|
| Good technical skills make it easier to use mobile shopping apps |
| Personal information is safe on mobile shopping apps |
| Users feel safe in making payments through mobile shopping apps |

5. HYPOTHESIS TESTING

The results are derived on the basis of consumer satisfaction from using the mobile shopping apps. We have calculated the correlation coefficients using Pearson’s coefficient method to derive the relationship between the research variables. The proposed hypothesis have been accepted or rejected on the basis of these values. The customer satisfaction is indicated by the customer usage intention for mobile shopping apps, the customers who are satisfied with shopping through mobile shopping apps, tend to be more satisfied than the ones who do not intend to continue using the apps. Therefore, the correlation is calculated against the usage intention of consumers to test the research hypothesis.

H1: Perceived usefulness has significant influence on consumer satisfaction

The correlation coefficients are as follows:

| | <i>saves time</i> | <i>cheaper</i> | <i>easy</i> | <i>Usage intention</i> |
|-----------------|-------------------|----------------|-------------|------------------------|
| saves time | 1 | | | |
| cheaper | 0.25913561 | 1 | | |
| easy | 0.40111058 | 0.346738 | 1 | |
| Usage intention | 0.62570445 | 0.425925 | 0.565271 | 1 |

The overall correlation between perceived usefulness and usage intention is 0.7179

H2: Perceived Ease of Use has a significant influence on consumer satisfaction

| | <i>pleasant experience</i> | <i>completeness of information</i> | <i>speed of delivery</i> | <i>Usage intention</i> |
|--|----------------------------|------------------------------------|--------------------------|------------------------|
| | | | | |

| | | | | |
|-----------------------------|-------------|-------------|----------|---|
| pleasant experience | 1 | | | |
| completeness of information | 0.2520757 | 1 | | |
| speed of delivery | 0.487001869 | 0.684572606 | 1 | |
| Usage intention | 0.56067765 | 0.469731935 | 0.561832 | 1 |

The overall correlation between perceived ease of use and usage intention is 0.6526

H3: Service quality of mobile shopping apps has a significant influence on consumer satisfaction

| | | | | |
|-------------------------------|------------------------------|-------------------------------|------------------------|------------------------|
| | <i>returning/ exchanging</i> | <i>enhances effectiveness</i> | <i>ease of payment</i> | <i>Usage intention</i> |
| <i>returning/ exchanging</i> | 1 | | | |
| <i>enhances effectiveness</i> | 0.3668322 | 1 | | |
| <i>ease of payment</i> | 0.55381257 | 0.25836532 | 1 | |
| Usage intention | 0.66844614 | 0.430952142 | 0.451078 | 1 |

The overall correlation between service quality of mobile shopping apps and usage intention is 0.6707

H4: Performance of mobile shopping apps has a significant influence on consumer satisfaction

| | | | | |
|-------------------------|-------------------------|-----------------|--------------|------------------------|
| | <i>technical skills</i> | <i>security</i> | <i>trust</i> | <i>Usage intention</i> |
| <i>technical skills</i> | 1 | | | |
| <i>security</i> | 0.351125517 | 1 | | |
| <i>trust</i> | 0.294722796 | 0.532917 | 1 | |
| Usage intention | 0.486761375 | 0.11085 | 0.216951 | 1 |

The overall correlation between performance of mobile shopping apps and usage intention is 0.3665

Table 2: Hypothesis testing

| Hypothesis | Description | Pearson's Correlation | Accepted or Rejected |
|------------|--|-----------------------|----------------------|
| H1 | Perceived usefulness has significant influence on consumer satisfaction | 0.7179 | Accepted |
| H2 | Perceived Ease of Use has a significant influence on consumer satisfaction | 0.6526 | Accepted |
| H3 | Service quality of mobile shopping apps has a significant influence on consumer satisfaction | 0.6707 | Accepted |
| H4 | Performance of mobile shopping apps has a significant influence on consumer satisfaction | 0.3665 | Rejected |

RESULTS AND DISCUSSION

The results of data analysis have been summarized in Table 3. The correlation between the variables indicates the relationship between different factors influencing the customer satisfaction of the mobile shopping app users and the usage intention of the users towards the mobile shopping apps. The usage intention is the indicator of consumer satisfaction as only the consumer who is satisfied with using the mobile shopping apps will have the intention to keep using the apps.

Table 3: Results

| Variable 1 | Variable 2 | Correlation |
|------------|------------|-------------|
|------------|------------|-------------|

| | | |
|---|--|-------------|
| Use of mobile based applications for shopping saves time | Behavioral Intention to use Mobile Shopping Apps | 0.62 |
| Use of mobile based applications for shopping is cheaper | | 0.42 |
| It is easier to shop using the mobile apps | | 0.56 |
| Use of mobile based applications enhances the shopping effectiveness | | 0.56 |
| It is easy to return or exchange the products using mobile apps for shopping | | 0.46 |
| It is easy to make payments using mobile apps for shopping | | 0.56 |
| Using mobile apps for shopping is a pleasant experience | | 0.66 |
| Decision to use mobile applications for shopping depends on proper descriptive information about the products | | 0.43 |
| Decision to use mobile applications for shopping is impacted by the delivery speed of the products. | | 0.45 |
| Good technical skills make it easier to use mobile shopping apps | | 0.48 |
| Personal information is safe on mobile shopping apps | | 0.11 |
| Users feel safe in making payments through mobile shopping apps | | 0.21 |

The results indicate that the most important factors that upsurge consumer satisfaction towards shopping through mobile shopping apps are the pleasant shopping experience and time saving. The other important factors are ease of shopping, enhancement of shopping effectiveness. These results can be utilized by the retailers providing shopping through mobile apps to improve the consumer satisfaction.

REFERENCES

1. Aggarwal, D. (2019). Mobile Technology Adoption by Indian Consumers . *International Journal of Recent Technology and Engineering (IJRTE)* .
2. Criteo. (2017, November 8). Retrieved from <https://www.criteo.com/insights/mobile-commerce-growth-criteo-research/>
3. Einav, L. L. (2014). Growth, adoption, and use of mobile eCommerce. *American Economic Review*.
4. Ferri, F. P. (2013). Factors determining mobile shopping. A theoretical model of mobile commerce acceptance. . *International Journal of Information Processing and Management (IJIPM)*.
5. Lian, J. &. (2014). Online shopping drivers and barriers for older adults: Age and gender differences. *Computers in Human Behavior, Volume 37*.
6. R. J.-H. Wang, E. C. (2015). On the Go: How mobile shopping affects customer purchase behavior. *Journal of Retailing, vol.91,no.(2)*.
7. Rigby, D. M. (2013). *Merry mobile shopping: I want it, I want it now, and I'm not afraid to use this mobile device!* Bain Retail Holiday Newsletter, Issue 2.
8. Ström, R. V. (2014). Mobile marketing: A literature review on its value for consumers and retailers. . *Journal of Retailing and Consumer Services, Volume 21 Issue 6* , .

9. Vaggelis Saprikis, A. M. (2018). Mobile Shopping Consumers' Behavior: An Exploratory Study and Review. *Journal of theoretical and applied electronic commerce research*.
10. Wang, R. M. (2015). On the go: How mobile shopping affects customer purchase behavior. *Journal of Retailing, Volume 91(2)*.