

Consumers' Attitude towards the use of M-Commerce in context to Perceived Risk

Dr. Sonia

Asst. Prof. IMSAR, MDU, ROHTAK

drsoniaimsar@gmail.com

Sonia

Research Scholar, IMSAR MDU, Rohtak, Haryana

sonia.dagar03@gmail.com

ABSTRACT

In last few decades we have seen the advancement in the network technology, also in electronic marketing and as well as electronic commerce. We are now connected with the global business and trade with the help of mobile commerce services. The new technology has opened new gate ways for the consumers to connect with the global market. Mobile commerce is the next generation technology which does not required to be wired or plug-in with the help of another devices thus it's become easier to operate from any desired place by the consumers or used by any business. As in the present scenario due to rapid globalization every service or product is available globally. Consumer can buy a product or use any kind of service such as books, movie tickets, daily essentials, financial services, education, and entertainments and so on. The research purpose of this paper is to study about the consumer's perceived risk in the adoption of new technology (M-Commerce). The present paper has used quantitative methodology to study the impact of consumers' perceived risk that impact on consumer's attitude towards using M-commerce services. A questionnaire was developed to collect the primary data. An exploratory factor analysis (EFA) of all items was simultaneously conducted to evaluate the measurement model reliability. To test the reliability of the instrument used in this study, Cronbach's alpha is used. Result of the study reveal that mobile commerce in India significantly affected by various demographic factors like age, income, family size, gender and marital status.

Keywords: Technology, electronic, global, quantitative, consumer, commerce, demographic

1. INTRODUCTION

Mobile phones have become an important tool for the growth of Indian markets with great potential for advertising, processing transactions, and also promoting interactivity with the consumers. mobile phones has now spread worldwide and this boom in the industry creating a very high possibilities for a very high competition among various industries the worldwide spread of the mobile phones has also increased the worldwide number of mobile users. M-commerce is also known as the wireless technology; particularly this is a hand held mobile device to facilitate growth of Indian online industries. Although m-commerce can be regarded as the extension of electronic commerce, it is a separate entity, as it has a unique position value for their existing customers (Balasubramanian et al., 2002). Both the m-commerce and e-commerce and known as to increase the efficiency of business processes and provide several benefits to the industries. However, the business application of e-commerce has several internal and external factors in the emerging economies (Humphery, Mansell, Pare & Schmitx, 2003).

Mobile commerce is still under the process of development in India which has been used for basic shopping, payment payments of bills, purchasing of goods and services, etc. Various industries in India are using this technology to facilitate their customers for various services. M-commerce offers several advantages to their customers like flexibility, ubiquity, and personalization. As now the customers are using the handheld device for the desired service/product from any place of their choice and at any time. The critical factor that will result in Rapid adoption of m-commerce services in India is the use of internet access and navigation from any desired place. Nowadays it has become a part of our daily routine ranging from the purchase of grocery items, travel booking, movie tickets, and apparel and beauty products.

Rapid growth of m-commerce and e-commerce has also led to some new problems and challenges that are the four most internet users concern which comprises the users' security while monetary transactions of payment, personal data protection (Paynter and Lim, 2001).

Lee and Tan (2003) stated that when a consumer online purchasing, they tend to perceive higher risk. The process of online shopping is as compared to traditional transactions is totally different, whereby shopping through m-commerce is an easy process for the users but also

developed to be more sophisticated. A user who is using the online services may face various difficulties, for example, sometimes the online companies ask to fill up the personal data, sometimes the user collect the wrong product in place CE of the desired product. Compared to physical stores there is more risk and less trust is on the online industries because at the time of purchasing process it has become difficult to access the product and the privacy issues of the users (Laroche et. al., 2005).

According to Almousa, 2011 shopping online is a very risky activity. sometimes the user has to suffer from monetary loss due to getting the unsatisfactory product and even not being worth the price paid for that product (Featherman and Pavlou, 2003). Sometimes the product which is displayed on the website is not meet the Expectations of the customers and at the time of delivery it might be different from the original in terms of its shape, Outlook or colour (Dai et al., 2014). There is always a feeling of risk with security tools and time delivery at the time of online shopping as because the customers' expectations of losses on the information quality of the product over the website, prices over the internet and prices at the time of delivery are higher (Karnik, 2014; Forsythe et al., 2006; Dai et al., 2014). Spite of having all the facilities the users' main perceive the possible loss of self respect due to the frustration of not getting the desired product or service and also a feeling of dissatisfaction in finalizing a week product or service (Semeijn et. al., 2004).

For the research the consumers perceived risk has become an crucial issue towards online shopping for M commerce, as it directly influence the consumers attitudes towards the online purchase and the consumers attitude also significant impacts on online shopping behavior of consumers (Ariffetal, 2014). According to Almousa (2011) the perceived risk in m-commerce has negative influence on the consumers purchasing intentions through online. However, it is expected that the user might feel degree of risk when they are processing online shopping to the internet. As of now the perceived risk in m-commerce has not been identified as there are a lot of industries which are still facing risk in online business and this will also affect the performance of the industries.

In this situation it has become necessary to find out the type of risk which will bring the highest impact on m-commerce services and it is hoped that the findings can contribute to online

industries by providing them various strategies which will help them to reduce the risk for the better development of the business. Thus, this study will help to examine the relationship between the six factors of the perceived risk and the adoption intentions of the consumers. These factors will influence the Adoption of m-commerce services attested. In this study literature review is presented ahead and it is a very important which represent the critical findings about the adoption behavior of the consumers related to the new technologies (M commerce) and its determinants in view of the fast changing Technology in the Indian markets.

2. Literature Review

Adoption of any new technology is an individual decision for any desired product or service through the use of m-commerce services. There are a number of researches in the field lists a couple of common factor in the consumers' adoption intentions towards the m-commerce technology. A few factors overlap as m-commerce services is still at the primary stages in the Indian market. Julius and Khasawneh (2003) stated that there are various factors which influence the adoption intention of the users towards the new technology (M commerce services) that low risk, rich information, low cost, social influence awareness and the consumer satisfaction. According to Haque (2004) the factors which influence the adoption intention of the consumers are portals and search engines, ease of use mobile commerce and web enables handsets, timeless, cost effectiveness etc. While, Margia (2003) stated that perceive ease of use, perceive usefulness and the cost are the major factors to which affect the consumers' attitude towards the use of the new technology. Vrechopo Ukis et al., (2002) found that the customer service awareness, price of product, ease of use, and the comfort ability of the device all these factors has a very high rate of influence over the users' intention to adopt the new technology (M-Commerce). To evaluate the consumer behavior it is important to first evaluate the consumer purchase intention and that is completely depends upon the factors that make the measurement difficult under different circumstances. According to Schlosser et al., (2006) stated that even if a consumer has strong privacy and security statements would not lead to a higher online purchase intention. The Purchase intention is frequently used as a measurement tool to find out the customers potential buying behavior.

Almoussa (2011) conducted a study on 300 Saudi Arabian customers to evaluate the perceived risk on apparel online shopping conducted through a web-based survey that major the customers perception on this type of dress (performance risk, financial risk, psychological risk, security risk, timeless and privacy risk) and to evaluate the consumers purchase intentions. In the study it has been found that the performance rest and time rest are strongly and negatively influenced the consumers intentions towards online shopping; it was also analyzed that the security and privacy risk both have negative effects on the consumers intentions. This study is a relevant as it's specified the influence of perceived risk in apparel online shopping.

Masoud (2013) conducted a study in Jordan using a sample of 395 respondents who are the currently online consumers and in his study the researcher investigated the effects of perceived risk on the intention of Jordan users towards online shopping. The study revealed that product risk, security risk, delivery risk and financial risk have a negative effect on the consumers intention towards the use of online shopping the study also concludes that online industries should be careful of customers perceived risk and they should also adopt the various strategies to avert these risks.

According to the related literature, consumers have a positive influence towards online shopping experience if they have lesser perceived risk while using the internet. In the future, if a lower perceived risk level has been achieved then the Purchase intention of the consumers will increase. all the mentioned findings, using the various factors which affect the perceived risk, financial risk, product risk, security risk, time risk, social risk and also psychological risk because all these variables has been recognized as consumers perceived risk variables which effect the consumers adoption intention towards the new technology M-commerce. Most of the researchers have done their research on basis of all these variables of the perceived risk and all these variables have started well for research paper.

3. Perceived Risk

According to Schierz et al. (2010) explained the perceived risk is the loss of consumers' expectations. If the Expectations of the consumers are higher than it perceived risk degree will be also hire. Laroche et al. (2005) explained that the perceived stress is always unpredicted by the consumer and it is also a changeable result from the purchased products. Kim et al., (2003) the

consumers are always aware about the perceived risk which they will write from online shopping transactions. Ko et al. (2004) explain the concept of perceived risk as it is the consumers own perception on changeable and contrary results which will come after buying a product or service. There is lack of facts regarding the identification of the factors which impact on the dimensions of perceived risk about the studies regarding and M-Commerce services. Han and Kim (2017) explain the multidimensional perceived risk which comprises financial, privacy, product, and security, psychological and time risk. Almousa (2011) emphasized on the factors which most influential towards the perceived risk these are product, financial and security risk. In this study six factors has been examined namely financial risk, product risk, time Risk, social and psychological risk that influence the consumers adoption towards the m-commerce services are tested.

3.1. Financial Risk

Financial risk is a very stronger predictor that influences the consumers' adoption intentions of the new technology, frequent purchase activities and searching to the related information has been identified. Featherman and Pavlou, 2003 stated that the financial risk can be defined as the probability of the internet uses or the online shopping consumers who are encountered with monetary loss from a purchase of any product or service only if when the service/product is not worth the price paid for that. Popli and Mishra (2015) define financial risk as the possibility of repairing the cost it is required for the desired product / service in addition to some hidden maintenance charges to the customers. Maignan & Lukas, (1997) define financial loss as the potential net loss of money that also includes the consumers' sense of insecurity towards the payment through the use of credit card; this has been considered as a major obstacle towards the online purchase intentions of the consumers. Bhukya and Singh (2015) stated on retailers' private labels, the financial risk by a customer is assumed to have a negative influence on their intention towards their purchasing through online. Thus based on the findings of the several studies, H1 is proposed:

H₁: Financial risk perception has a positive influence on consumer's attitude towards using M-commerce services

3.2. Product Risk

The product risk has been found as the most frequently tractor which affect the consumers' adoption intentions towards the m-commerce services. The product risk as the probability of the falling item to meet the performance requirements of the consumers and this has been found to be more significant in fact on the frequency of the purchasing intentions of the consumers through online (Forsythe and Shi, 2003). It was suggested that the product which has been associated with the product uncertainty can be negatively affecting the online purchase intentions of the consumers in terms of some products (Bhatnager et.al, 2000). A high level of product is emerged when the product is been purchased online and particularly for a few product categories, due to the consumer's inability to examine the product physically and test the product attributes online.

The consumer May perceived the product risk cost of the product is higher and also available with limited description of the product displayed on the website. In this case the consumers may have found various difficulties to evaluate the products properly. Han and Kim (2017) stated that the product rest will negatively influence the Purchase intention of the consumers to the various online marketplaces. Results based on the previous studies on the online adoption behavior of the consumers towards M commerce services, H2 is proposed:

H₂: Product risk perception has a positive influence on consumer's attitude towards using M-commerce services

3.3. Security Risk

Security risk can be defined as a potential loss which can occurred to the online fraud and hacking which can exposes the security of the users who are using m-commerce services (Soltanpanah et al., 2012). According to Karnik et al., (2014), the consumers' security risk towards the online shopping has also increased as the globally spreading of m-commerce services, especially when they feel that Internet Security is in adequate. Azizi and Javidani (2010) stated that the security risk is the disclosure of consumers' personal information's which are related to credit card number there pin number and account number. It is agreed that the security risk is one of the barrier in the

process of online shopping (Teo, 2002). Though online shopping process create an easy of purchase environment and uses of m-commerce to the consumers, conversely, if there is absence of security mechanism this will badly effect the Purchase intention of the consumers(Tsai and Yeh, 2010; Karnik, 2014; Meskaranetal., 2013). The consumers avoid the online shopping is not because of inconvenience but it is because the consumers have a feeling of losing their personal information's and also losing their credit card information's (Martin and Camarero, 2009). Does it has been concluded that the security risk is also has a significant influence on the consumers intention towards online shopping or m commerce.

It has become mandatory for the industries to main towards the privacy policies to reduce the security risk perceived by customers, so that they will be able to enhance the Purchase intention of the consumers. Following the discussion above, H3 is proposed:

H₃: Security risk perception has a positive influence on consumer's attitude towards using M-commerce services

3.4. Time Risk

The time risk is the perception that time, convinces and efforts can be ruined of the consumers or may be wasted when there is a need to repair or replace a product which has been purchased by the consumer (Hanjun et al., 2006). Time rest is also includes inconvenience of the consumers which exist during the monetary transactions and it is the come out from difficulty of navigation and delays in receiving the ordered products or this may occur at the time of submitting the orders. Time rest is also includes when the delivered product did not meet the expectation level of the consumers and it has to return back for a new replacement (Ariff et al., 2014). Time efforts might be fruitless when a product has to be replaced in return to a new product. When a consumer search for a product, browse and wait for the arrival of the product he or she might be get inpatient as it is a time consuming process (Leeraphomg and Mardjo, 2013; Hsiao, 2009; Hassan et al., 2006). It has been examined that on some websites that don't display the photo of the actual product so in that case the consumer might search for the photograph of the product by searching them in a separate website, and the time spent on this process will be considered as time waste (Forsythe et al., 2006). It has been observed that a few time the consumer might just leave the website without ordering for any product or service as because they were able to search the

desired product on the particular website it may be possible that they were encountered the problem while navigating to the right sites for the product/ service (Gudigantala et al., 2011; Popli and Mishra, 2015). The time that a consumer spend in searching for the related information of an product and spare more time for waiting the downloading the images of the product can also decrease their intention to adopt the online shopping. Time will also affect the consumers intention to purchase online when it requires a lot of time to find a desired product on the website (Forstthe and Shi, 2003; Forsythe et al., 2006). Based on the following literature, H4 has been developed.

H₄: Time risk perception has a positive influence on consumer's attitude towards using M-commerce services

3.5. Social Risk

Social refers to the consumer perception when a purchased product main result in the disapproval through the members of family and Consumers friends (Li and Zhang, 2002). Social risk is also considered as and potential loss of consumer status in the social group is because an either the inappropriateness of the purchased product or disapproval of buying the certain product through online channel (Stone and Grongaug, 1993). Usually, consumer is always looking forward to the advice and concerned from the family of friends in order to reduce the social risk. Social risk refers to the perception that a purchased product maybe later on this approved by friends and family (Li and Zhang, 2002). There are various previous researches that mentioned the social rest also means the potential loss of reputation of consumers in their social groups that also increase the degree of social risk among the consumers. according to Zielke and Dobbstein (2007), there is a possibility of perceived loss on social status Through the purchase of a specific brand via using M commerce services is treated as social risk. Usually, the consumers are in the habit of getting guidance and approval for any desired product from their social groups in terms to reduce the social race. Based on the above literary work, H5 is developed:

H₅: Social risk perception has a positive influence on consumer's attitude towards using M-commerce services

3.6. Psychological Risk

Psychological risk is considered as the possible loss of self respect of the consumer which arises due to the frustration of not fulfilling their goal of purchasing a desired product (Stone and Gronhaug, 1993). Psychological risk can also be defined as a dissatisfaction of the consumer in selecting a bad quality product or service despite having an urgent requirement of the product or service (Ueltschytal., 2004). It is also associated with the consumer intention to purchase the online products and also associated with the consumers' perception how they have met with and wrong judgment after selecting a bad product which can also leads to the social risk, referring to the consumers' perception of how others will react towards the ordered product. More over the consumers' satisfaction over the bad product can emerge negative effects on the consumers' intention to adopt m- commerce services (Jacoby and Kaplan, 1972).

Sometimes the consumer frustration is converted into the mental pressure which affects their future and can also lower down the intention to adopt this new technology. This stress may be the reason for psychological rest appearing in affecting their adoption intentions what's the new technology. As suggested by Bhukya and Singh (2015), to increase the consumers' intention, psychological risk should be minimized significantly. The psychological risk has negatively affected the consumers' intention towards any m-commerce services (Han and Kim, 2017). Thus H₆ has been developed.

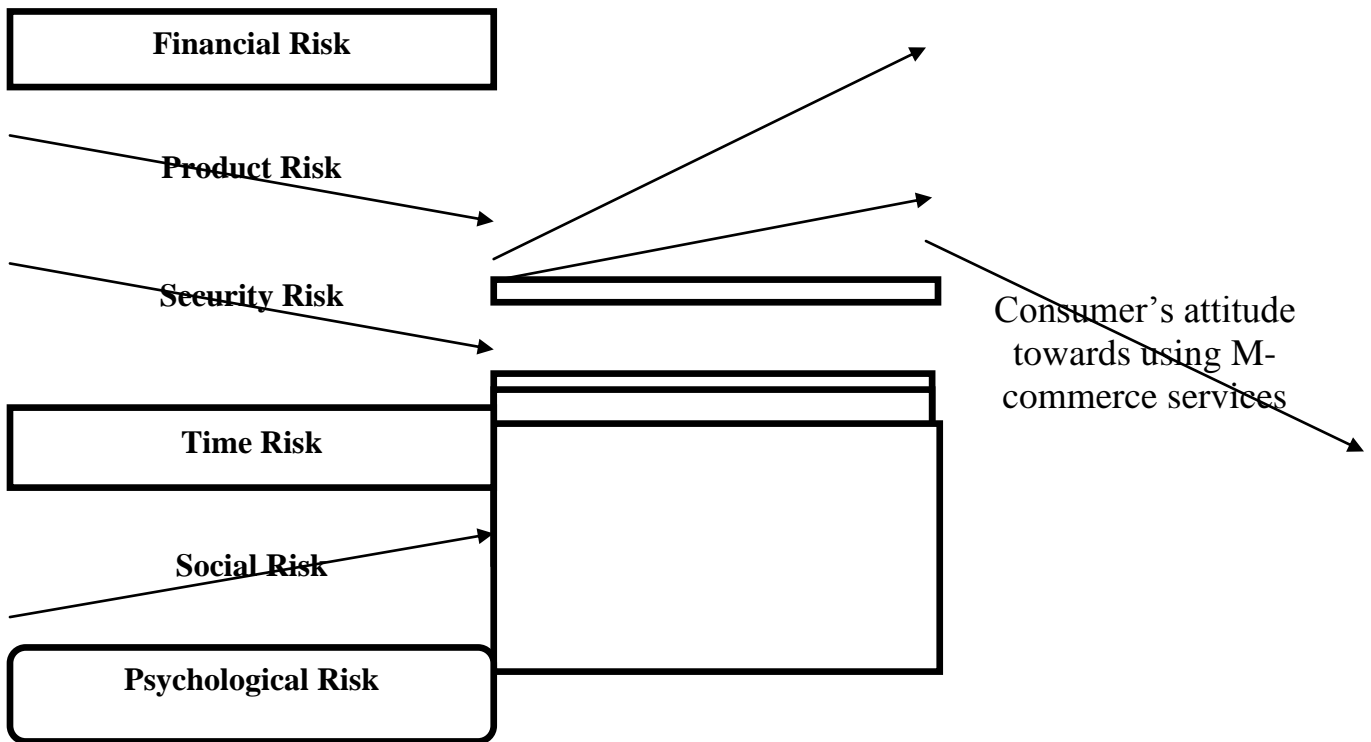
H₆: Psychological risk perception has a positive influence on consumer's attitude towards using M-commerce services

4. Theoretical Framework

Due to the differences in culture and economic development the current status of online shopping in India. From the above analysis, the perception risk of the customer in the adoption of new technology (M-commerce services) shop includes six types of risks and their direct impact on consumer's attitude towards using m-commerce services. Consumer's attitude towards using m-commerce services was an ultimately dependent variable in the model. In this study, the research model was suggested as shown in figure 1.1. The study model proposed that the impact of consumers' perception risk that impact on consumer's attitude towards using m-commerce services. The model is comprised of two components: 1) perception risk, and 2) consumer's

attitude towards using M-commerce services.

Figure 1.1 Research model for consumer perceived Risk



Source: Self Constructed

5. Research Methodology

A total of 500 server questionnaires but distributed to the uses of m-commerce services that do online shopping through their smart phones over a period. Questionnaire was used to measure the following variables of the study financial risk included the five statements and the security risk is also include the five items What developed from Featherman and Pavlou (2003) and Masoud(2013), product risk include five statements which were developed by Dai et al., (2014) and Masoud(2013). Time risk included food items which were developed by Masoud (2013) and Marcelo et al. (2014). Social risk includes three statements were developed by Masoud (2013) and Yang et al., (2016). Psychological risk included two statements which were developed by Bhukya and singh (2015) and Featherman and Pavlou (2003) and the questionnaire included 7 statements which are self developed. A linkered scale was used to measure (1= strongly disagree

To 5= strongly disagree) After gathering the data from the respondent it was analyzed using the statistical package for Social Sciences (IBM SPSS Statistics 24).

5.1. Result

Out of 500 questionnaires, only 445 were returned successfully out of them only 400 were answered completely. Survey results reveal that the frequency of male (62.5 percent) was higher as compare to female respondents (37.5 percent). On the basis of age, majority of respondents (48.5 percent) were of age less than equal to 25 years, 42 percent of respondents were of 25-45 years and only 9.5 respondents were of age more than equal to 45 years. 62.5 percent of respondents are single and 37.5 percent of respondents are married. On the basis of education, 55.8 percent of respondents are graduate, 38.3 percent of respondents are post-graduate and only 6 percent of respondents are of intermediate level. According to annual income, majority of respondents (69.8 percent) have annual income of less than equal to 5 Lacs, respondents (24.3 percent) have annual income between 6 to 10 lacs, and only respondents (6 percent) have income of more than equal to 10 lacs. On the basis of occupation, majority of respondents (50.5 percent) are student, 27 percent of respondents are employees, 18 percent of respondents are from business background and only 4.5 percent of respondents are housewives. (Table 1.1 shows the demographic profile of respondents).

5.2. Goodness of Measurement

The researcher must do a pilot test carried out before officially distributing the questionnaire to the respondents (Saunders et al., 2009). As this is the crucial factor of a successful survey, which can further lead to good survey data. The main purpose for doing the pilot survey is to refine the survey questionnaire questions so that the respondents can smoothly give the answers to the following questions and I have no problem in understanding all the items included in the questionnaire. The Pilot survey was conducted using the questionnaire over 60 uses of smart phones that are presently using the mobile commerce services. Out of 60 users only 49 filled questionnaires found correctly responded by the respondent. The importance rating of each item was given scores of 1(not important at all) to 5 (very important). To analyze the data various tools have been used as factor analysis using principal components and the varimax rotation technique.

This study also evaluated the reliability by assessing the internal consistency of the statements representing a construct using cronbach's Alpha, which has been used by the various researchers to analyze their studies (Hair et al., 2006).

Table 1.1: Demographic Profile

Gender	No. of Respondents (N= 400)
Male	250 (62.5)
Female	150 (37.5)
Age of respondents	No. of Respondents (N= 400)
Less than equal to 25 year	194 (48.50)
25 to 45 year	168 (42.0)
More than equal to 45 year	38 (9.5)
Marital status	No. of Respondents (N= 400)
Single	250 (62.5)
Married	150 (37.5)
Education	No. of Respondents (N= 400)
Graduate	223 (55.8)
Intermediate	24 (6.0)
Post-graduate or above	153(38.3)
Annual Income	No. of Respondents (N= 400)
less than equal to 5 Lacs	279 (69.8)
Between 6 to 10 lacs	97 (24.3)
More than equal to 10 lacs	24 (6.0)
Occupation	No. of Respondents (N= 400)
Student	202 (50.5)
Business	72 (18.0)
Employees	108 (27.0)
House wife	18 (4.5)

5.3. Factor Analysis

Factor analysis was used in this study to identify the dimensional structure of antecedents of risk perception. One critical assumption underlying the appropriateness of factor analysis is to ensure that the data matrix has sufficient correlations to justify its application (Hair et al., 1995). The suitability of data for factor analysis has been tested for 24 statements.

5.3.1. KMO and Bartlett's Test

The next step involves assessing the overall significance of the correlation matrix with Bartlett test of sphericity, which provides the statistical probability that the correlation matrix has significant correlations among at least some of the variables. Results are presented in below table.

Table 1.2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.944
Bartlett's Test of Sphericity	Approx. Chi-Square	9135.61
	Df	276
	Sig.	.000

KMO (Kaiser- Meyer- Olkin) Test- KMO test was used to check appropriateness of sampling measure to conduct Factor Analysis on the variables used to collect the data. The acceptable value of KMO lies between 0.5 to 1. In this case, table 1.2 depicts, KMO is 0.944 which reveals that the data collected was appropriate to conduct Factor analysis.

Bartlett's Test - Bartlett's Test of Sphericity shows the significance level of Correlation matrix. Table 4.48 shows the Chi-square value is 9135.61 significant at $p < 0.05$, indicates that the data is suitable for factor analysis and there are sufficient correlations between the variables.

5.3.2. Principal Component Analysis

A Principal Components Analysis (PCA) (Tabachnick and Fidel 2007) of the items from the construct was implemented to define antecedents of risk perception from users' perspectives.

Factor analysis is performed on the 24 variables, using principal component analysis method. Principal components analysis revealed the existence of nine components with Eigen values above one for analyzed groups of respondents.

The table 1.3 shows that six factors explained 79.62% of the variance by sums of squared loadings in case of user's perspective.

Table 1.3: Total Variance Explained

Com	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.81	57.544	57.544	13.81	57.544	57.544	4.484	18.684	18.684
2	1.631	6.796	64.34	1.631	6.796	64.34	3.836	15.983	34.667
3	1.21	5.042	69.382	1.21	5.042	69.382	3.671	15.297	49.964
4	0.953	3.97	73.352	0.953	3.97	73.352	3.21	13.376	63.339
5	0.782	3.26	76.612	0.782	3.26	76.612	2.755	11.478	74.817
6	0.724	3.016	79.627	0.724	3.016	79.627	1.154	4.81	79.627
7	0.591	2.462	82.089						
8	0.5	2.084	84.173						
9	0.469	1.953	86.126						
10	0.392	1.633	87.759						
11	0.362	1.509	89.268						
12	0.353	1.47	90.738						
13	0.312	1.301	92.039						
14	0.277	1.155	93.194						
15	0.246	1.026	94.22						
16	0.236	0.982	95.202						
17	0.196	0.818	96.02						
18	0.193	0.805	96.826						
19	0.182	0.756	97.582						
20	0.157	0.655	98.237						
21	0.12	0.499	98.736						
22	0.115	0.479	99.215						
23	0.095	0.397	99.612						
24	0.093	0.388	100						

Extraction Method: Principal Component Analysis.

Table 1.3 reveals, variables were rotated in varimax factor matrix with Kaiser Normalization which helped in reduction of variables and factors having higher factor loading were considered for classification. The results show no change on communalities and percentage which was predicted through total variance. Each factor was having different percentage of variance and the factor having higher percentage is accounted in the factors.

5.3.3. Varimax Rotated Component Matrix

The solution with nine factors has explained 79.627 % of the total variance. In order to interpret the solution with nine factors, a varimax rotation of factors was implemented, given that the correlation matrix of the components has shown a correlation with individual absolute values of 0.3 or above. Table 1.4 shows the variable loadings for each factor after rotation.

Table 1.4: Varimax Rotated Component Matrix

(Variables)	Component					
	1	2	3	4	5	6
I tend to over spend on products and services	0.699					
I might get over charged when using any service via m-commerce	0.939					
Products/services may not be worth the money I spent	0.536					
Shopping online involve waste of money	0.694					
I do not trust the online website of a company	0.7					
I am unable to find desired products/services		0.687				
I might not receive the exact quality of product that I ordered		0.719				
The size description of any products or services may not be accurate		0.773				
It is difficult for me to compare the quality of a similar product		0.715				
I can try online products/services		0.553				
I feel that my credit or debit cards details are not secured			0.79			
The website can be unsecured			0.846			

The online shopping company may disclose my personal information			0.786			
I may be contacted by other online shopping companies			0.759			
Information about the online shopping company is insufficient			0.699			
Buying a product online can involve a waste of time				0.764		
Difficult to find appropriate websites				0.72		
Finding the right product through online is difficult				0.736		
Impatient to wait the arriving of product/services				0.682		
The purchased products/services may result in disapproval by family					0.651	
Online shopping may affect the image of people around me					0.667	
Online products/services may not be recognized by relatives or friends					0.725	
I cannot trust on the website of any online company						0.683
I may get addicted to online shopping of products/services						0.656

Table 1.4 reveals, variables were rotated in varimax factor matrix with Kaiser Normalization which helped in reduction of variables and factors having higher factor loading were considered for classification. The results show no change on communalities and percentage which was predicted through total variance. Each factor was having different percentage of variance and the factors having higher percentage are accounted in the factors.

5.3.4. Factors Interpretations

The EFA result revealed a clean six-factor structure using the criteria of Eigen value greater than 1. The extracted factors accounted for 79.627% of variance. All factor loadings were higher than 0.5 on its own factor and therefore, each item loaded higher on its associated construct than on any other construct; supporting discriminate validity of measurement.

Further, the extract factors were given names based on higher loading of the items on each factor. While deciding suitable names for each factor another important criteria kept in mind was the original source, i.e., the meaning of the item when it was presented on the questionnaire. This process resulted in 6 names for the extracted factors.

In this case, the first factor was given the name of “Financial Risk” as factor 1, “Product Risk” as factor 2, “Security Risk” as factor 3, “Time Risk” as factor 4, “Social Risk” as factor 5, “Psychological Risk” as factor 6.

Table 1.4 reveals the Result of Exploratory Factor Analysis with factor’s segregation and naming.

Table 1.5: Naming of the Factors along with Label & Factor Loading

Factor	Dimension	Item description	Factor Loadings
Factor 1	Financial Risk	I tend to over spend on products and services	0.699
		I might get over charged when using any service via m-commerce	0.939
		Products/services may not be worth the money I spent	0.536
		Shopping online involve waste of money	0.694
		I do not trust the online website of a company	0.7
Factor 2	Product Risk	I am unable to find desired products/services	0.687
		I might not receive the exact quality of product that I ordered	0.719
		The size description of any products or services may not be accurate	0.773
		It is difficult for me to compare the quality of a similar product	0.715
		I can try online products/services	0.553
Factor 3	Security Risk	I feel that my credit or debit cards details are not secured	0.79
		The website can be unsecured	0.846

		The online shopping company may disclose my personal information	0.786
		I may be contacted by other online shopping companies	0.759
		Information about the online shopping company is insufficient	0.699
Factor 4	Time Risk	Buying a product online can involve a waste of time	0.764
		Difficult to find appropriate websites	0.72
		Finding the right product through online is difficult	0.736
		Impatient to wait the arriving of product/ services	0.682
Factor 5	Social Risk	The purchased products/services may result in disapproval by family	0.651
		Online shopping may affect the image of people around me	0.667
		Online products/services may not be recognized by relatives or friends	0.725
Factor 6	Psychological Risk	I cannot trust on the website of any online company	0.683
		I may get addicted to online shopping of products/services	0.656

Table 1.5 reveals that six-factor structure using the criteria of Eigen value greater than 1. The extracted factors accounted for 79.62% of variance. All factor loadings were higher than 0.5 on its own factor and therefore, each item loaded higher on its associated construct than on any other construct; supporting discriminate validity of measurement. The naming of factors is given on the basis of previous literature review.

5.3.5. Regression Analysis

Latest study on multiple regression analysis opted to analyze the direct relationship between Independent variables and Consumer attitude towards M commerce services. to test propose all hypothesis, which proposed a negative and significant relationship between perceived risk and Consumers attitude towards m-commerce services, aggression equation would test the impact of six factors of perceived risk and Consumers attitude. Result of multiple regression analysis is presented in the table given below:

Table 1.6: Result of Regression Analysis

Model	Variances	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Remark
		B	Std. Error	Beta			
1	(Constant)	2.687	0.157		17.105	0	
	Financial Risk	-0.229	0.081	0.24	-2.844	0.004	Significant
	Product Risk	0.278	0.084	0.274	3.304	0.001	Significant
	Security Risk	0.245	0.079	0.266	3.102	0.002	Significant
	Time Risk	-0.073	0.07	-0.079	-1.051	0.294	Insignificant
	Social Risk	-0.032	0.068	-0.035	-0.472	0.637	Insignificant
	Psychological Risk	0.122	0.068	0.143	1.805	0.072	Insignificant
a Dependent Variable: Customers' attitude toward towards using M-commerce services.							

(Source: SPSS)

- ❖ The financial risk has beta value = 0.24, sig = 0.004 smaller than 0.05, so conclude that the financial risk perception was significant due to p-value < 0.05. The result showed that the financial risk perception had a positive influence on customers' attitude towards using M-commerce services. Therefore, H₉ was accepted.
- ❖ The product risk has beta value = 0.274, sig = 0.001 smaller than 0.05, so conclude that the product risk perception was significant due to p-value < 0.05. The result showed that the product risk perception had a positive influence on customers' attitude toward towards using M-commerce services. Therefore, H₁₀ was accepted.
- ❖ The security risk has beta value = 0.266, sig = 0.002 smaller than 0.05, so conclude that the security risk perception was significant due to p-value < 0.05. The result showed that the security risk perception had a positive influence on customers' attitude toward towards using M-commerce services. Therefore, H₁₁ was accepted.
- ❖ The time risk has beta value = -0.079, sig = 0.294 greater than 0.05, so conclude that the time risk perception was insignificant due to p-value > 0.05. This implies that time risk perception has a negative influence on consumer's attitude towards using M-commerce services. Therefore, H₁₂ was rejected.

- ❖ The social risk has beta value = -0.472, sig = 0.637 greater than 0.05, so conclude that the social risk perception was insignificant due to p-value >0.05. This implies that social risk perception has a negative influence on consumer's attitude towards using M-commerce services Therefore, H_{13} was rejected.
- ❖ The psychological risk has beta value = 0.143, sig = 0.072 greater than 0.05, so conclude that the psychological risk perception was insignificant due to p-value >0.05. This implies that psychological risk perception has a negative influence on consumer's attitude towards using M-commerce services. Therefore, H_{14} was rejected.

6. Conclusion

The study has been consisting of various practical contributions. As this study provide a brief reasons to the online retailers where they can provide detailed information about their industry and the security policy to their existing customers in order to remove cyber frauds which can affect the risk perception of their consumers. The findings of the study suggest that the consumers perceived risk when they are planning to purchase any product or service through using and Commerce. There are different factors that the respondents agreed upon in this study such as financial risk, product risk, security race, time risk and psychological risk. In this study it has been found that out of five factors three factors (time risk, social risk, psychological risk) of perceived risk have a negative influence on the consumers' attitude towards M commerce services. Among these factors social risk is the main contributor for consumers to deter from online purchase of product / services. the findings of the study shows that it has become difficult to understand the factors of perceived risk that influence the consumers attitudes towards the am, services as because it provides Useful information to the online retailers in and Commerce activities. There are several of studies that show the online retailers are still facing some rest in M commerce business, and this will affect the performance and transaction of the retailers. There has been some lacks in this study tart this study is not specifically designed to evaluate the factors related to the moderator and mediator effects of perceived risk and Consumers attitude towards the m-commerce services. The upcoming scholars can include these two effects in their study to

show the moderating variables which may influence the relationship of both Independent and dependent variables. Trust can be used as a mediating role in perceived risk for future studies.

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