Evaluation of Customers Adoption of Mobile Technologies For Shopping and Factors Motivating Consumers to Adopt Mobile Shopping.

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Executive summary

Advancement in information technology has influenced various aspects of human lives. The penetration of information technology is likely to increase in future. Therefore, it is imperative that one should be aware of the factors, which encourage or discourage customers towards use of information technology and related products and services. With reference to e-commerce, organizations should analyze preferences of consumers in mobile-commerce environment and based on their findings, should adjust their product or service accordingly.

The current research was based on the future research areas highlighted by Pantano and Priporas (2016) and covered the limitations of their study using a larger sample (150 customers) using the context of Pakistan. Shahid et al. (2015) Highlighted that mobile-phone industry of Pakistan is one of the vibrant industries of the world. The mobile-density of Pakistan is one of the highest of Asia. The findings of this research revealed different dimensions of independent variables. For perceived ease of use, these dimensions were understandable and easier for one to become skillful in using MBA. Likewise, for perceived usefulness, these dimensions were opportunity of processing more banking transactions and always available. Further to this, for innovativeness of user, these dimensions were being an unconventional person, prefer to experiment new things in life and prefer to obtain information about new products. Likewise, for design of application, these dimensions were using MBA is secure, using MBA has a pleasant experience on my mood, easier to navigate MBA, can customize MBA according to my needs and MBA gives me an opportunity to compare charges with competitors. Finally, for finance cost these dimensions were using MBA saves transportation cost, to and from stores and using MBA saves time of visiting Bank.

In addition, this study helped in identification of relative importance of different independent variables on the dependent variables. It was revealed that perceived usefulness is the most influential factor which influences future usage intentions of the people whereas design of application is least influential factor. Likewise, finance cost and innovativeness of users are also important factors. It was suggested that MBA providers should focus on female segments as well, create awareness of MBA among older people, provide MBA in native language, and focus on promoting MBA using different dimensions such as perceived usefulness and cost efficiency.

Moreover, this research contributed to previous research in various forms including identification of important dimensions of select variables as well as relative importance of perceived ease of use, perceived usefulness, innovativeness, design of application and cost. Researcher identified various research limitations. Future researchers should overcome these limitations.

Key Words: Mobile commerce, mobile banking applications, Customers’ satisfaction.
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1.0: INTRODUCTION
In this section, background of research along with problem statement will be presented. Moreover, purpose and delimitations which will be followed by overall structure of the research report will also be given.

1.1: Research Background:
Huang (2014) highlighted influence of advancement in information technology and suggested that it has influenced various aspects of human lives. It has penetrated various aspects of human life and lots of activities of life have now become dependent on use of information technology. If one excludes information technology from today’s life, then lives of human would be very different. Registering course on University’s website to tracking daily walk patterns, technology is helping human beings in various spheres of life (Legris et al., 2003). We use technology for getting in-touch with each other. People use technology to carry large amount of data with each other. Venkatesh et al. (2012) suggested that over the period of information technology has evolved and during such evolution it brought ease to human lives in various ways. The penetration of information technology is likely to increase in future.

Goggin (2012) highlighted that mobile technology is an off-shot of information technology and it is one of the widely used form of information technology. Increase in computing capabilities, vast-spread increase in mobile and wireless technologies has make it possible to perform their day-to-day activities using mobile phones (Chaurasia and Verma, 2014). According to Gloria and Oluwadara (2016), the penetration of mobile phones would increase further and would revolutionize human life. Presently, people are using it for communicating with each, listening songs, taking pictures, carrying data, calculation, finding path, socializing, checking weather forecast, etc. Another area where mobile and information technology brought significant change is online shopping. Chakraborty et al. (2016) suggested that online shopping is not restricted to any one particular organization or country rather people from all parts of the world are indulged in purchasing products and services online. Like customers, sellers are also not restricted to any specific country and are from different parts of the world.

An analysis of reasons because of which customers prefer to use mobile-technology over other available options is highly valuable for the organizations as it would enable them to generate and
provide such value to the customers that they will switch towards the organization which provides higher value to the customers. This will become a source of competitive advantage for the organizations and would help them in achieving higher growth. Since competition among firms is increasing so analyses of factors which motivate customers towards use of mobile-commerce platforms so that organization can save its market share. Moreover, this also helps an organization in planning its future sales.

1.2: Problem Statement:
In the last few years, considerable research has been conducted which covered different aspects of online shopping. A notable and recent work was carried out by Pantano and Priporas (2016) who conducted research to investigate consumers' motivation to change their shopping behavior in the new mobile marketing context and develop understanding of this new consumer experience and how it might create value for mobile consumers. Pantano and Priporas (2016) differentiated online (website) shopping experience from mobile shopping experience and highlighted that overall experience of using mobile technology for shopping adds to the customers’ value. They highlighted number of factors which motivated customers’ towards using mobile phone for shopping using mobile phones. These factors include time saving, security, and cost-efficiency, link with life-style, transaction security and better service quality. Pantano and Priporas (2016) distinguished value received at the time of buying a product and value received by a customers from using a product and added that customers are willing to switch from traditional purchase channels to mobile-shopping channels as they receive unique value while buying through mobile-shopping channels. Their findings are consistent with the work of Xie and Shugan (2001) and Verhoef et al. (2009). Further to this, Wang et al. (2015) suggested that over the period of time, mobile shopping became important in marketing and retailing. They evaluated and highlighted that with the emergence of mobile banking, preferences of consumers have widely changed. Moreover, the extent of penetration of mobile shopping is also increasing so it is important for the business organizations to evaluate the factors, which motivate customers towards using mobile-commerce. Moreover, Lu and Yu-Jen Su (2009) and Yang (2010) suggested that organizations should analyze the preferences of consumers towards mobile-commerce and incorporate those in their business strategy. Pantano and Priporas (2016) suggested that web-based and mobile-based environment are very similar to each other in
helping customers purchase from a website. However, since customers prefer mobile-shopping environment over internet-shopping environment. This requires an analysis of such preference.

Pantano and Priporas (2016) analyzed the above research issue using qualitative research methods. The aim of research carried out by Pantano and Priporas (2016) was to understand the extent to which mobile technologies have an impact on consumer behavior, with emphasis on the drivers motivating consumers to adopt the consumer experience of mobile shopping. Their findings revealed that consumer prefer to use mobile phones as they had possession and experience of using smartphones and their familiarity with online/mobile shopping. Likewise, consumer innovativeness and personal attachment towards mobile technologies were also main factors. They used a smaller sample (29 customers) and highlighted it as a limitation of their research. They further suggested that future researcher should use quantitative research methods and a different geographical context to analyze the level to which customers have adopted mobile technologies and to evaluate different factors which motivated consumers to adopt mobile shopping. Pantano and Priporas (2016), Wang et al. (2015), Lu and Yu-Jen Su (2009) and Yang (2010) evaluated consumers’ preferences towards mobile-commerce and identified factors which may motivate them towards purchasing online, however, they did not evaluate the impact of these factors on mobile shopping preferences.

1.3: Purpose and Delimitations:
In this section, purpose of research and delimitations of research will be presented.

1.3.1: Research Purpose:
The current research would base on the future research areas highlighted by Pantano and Priporas (2016) and will cover the limitations of their study using a larger sample (150 customers) using the context of Pakistan. Shahid et al. (2015) highlighted that mobile-phone industry of Pakistan is one of the vibrant industries of the world. The mobile-density of Pakistan is one of the highest of Asia. The spending of people on mobile usage is also increasing and likely to increase further in the near future. This research would also corroborate the findings of the research carried out by Pantano and Priporas (2016) as they suggested in their research study that future researchers should corroborate findings of their research using quantitative methods. The aim of this research is to evaluate the level to which customers have adopted mobile
technologies and to evaluate different factors which motivated consumers to adopt mobile shopping. The context that this research will adopt will be of mobile-banking. In relation with the above-mentioned research aim, following research questions are developed.

1- To what extent is the new mobile scenario able to change consumers established shopping behavior?

2: What are the main drivers of new consumers shopping behavior?

3. What will be the relative impact of motivators towards future purchase intentions?

In relation with the above-mentioned research aim and research questions, following research objectives are developed.

1- To analyze the extent to which the new mobile scenario able to change consumers established shopping behavior and to evaluate main drivers of new consumers shopping behavior.

2. To evaluate the impact of drivers of mobile-shopping on future purchase intentions.

3: Based on the above, recommend to organizations who use mobile technologies for selling their products/services.

**1.3.2: Delimitations:**
Delimitations of this research are as under:

1- Findings of research are based on data which was collected from Pakistan.

2- Data was collected from customers of mobile banking.

3- Data was collected from real-life situations using intercept technique.

4- Majority of the respondents who participated in this research had some form of University qualification/education.

**1.4: Report structure:**
This report would comprise of seven sections. An overview of each of chapters is given below.
1.5: Summary:

In this section, research background of research was given. In addition to this, researcher also presented problem statement and purpose of research. The aim of this research is to evaluate the level to which customers have adopted mobile technologies and to evaluate different factors which motivated consumers to adopt mobile shopping. Furthermore, research objectives and delimitations of research were also given in this section. At the end, structure of report was presented. In the next section, review of literature will be given.

2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

In connection with the previous section, this section will present review of academic literature, which will serve as basis of development of conceptual framework. Various themes that will be covered in this section will be evaluation of key characteristics of online shopping, future purchase intension, factors that motivate users towards online shopping which include perceived ease of use, perceived usefulness, level of innovativeness of users, design of applications and financial cost
financial cost. At the end, conceptual framework of research and summary of the chapter will be given.

2.1: Evaluation of Key Characteristics of Online Shopping:
Armstrong et al. (2014) suggested that purpose of marketing function of an organization is to evaluate the extent to which products and services made by the organization are satisfying their needs and wants. If the products and/or services of an organization are not conforming to the requirements of the customers, then this will create dissatisfaction among the customers. An organization should attempt to satisfy needs and wants of its customers in a better way and maintain competitiveness over its rivals. Abdullah et al. (2015) suggested that with the emergence of internet, competitive landscape of the business has changed a lot. Organizations have been using it for purchasing, advertising, human resource management, supply chain management, selling, etc. On an individual level internet is also influence lives of people and over the period of time, physical environment in which people were living is changing to virtual environment. Wu et al. (2014) highlighted that over the period of time, the online buying or shopping has increased. Not only customers, but organizations are also getting benefits out of it. Online buying and selling is regarded as third most popular use of Internet, after email, web-surfing and messaging (Mattila and Hanin, 2015). Further to this, Bons et al. (2012) argued that as Internet has provided organizations a basis through which they would be in a position to earn competitive advantage over the other organizations. In this regard, it is important to evaluate the factors which motivate customers of an organization towards purchasing online and how does this may influence future purchase intentions of customers of an organization.

2.2: Future purchase intentions:
Zott et al. (2011) suggested that sales and profits are life blood of an organization. Customers come to the organization for buying certain products and services, which may satisfy their current and future demands. Swoboda et al. (2013) suggested that over the period of time, competition between the organization is increasing. They tend to sell more and more and in an attempt to do they attempt to attract customers of the rival organizations. This creates a situation in which one organization is getting benefits at the cost of the organization. Dai et al. (2014) suggested that in order to ensure a secure future, an organization should continue satisfying needs and wants of the customers. In order to do so, it should ensure that customers continue
buying from the organization and do not switch to alternate brands/organization; an organization should evaluate future purchase intentions. This information will help organization in different areas including purchasing, evaluation of business’s future and supply chain management.

2.3: Factors that Motivate Users Towards Online Shopping:

Wu (2013) suggested that there are number of factors which have an influence on the future purchase intentions of customers in online shopping context. These factors include economic, demographic, technical, social and cultural, psychological, legislative and organizational factors. Chen et al. (2016) suggested that despite considerable research in this area, topic is still ripe for future research. The underlying reason for this is that customers’ needs and wants are changing along with emergence of new products and services, which may encourage customers to switch. Bianchi and Mathews (2016) suggested that owing to the increase in number of online shoppers and the growth of internet, it is evident that more and more customers are shifting traditional physical environment to virtual environment by buying goods and services. This requires an analysis of factors which require customers towards online shopping. This section will present an account of different factors, which may have an influence on the purchase intentions of users of mobile banking. An account of these factors is given below.

2.3.1: Perceived Ease of Use:

Davis (1989) suggested that there are two factors which increase the chances of acceptance of penetration of a technologically advance product. These two factors were perceived ease of use and perceived usefulness. Davis (1989) highlighted that perceived ease of use is the perception of the user of a technology-intensive product or service. The person who is using this product assumes that using a particular system would not cumbersome or would be free from efforts. If it is easy for the customer to learn how to use a product or service, maintain or restore it or handle day-to-day problems related to product or service then person perceives that it is easy to use the product. Schnall et al. (2014) highlighted that a person perceives high perceived ease of use if he can easily get what he wants from the system, it is easier for him to interact with system, it is easier for the person to become skillful and interaction with system is clear and understandable.
2.3.2: Perceived Usefulness:
Davis (1989) suggested that there are two factors which increase the chances of acceptance of penetration of a technologically advance product. These two factors were perceived ease of use and perceived usefulness. Davis (1989) highlighted that perceived usefulness is also the perception of the user of technologically advance product/service. The person who is using this product or service assumes that if he would use that product/service, then it would enhance his performance on the job. Davis (1989) proposed that a customer perceives a product to be useful if it helps customers in accomplishing his job quickly. Likewise, Schnall et al. (2014) used perceived ease of use dimension of Davis (1989) and suggested that if using a product/service increases one’s performance on the job and increases overall effectiveness then person assumes that product has high perceived usefulness.

2.3.3: Level of Innovativeness of Customers:
Siu and Chang (2015) highlighted that personal characteristics of a person influence his current or future purchase intentions. They highlighted that if a person is curious then that person attempts to try new things in life. Likewise, if a person intends to experiment new things, this will link to the level of innovativeness of the person. According to Lin et al. (2013), if a product helps a person fulfills his self-image then there are increased chances that if future that product/service will be purchased by the customer. For example, if a person perceives himself to be unconventional and usage of a new product or service triggers same feeling in him, then that person would not only purchase that product or service right now, but the person would continue buying and selling that product or service in future. Siu and Chang (2015) suggested that level of innovativeness of a person would be high if that person would seek information about new products and services.

2.3.4: Design of Application:
Dedeke (2016) suggested that there is a link between design of a product and its future or current usage. Same applies to the design of an software application or service. If the color of a software application matches to the requirements of the customers then customers prefer to use it. Likewise, if a customer perceives that the aesthetics of the software application matches to the personal aesthetics of the customers, then there are increased chances of future usage of a product or service. According to Dedeke (2016), if it is easier for the customers to navigate a
software application or a website and find what a customer is looking for then customer would prefer that software application or website. Ahmed et al. (2010a) added that while designing a software application, one should keep an eye on the software environment. It has to create a pleasant influence on the customer so that customer will feel happy in using that software.

2.3.5: Financial Cost:

Ahmed et al. (2010b) suggested that an important factor which may have an influence on the preferences of the customers is the cost of obtaining that product or service. There are several cost which may have an influence on these things. For instance, to start with customer has to pay the cost of acquisition of a product. If the price of the product is less then customers would prefer to purchase that product. In addition to this, customers generally consider transportation cost while making a purchase decision. This transportation cost not only includes cost of going to the place from where products or services are obtained but also bring back the product to the intended place of use. If such costs are less, then there are most chances that customers would purchase that product or service in future.

2.4: Conceptual Framework:

This section will present conceptual framework of research. This is based on the discussion, which was carried out in this section.

![Figure 2.1: Conceptual Framework](image-url)

Perceived Ease of Use

Perceived Usefulness

User’s Level of Innovativeness

Design of Application

Financial Cost

Future Purchase Intentions
2.5: Summary of Chapter:

This section presented review of academic literature, which served as basis of development of conceptual framework. Various themes that were covered in this section were evaluation of key characteristics of online shopping, future purchase intention, factors that motivate users towards online shopping which include perceived ease of use, perceived usefulness, level of innovativeness of users, design of applications and financial cost. At the end, conceptual framework of research was given. In the next section, research methods will be given.
SECTION 3: METHOD

In the previous chapter, researcher gave review of academic literature on the subject matter. In this chapter, researcher will present a detailed account of research methods, which were used in this research project. In this regard, researcher will present detailed discussion on different topics such as need for research, research paradigm, research approach, research strategy, data collection time frame, data collection tool, population and sampling design, data collection and data analysis technique, research ethics as well as reliability and validity of findings of research. At the end of this research, summary of findings will be presented.

3.1: Need and type for Research:

McNeill (1990) highlighted the importance of research and suggested that managers, in their day-to-day decision-making often encounter certain situations where they do not have information about a particular aspect of business. In order to make an effective and efficient decision, managers may need to collect data and generate information from this. In such situation, managers can conduct a formal research activity so that required data can be collected and information can be generated from that. In case of this research project, research aim was to evaluate the level to which customers have adopted mobile technologies and to evaluate different factors which motivated consumers to adopt mobile shopping. This information was not known to the research so he decided to conduct research on this topic.

McNeill (1990) and Bryman and Bell (2007) suggested that a research project is a formal, systematic and step-by-step activity which involves collection and processing of data and generation of insights related to issue in hand. In case of this research project, researcher also adopted a structured approach towards getting answers to research questions. This research project conforms to the stages of research which were suggested by McNeill (1990) and Bryman and Bell (2007).

Bryman and Bell (2007) suggested that a research project can be categorised in to primary and secondary research project. In case of former, the data is collected first-hand whereas in case of
later, researcher uses data is already available as it was generated for some other issue. This research project is primary in nature as researcher will collect and use first hand data. Further to this, Bryman and Bell (2007) argued that a research project can be basic or applied in nature. In case of basic research, research purpose in not clear where as in case of applied research, purpose of research is clear. This is an applied research project as purpose of research is clear. Moreover, this research project is quantitative in nature as the findings of this research will be based on quantitative data which was collected by the researcher for this project.

3.2: Research Design:

Saunders (2009) proposed a comprehensive research framework which can be used for designing a research project. This framework is commonly known as research onion and has five concentric layers each of which has one specific aspect in focus. These five layers deal with (from outer-most to inner-most) research paradigm, research approach, research strategy, data collection time frame and data collection tools. Each of these is explained below.

3.2.1: Research Philosophy:

Saunders (2003) suggested that first step in designing a research project is to select a suitable research philosophy for conducting research. There are three options in research onion, which are positivism, interpretivism and realism. The first philosophy, positivism, suggests that research can be conducted using a structured and detached research technique. It is possible for researcher to carry out a research project using independent methods. This philosophy further asserts that researchers have access to structured and robust research techniques which enable researchers in collection and analysis of data. The second philosophy is quite opposite to it and is termed as interpretivism. This philosophy asserts that researcher and research setting are not separate from each other. It is not possible for researcher to use a structured approach towards data collection rather researcher should use an evolving and un-structured approach towards conducting research. Generally, this philosophy is linked with collection and processing of qualitative data for data analysis. The third philosophy is realism, which is mix of these two philosophies and is generally used in natural science research projects.

Current research project is based on positivism philosophy. There are number of reasons for this. To start with, researcher wanted to limit his personal biasness so he selected positivism philosophy. Further to this, researcher also wanted to collect quantitative data, which was only
possible through positivism. Interpretivism was rejected in nature as it is a subjective philosophy whereas positivism is objective in nature. Realism was rejected as current research project is related to social science whereas realism is associated with natural science research.

3.2.2: Research Approach Strategy:
Saunders (2003) suggested that once research philosophy is selected, second step in designing a research project is to select a suitable research approach for conducting research. There are two options in research onion, which are inductive and deductive reasoning. The former is linked with interpretivism whereas later is associated with positivism. The indicative approach is usually regarded as bottom-up approach and is used for generation of hypothesis or a research aim. It is qualitative in nature and involves an emergent approach towards data collection. On the contrary, deductive approach involves collection of quantitative data. It is regarded as top-to-bottom approach and is linked with positivism. Deductive approach is used for answering research questions or for achieving research aim.

In case of this research project, researcher used deductive approach for collection of data. The underlying reasons include link of deductive reasoning with positivism. Since, researcher has already selected positivism for this research project so deductive reasoning was the suitable choice. Further to this, researcher has already developed research aims and objectives so there was no need of selection of inductive reasoning for this research project.

3.2.3: Research Strategy:
Saunders (2003) suggested that once research approach is finalized by researcher, third step in designing a research project is to select a suitable research strategy for conducting research. There are many options in research onion which include survey, case study, grounded theory, action, research, etc. In case of this research, case study and grounded theory were not selected since these two were related to interpretivism whereas this research has already selected positivism as underlying research philosophy. Likewise, grounded theory is related to theory generation whereas this research is not related to theory generation so this option was also rejected. Saunders (2003) highlighted that action research is a research strategy in which researcher himself tests a research issue in such a way that he is part of research setting. Based
on findings of research, some changes are brought in the research settings and then situation is evaluated one more time. This thing repeats for several times. Since, this was not the situation for this research so this option was rejected. Finally, it was decided by the researcher to use survey for this research as this was the ultimate choice for this research project. In connection with positivism and deductive approach, it was decided by researcher to use survey as selected research strategy. A survey was conducted in Pakistan to collected quantitative data for this research.

3.2.4: Data Collection Time Frame:
Saunders (2003) suggested that once research strategy is finalized by researcher, fourth step in designing a research project is to select a suitable time frame for conducting research. There are two options in research onion, which were cross-sectional and time-series. The former is concerned with collection of data only once whereas in case of time-series, data is collected more than once. Time-series data is generally collected where researcher wanted to test the influence of a factor before and after the treatment. Since, this was not the issue so it was decided by researcher to use cross-sectional research design.

3.2.5: Data Collection Tool:
Saunders (2003) suggested that once researcher has decided about data collection time frame, the final step is to select one or more data collection tools. There are many options in research onion which include interviews, focus group discussion, questionnaire, observation, street ethnography, and secondary data. In case of this research project, secondary data was not used as according to researcher, the selected topic is a novel area and no such secondary data exists about this issue. Further to this, observation, interview and focus group discussion were not selected since these were quite subjective in nature. So, these were rejected. Finally, researcher used questionnaire for collection of data for this research project. Researcher carried out a detailed review of researcher and developed a questionnaire, which was used for collection of data. Details for this questionnaire will be given later in this text.

3.3: Population and Sampling Design:
Burns et al. (2008) emphasized the importance of selection of population and collection of data from the population. For a research project, population of research comprises of all those people, elements, objects, incidents from which or about which data is needed by the researcher. Ryan et
al. (2002) suggested that there are two types of population which are theoretical population and accessible population. The former is totality whereas later is the one which is accessible by the current methods and resources of researcher. In case of this research, theoretical population is all those people who are using mobile banking facilities whereas accessible population is all those people who are from Punjab (Pakistan). Ryan et al. (2002) suggested that sampling techniques is applied on the accessible population.

Ryan et al. (2002) suggested that a sample is subset of this population. If it is not possible for the researcher to collect data from all the members of population then it is better to collect data from sample. Moreover, if researcher faces constraints related to time, money and accessing population, it is better to collect data from sample. There are two type of sampling techniques, which are probability based and non-probability based sampling. In case of former, there is an known chance of selection of all the people/elements of population and vice versa for non-probability based population. For probability-based sampling, a list of all the members of population is needed. In case of this research, researcher did not have access to such list so it was decided by the researcher to use non-probability based sampling technique. In case of non-probability based technique, researcher used judgemental sample selection technique. This technique is favoured over other non-probability based techniques as it researcher used his judgement/expertise in selecting a member for the sample which is better suited than other members. Moreover, researcher also used snow-ballng technique for accessing members of sample. In case of snow-ballng, a member of sample refers researcher to another member of sample who is known to the existing member of sample.

In case of this research, a sample of 150 customers who had been using mobile banking was selected. The size of sample was constrained by amount of time that researcher had for conducting this research.

3.4: Data Collection and Data Analysis Technique:
In order to collect data, researcher contacted 150 customers using multiple data collection techniques. For example, researcher had his family members and friends who had been using mobile banking facilities. They were requested to introduce researcher to other people who had been using mobile banking. In this regard, friends of researcher, who had been working in different branches of banks of Pakistan, remained very influential and useful as they introduced
researcher with sample members. Researcher provided these sample members with questionnaires and requested them to participate in research. Out of 150 contacts which were provided to researcher, researchers were unable to contact with 7 members of sample. Out of 143 sample members, 22 sample members did not agree to participate in this research. Out of 121 sample members who agreed to participate in this research, only 93 sample members responded to the answers of the questionnaire. Out of 93 questionnaires received from people who had been using mobile banking, 4 questionnaires were rejected, as they were not responded properly. Finally, findings of this research are based on data collected from 89 people who were currently using mobile banking facilities.

In order to analyse the collected data, researcher used two main data analysis techniques. To start with, researcher used factor analysis technique. The purpose of using this technique was to identify parsimonious dimensions for selected factors. By parsimonious, it is meant that out of the different factors which may motivate customers towards adoption of mobile shopping, those factors which are comparatively important than others will be identified and will be used in subsequent data analysis. The underlying reason for this is to assert more focus on those factors which are comparatively important as compared to others. Researcher feels that, theoretically, organization should focus on all the factors which are important to any degree, but since organizations face resource constraints so it may not be possible for the organization to focus on each and every aspect of customers’ satisfaction. In this regard, organizations should prioritize the factors and should start focusing on those which are more important as compared to others and then continuing focusing on others which are less important than earlier. While applying this data reduction technique, Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett’s test of sphericity were computed. Both of these are assumptions of factor analysis. When factor analysis is used, factors are extracted based on their comparison with each other. For this, correlation between these factors is computed. Correlation between two factors is influenced by the relationship of these factors with other factors. In order to overcome this difficulty, partial correlation is computed. Likewise, Bartlett test of sphericity evaluates if there is any redundant variable in the analysis (Bartholomew et al., 2011).

In case of Kaiser-Meyer-Olkin measure of sampling adequacy, a value of 0.7 or higher is desired (Brown, 2006) and in case of Bartlett’s test of sphericity, a value of 0.005 or less is needed. If
values of Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett’s test of sphericity conform to the required values (0.7 or higher and less than 0.005 respectively), then it can be asserted that factor analysis has worked properly and researcher can move further with data analysis. The questionnaire given in the appendix of this report presents list of all the factors which were used in this research project.

In order to analyse impact of independent variables on dependent variables, researcher used multiple regression technique.

3.5: Research Ethics:
Creswell (2014) highlighted that it is important for the researcher to comply to research ethics while conducting research. This was the case with this research project. During this research it was ensured that researcher were introduced with sample members after getting permission from the sample members. Sample members participated in this research by choice. Moreover, it was also ensured that findings of research are reported without any personal or professional prejudice. Confidentiality and anonymity of respondents were also ensured. No financial incentives were provided to the participants. In addition to this, researcher also acknowledged all the material which he borrowed from some other sources.

3.6: Reliability of Findings:
Brown et al. (2000) highlighted importance of reliability of findings of research and suggested that one of the most commonly used measure of reliability of findings is internal consistency of findings which can be checked using Cronbach’s alpha. The desired value for this is 0.7. In case of this research, researcher user Cronbach’s alpha for analysis for analysis reliability of findings of research.

3.7: Validity of Findings:
Brown et al. (2000) highlighted importance of validity of findings of research and put forth different forms of validity of findings. These include construct validity, internal validity and external validity. Construct validity was ensured by ensuring that dimensions of selected independent variables are based on review of literature. Moreover, factor analysis method was
used to reduce selected dimensions to more parsimonious dimensions. Likewise, internal validity was ensured by running multiple-regression method. Likewise, external validity was ensured by collection of data from field setting.

### 3.8: Summary of Chapter:

This was third section of the report and presented a detailed account of research methods, which were used in this research project. In this regard, researcher presented detailed discussion on different topics such as need for research, research paradigm, research approach, research strategy, data collection time frame, data collection tool, population and sampling design, data collection and data analysis technique, research ethics as well as reliability and validity of findings of research. In the next chapter, researcher will give analysis and results of research project.
SECTION 4: ANALYSIS AND RESULTS

In the previous chapter, researcher presented methodology of research. The focus of this chapter will be on presentation of findings of the survey which was carried out for this research project. At the outset of this chapter, an account of reliability of findings will be presented. This will be followed by presentation of contextual or general findings. Lastly, researcher will present main findings of the research project. These will be the one which are linked with research questions and research objectives. Lastly, summary of chapter will be provided.

4.1: Analysis of Reliability:

As it was highlighted in the previous chapter, reliability analysis of the collected data is important for research project. In this regards, researcher analyzed reliability of findings. This was carried-out on the level of constructs. Linked with conceptual framework of this research project, reliability analysis was carried out on all independent variables.

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Factors</th>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perceived Ease of Use</td>
<td>0.68</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Perceived Usefulness</td>
<td>0.71</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>User’s Level of Innovativeness</td>
<td>0.74</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Design of Application</td>
<td>0.66</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Financial Cost</td>
<td>0.73</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 4.1 given above presents value of Cronbach’s alpha for the given factors. The above table shows that there were five constructs/variables for which reliability analysis was carried out. These five variable were perceived ease of use, perceived usefulness, user’s level of innovativeness, design of application and financial cost. The required value of Cronbach’s alpha was close to or more than 0.7. It can be seen from the above table that value of alpha for all five constructs was either close to 0.7 or was higher than 0.7 so it was deemed plausible by the researcher to carry on analysis and proceed further with presentation of findings and analysis related to research aim and objectives.

4.2: Presentation of Contextual Findings of Research:

In this section, contextual findings of research were given. These findings are presented here to equip the reader about the context from which researcher collected data which was used in this research. In this
regard, findings related to gender, education level, city of residence and other related aspects will be presented below.

4.2.1: Gender of User of Mobile Banking Applications:

Table 4.2 relates to presentation of findings related to gender of user of mobile banking applications.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>54</td>
<td>60.7</td>
<td>60.7</td>
</tr>
<tr>
<td>Female</td>
<td>35</td>
<td>39.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Likewise, chart 4.1 given below relates to presentation of findings related to gender of user of mobile banking applications.

Based on the above table and graph, it can be observed that majority of the people who participated in this research were male. Actually, there were around 61 percent males whereas there were around 39 percent
respondents who were female. These findings may arise because of selecting sample yet at the same time, there are more males who had been using mobile applications. This makes a point that usage of mobile application is more popular among males as compared to females. This may be because of the fact that males are more active in business dealings as compared to females.

4.2.2: City of Residence of User of Mobile Banking Application:

Table 4.3 relates to presentation of findings related to city of residence of user of mobile banking applications.

<table>
<thead>
<tr>
<th>City of Residence of User of Mobile Banking Application</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lahore</td>
<td>37</td>
<td>41.6</td>
<td>41.6</td>
</tr>
<tr>
<td>Multan</td>
<td>28</td>
<td>31.5</td>
<td>73.0</td>
</tr>
<tr>
<td>Sialkot</td>
<td>18</td>
<td>20.2</td>
<td>93.3</td>
</tr>
<tr>
<td>Rawalpindi</td>
<td>6</td>
<td>6.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Likewise, chart 4.2 relates to presentation of findings related to city of residence of user of mobile banking applications.
Chart 4.2: City of Residence of User of Mobile Banking Application

Based on the above table and graph, it can be observed that findings of this research are based on the data that was collected from four different cities of Pakistan. Majority of the respondents participated in this research were from Lahore. There were around 41 percent respondents who were from Lahore and there were around 31 percent respondents who were from Multan. In addition to this, there were around 20 percent respondents who had been from Sialkot and in the end there were around 7 percent respondents who participated in this research project and were from Rawalpindi. All of the selected cities were among the large metropolitan cities of Pakistan and represent diverse social, demographic and cultural background.

4.2.3: Frequency of Use of Mobile Banking Application:

Table 4.4 relates to presentation of findings related to frequency of use of mobile banking applications by the users.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>11</td>
<td>12.4</td>
</tr>
<tr>
<td>Once in a week</td>
<td>35</td>
<td>39.3</td>
</tr>
<tr>
<td>Once in a Month</td>
<td>29</td>
<td>32.6</td>
</tr>
<tr>
<td>Very seldom</td>
<td>14</td>
<td>15.7</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Likewise, chart 4.3 relates to presentation of findings related to frequency of use of mobile banking applications by the users.
Based on the above table and graph, it can be observed that there were only 12 percent respondents who had been using mobile banking application on daily basis. Likewise, there were around 39 percent who had been using on weekly basis. Further to this, there were around 32.6 percent respondents who had been using mobile application once in a month. Finally, around 16 percent of the respondents were the ones who were using mobile banking application once in a while or very seldom. These findings show that around 50 percent of the respondents or users of mobile application have been using at least once in a week and out of this around 12 percent had been using at least once in a day. This shows that people are really linked with using mobile application, which is an indicator of penetration of mobile application among the users. This is a good indicator for the future of usage of mobile application. Keeping this thing in mind that in Pakistan, mobile banking applications are not very old, it is highly encouraging that people who have been using mobile phone application is using it quite frequently. There are chances that people would use more and more in future.

4.2.4: Profession of User of Mobile Banking Application:

Table 4.5 relates to presentation of findings related to profession of user of mobile banking applications.
Table 4.5: Profession of User of Mobile Banking Application

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>7</td>
<td>7.9</td>
<td>7.9</td>
</tr>
<tr>
<td>Businessman</td>
<td>35</td>
<td>39.3</td>
<td>47.2</td>
</tr>
<tr>
<td>Employee</td>
<td>47</td>
<td>52.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Likewise, chart 4.4 relates to presentation of findings related to profession of user of mobile banking applications.

Based on the above table and graph, it can be observed that there were only 8 percent respondents who were students and had been using mobile banking applications. Besides, there were around 39 percent respondents who were businessman and had been using mobile banking applications. Lastly, out of the
total respondents, there were around 53 percent respondents, who were employees in some organization and had been using mobile banking application. This is an indicator that mobile banking application is more popular among employees or people who work in some organization as compared to the ones who are studying or who have some form of business. The difference in relative popularity is matter of concern and should be analyzed for the fact that why there is a difference between popularity of mobile banking applications among businessman as well as employees.

4.2.5: Age of User of Mobile Banking Application:

Table 4.6 relates to presentation of findings related to age of user of mobile banking applications.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 to 25</td>
<td>29</td>
<td>32.6</td>
<td>32.6</td>
</tr>
<tr>
<td>26 to 30</td>
<td>29</td>
<td>32.6</td>
<td>65.2</td>
</tr>
<tr>
<td>31 to 35</td>
<td>22</td>
<td>24.7</td>
<td>89.9</td>
</tr>
<tr>
<td>36 to 40</td>
<td>9</td>
<td>10.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Likewise, chart 4.5 relates to presentation of findings related to age of user of mobile banking applications.
Based on the above table and graph, it can be observed that there were around 32 percent respondents who were between 21 to 25 years and had been using mobile banking applications. Likewise, there were around 32 percent respondents who had been using mobile banking applications and were between the age of 26 to 30. Likewise, there were around 25 percent people who were between 31 to 35 whereas there were around 10 percent who were between 36 to 40 years of age. The column showing cumulative frequency shows that majority of the people (more than 65 percent) who had been using mobile banking applications were either 30 years of age or less. At the same time, there was none over 40 years who participated in this research. This is an indicator that mobile banking applications are not prominent among the people who were older. This is an issue, which requires attention.
4.2.6: Education Level of User of Mobile Banking Application:

Table 4.7 relates to presentation of findings related to education of user of mobile banking applications.

<table>
<thead>
<tr>
<th>Table 4.7: Education Level of User of Mobile Banking Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Matric</td>
</tr>
<tr>
<td>FA/F Sc/ ICom</td>
</tr>
<tr>
<td>Graduation</td>
</tr>
<tr>
<td>Masters</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Likewise, chart 4.6 relates to presentation of findings related to education of user of mobile banking applications.

Chart 4.6: Education Level of User of Mobile Banking Application
Based on the above table and graph, it can be observed that there were around 7 percent people who had done matriculation and were using mobile banking application. Likewise, there were around 27 percent people who had done FA/FSc/ICom and had been using mobile banking applications. Likewise, there were around 44 percent people who had done graduation and had been using mobile banking application. In addition to this, there were around 22 percent people who had done masters and had been using mobile banking applications. It can be inferred from the above table that majority of the people who had been using MBA were educated which makes a point that MBA is more popular among educated people rather than less educated people. An underlying reason for this could be the difficulty that a less educated person may face in using MBA. If this difficulty is removed, somehow then there are chances of an increase in penetration of MBA.

4.3: Primary Findings of Research:
The aim of this research was to evaluate level to which customers have adopted mobile technologies and to evaluate different factors which motivated consumers to adopt mobile shopping. In relation with the above-mentioned research aim, following research questions are developed.

1- To what extent is the new mobile scenario able to change consumers established shopping behavior?

2: What are the main drivers of new consumers shopping behavior?

3. What will be the relative impact of motivators towards future purchase intentions?

In relation with the above-mentioned research aim and research questions, following research objectives are developed.

1- To analyze the extent to which the new mobile scenario able to change consumers established shopping behavior and to evaluate main drivers of new consumers shopping behavior.

2. To evaluate the impact of drivers of mobile-shopping on future purchase intentions.

3: Based on the above, recommend to organizations who use mobile technologies for selling their products/services.

Now, the findings related to each research objectives will be given.
4.3.1: Research Objective 1 – Analysis of Shopping Behavior:
The first research objective of this dissertation was to analyze the extent to which the new mobile scenario able to change consumers established shopping behavior and to evaluate main drivers of new consumers shopping behavior. In order to analyze the important dimensions of changed consumer behavior, researcher used factor analysis technique so that out of 29 dimensions of customers’ satisfaction, the ones which are more important can be identified and use further in analysis. Researcher applied this data analysis technique on the level of construct so that important dimension of each construct can be identified and then subsequently used for the second step of research. These findings are as under:

4.3.1.1: Important Dimensions of Perceived Ease of Use:

This section deals with analysis of analysis of perceived ease of use.

Table 4.8 deals with presentation of Kaiser-Mayer-Olkin measure (KMO) and Bartlett’s test of sphericity (BTS) related to perceived ease of use construct.

<table>
<thead>
<tr>
<th>Table 4.8: KMO and Bartlett's Test – Perceived Ease of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

The above table showed that value of KMO and BTS conform to the required values which were close or higher than 0.7 and less than 0.005, so researcher decided to proceed further with analysis and analyze total variance explained and label of the extracted factors.

Table 4.9 given below relates to total variance explained related to perceived ease of use.

<table>
<thead>
<tr>
<th>Table 4.9: Total Variance Explained – Perceived Ease of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>
The above table shows that when factor analysis, using principle component analysis, was applied on six dimensions of perceived ease of use, 2 factors were extracted. These factors gave a combine variance of 47 percent. The first factor had a variance of around 24 percent whereas second factor had 23 percent. Overall, by dropping 67 percent factors, only 52 percent variance was dropped. Researcher deemed it plausible to proceed further with analysis and evaluate rotate component matrix.

Rotated component matrix of perceived ease of use, given below, is useful in identifying labels of extracted factors.

<table>
<thead>
<tr>
<th>Table 4.10: Rotated Component Matrix(^a) – Perceived Ease of Use</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>It is easier to learn how to use mobile banking application (MBA).</td>
<td></td>
</tr>
<tr>
<td>I am able to handle day-to-day problems related to MBA.</td>
<td>-.558</td>
</tr>
<tr>
<td>I can easily get what I want from MBA.</td>
<td>-.627</td>
</tr>
<tr>
<td>It is easier for one to become skillful in using MBA.</td>
<td>-.794</td>
</tr>
<tr>
<td>MBA is understandable.</td>
<td>.760</td>
</tr>
<tr>
<td>It is easier for me to interact with MBA.</td>
<td>.740</td>
</tr>
</tbody>
</table>

First factor that was extracted was “MBA is understandable” whereas second factor was “It is easier for one to become skillful in using MBA”. The rotation value of former was 0.760 whereas rotation value of second factor was 0.794. These extracted factors were main drivers of consumers’ shopping behavior. An explanation of these factors will be provided in the next chapter.

**4.3.1.2: Important Dimensions of Perceived Usefulness:**

Table 4.11 deals with presentation of Kaiser-Mayer-Olkin measure and Bartlett’s test of sphericity related to perceived usefulness.

<table>
<thead>
<tr>
<th>Table 4.11: KMO and Bartlett's Test – Perceived Usefulness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
The above table showed that value of KMO and BTS conform to the required values which were close or higher than 0.7 and less than 0.005, so researcher decided to proceed further with analysis and analyze total variance explained and label of the extracted factors.

Table 4.12 given below relates to total variance explained related to perceived usefulness.

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total % of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>1</td>
<td>1.642</td>
<td>32.839</td>
</tr>
<tr>
<td>2</td>
<td>1.206</td>
<td>24.114</td>
</tr>
<tr>
<td>3</td>
<td>.932</td>
<td>18.639</td>
</tr>
<tr>
<td>4</td>
<td>.764</td>
<td>15.284</td>
</tr>
<tr>
<td>5</td>
<td>.456</td>
<td>9.124</td>
</tr>
</tbody>
</table>

The above table shows that when factor analysis, using principle component analysis, was applied on five dimensions of perceived usefulness, 2 factors were extracted. These factors gave a combine variance of 57 percent. The first factor had a variance of around 32.64 percent whereas second factor had 24.3 percent. Overall, by dropping 67 percent factors, only 43 percent variance was dropped. Researcher deemed it plausible to proceed further with analysis and evaluate rotate component matrix.

Rotated component matrix of perceived usefulness, given below, is useful in identifying labels of extracted factors.

<table>
<thead>
<tr>
<th>MBA helps me in accomplishing my job in a better way</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBA helps me in accomplishing my job quickly.</td>
<td>.818</td>
</tr>
<tr>
<td>MBA helps me in controlling my finances.</td>
<td>-.690</td>
</tr>
<tr>
<td>MBA is always available.</td>
<td>.804</td>
</tr>
<tr>
<td>Because of MBA, I can process more banking transactions.</td>
<td>.844</td>
</tr>
</tbody>
</table>
First factor that was extracted was “because of MBA, I can process more banking transactions” whereas second factor was “MBA is always available”. The rotation value of former was 0.844 whereas rotation value of second factor was 0.804. These extracted factors were main drivers of consumers’ shopping behavior. An explanation of these factors will be provided in the next chapter.

4.3.1.3: Important Dimensions of Level of Innovativeness of User:

Table 4.14 deals with presentation of Kaiser-Mayer-Olkin measure and Bartlett’s test of sphericity related to innovativeness of user.

<table>
<thead>
<tr>
<th>Table 4.14: KMO and Bartlett's Test – Innovativeness of User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

The above table showed that value of KMO and BTS conform to the required values which were close or higher than 0.7 and less than 0.005, so researcher decided to proceed further with analysis and analyze total variance explained and label of the extracted factors.

Table 4.15 given below relates to total variance explained related to innovativeness of users.

<table>
<thead>
<tr>
<th>Table 4.15: Total Variance Explained – Innovativeness of User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
The above table shows that when factor analysis, using principle component analysis, was applied on five dimensions of innovativeness of users, 3 factors were extracted. These factors gave a combine variance of 63 percent. The first factor had a variance of around 24.75 percent whereas second factor had 20.6 percent. Likewise, third factor had an individual variance of 17.803 percent. Overall, by dropping 50 percent factors, only 37 percent variance was dropped. Researcher deemed it plausible to proceed further with analysis and evaluate rotate component matrix.

Rotated component matrix of innovativeness of user, given below, is useful in identifying labels of extracted factors.

<table>
<thead>
<tr>
<th>Table 4.16: Rotated Component Matrix$^a$ – Innovativeness of User</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>I am curious about new things in life.</td>
<td>.667</td>
</tr>
<tr>
<td>I prefer to experiment new things in life.</td>
<td>.752</td>
</tr>
<tr>
<td>I take chance in life.</td>
<td>.726</td>
</tr>
<tr>
<td>I am an unconventional person.</td>
<td>.755</td>
</tr>
<tr>
<td>Using MBA is innovative.</td>
<td>-.649</td>
</tr>
<tr>
<td>I prefer to obtain information about new products.</td>
<td>.896</td>
</tr>
</tbody>
</table>

First factor that was extracted was “I am an unconventional person” whereas second factor was “I prefer to experiment new things in life”. Likewise, third factor was “I prefer to obtain information about new products”. The rotation value of first factor was 0.755 whereas rotation value of second factor was 0.752. Likewise, third factor had a rotation value of 0.896. These extracted factors were main drivers of consumers’ shopping behavior. An explanation of these factors will be provided in the next chapter.

4.3.1.4: Important Dimensions of Design of Application:
Table 4.17 deals with presentation of Kaiser-Mayer-Olkin measure and Bartlett’s test of sphericity related to design of application.

<table>
<thead>
<tr>
<th>Table 4.17: KMO and Bartlett's Test – Design of Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
The above table showed that value of KMO and BTS conform to the required values which were close or higher than 0.7 and less than 0.005, so researcher decided to proceed further with analysis and analyze total variance explained and label of the extracted factors.

Table 4.18 given below relates to total variance explained related to design of applications.

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>1</td>
<td>1.676</td>
<td>18.620</td>
</tr>
<tr>
<td>2</td>
<td>1.408</td>
<td>15.646</td>
</tr>
<tr>
<td>3</td>
<td>1.142</td>
<td>12.686</td>
</tr>
<tr>
<td>4</td>
<td>1.090</td>
<td>12.111</td>
</tr>
<tr>
<td>5</td>
<td>1.031</td>
<td>11.456</td>
</tr>
<tr>
<td>6</td>
<td>.865</td>
<td>9.610</td>
</tr>
<tr>
<td>7</td>
<td>.718</td>
<td>7.983</td>
</tr>
<tr>
<td>8</td>
<td>.587</td>
<td>6.521</td>
</tr>
<tr>
<td>9</td>
<td>.483</td>
<td>5.369</td>
</tr>
</tbody>
</table>

The above table shows that when factor analysis, using principle component analysis, was applied on nine dimensions of design of applications, 5 factors were extracted. These factors gave a combine variance of 70.5 percent. The first factor had a variance of around 15 percent whereas second factor had a variance of 14.8 percent. Likewise, third and fourth factor had variances of 14.39 percent and 13.76 percent. Lastly, fifth factor had an individual variance of 12.5 percent. Overall, by dropping 45 percent factors, only 30 percent variance was dropped. Researcher deemed it plausible to proceed further with analysis and evaluate rotate component matrix.

Rotated component matrix of design of application, given below, is useful in identifying labels of extracted factors.
Table 4.19: Rotated Component Matrix – Design of Application

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using mobile application is easier.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.597</td>
</tr>
<tr>
<td>MBA gives me an opportunity to compare charges with competitors.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.867</td>
</tr>
<tr>
<td>I can customize MBA according to my needs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.896</td>
</tr>
<tr>
<td>It is easier to navigate MBA.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.888</td>
</tr>
<tr>
<td>Colour of MBA matches to my requirements.</td>
<td></td>
<td></td>
<td></td>
<td>-.640</td>
<td></td>
</tr>
<tr>
<td>MBA have the option of customization.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.523</td>
</tr>
<tr>
<td>Aesthetics of MBA matches to my personality.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.764</td>
</tr>
<tr>
<td>Using MBA has a pleasant experience on my mood.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.782</td>
</tr>
<tr>
<td>Using MBA is secure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.762</td>
</tr>
</tbody>
</table>

First factor that was extracted was “using MBA is secure” whereas second factor was “using MBA has a pleasant experience on my mood”. Likewise, third factor was “it is easier to navigate MBA” and fourth factor was “I can customize MBA according to my needs”. Lastly, fifth factor was “MBA gives me an opportunity to compare charges with competitors”. The rotation values of first, second and third factors were 0.762, 0.782 and 0.888 whereas rotation value of fourth and fifth factors were 0.896 and 0.867. These extracted factors were main drivers of consumers’ shopping behavior. An explanation of these factors will be provided in the next chapter.

4.3.1.5: Important Dimensions of Financial Cost:

Table 4.20 deals with presentation of Kaiser-Mayer-Olkin measure and Bartlett’s test of sphericity related to financial cost.

Table 4.20: KMO and Bartlett's Test – Financial Cost

<table>
<thead>
<tr>
<th></th>
<th>Kaiser-Mayer-Olkin Measure of Sampling Adequacy</th>
<th>Bartlett's Test of Sphericity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.769</td>
<td>Approx. Chi-Square</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.452</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dof</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
</tr>
</tbody>
</table>
The above table showed that value of KMO and BTS conform to the required values which were close or higher than 0.7 and less than 0.005, so researcher decided to proceed further with analysis and analyze total variance explained and label of the extracted factors.

Table 4.21 given below relates to total variance explained related to financial cost.

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>1</td>
<td>1.100</td>
<td>36.681</td>
</tr>
<tr>
<td>2</td>
<td>1.045</td>
<td>34.836</td>
</tr>
<tr>
<td>3</td>
<td>.854</td>
<td>28.482</td>
</tr>
</tbody>
</table>

The above table shows that when factor analysis, using principle component analysis, was applied on five dimensions of financial cost, 2 factors were extracted. These factors gave a combine variance of 71.5 percent. The first factor had a variance of around 36.68 percent whereas second factor had 34.8 percent. Overall, by dropping 33 percent factors, only 29 percent variance was dropped. Researcher deemed it plausible to proceed further with analysis and evaluate rotate component matrix.

Rotated component matrix of financial cost, given below, is useful in identifying labels of extracted factors.

<table>
<thead>
<tr>
<th>Component</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using mobile banking application is cheaper.</td>
<td>.632</td>
</tr>
<tr>
<td>Using MBA saves time of visiting Bank.</td>
<td>.893</td>
</tr>
<tr>
<td>Using MBA saves transportation cost, to and from stores.</td>
<td>.751</td>
</tr>
</tbody>
</table>

First factor that was extracted was “using MBA saves transportation cost, to and from stores” whereas second factor was “using MBA saves time of visiting Bank”. The rotation value of former was 0.751 whereas rotation value of second factor was 0.893. These extracted factors were main drivers of consumers’ shopping behavior. An explanation of these factors will be provided in the next chapter.
Second research objective of this project was to evaluate the impact of drivers of mobile-shopping on future purchase intentions. Findings related to this research objective are given below. This research objective is related to conceptual framework of research. There were five independent factors in the conceptual framework which were perceived ease of use, perceived usefulness, users’ level of innovativeness, design of application and financial cost. The dependent variable was future purchase intentions. Questionnaire that was used in this research project had different questions which were related to consumers’ perception regarding all five independent factors (perceived ease of use, perceived usefulness, users’ level of innovativeness, design of application and financial cost) as well as dependent factor (future purchase intentions). For each of these variables, researcher asked different questions which were related to different dimensions of the factors. For each of these variables, researcher applied factor analysis technique to identify important dimensions of each variable. The extracted factors were used to compute composite variables for each factors. Table 4.23, given below, gives details of five independent variables.
Table 4.23: Summary of Extracted Factors

<table>
<thead>
<tr>
<th>Sr.#</th>
<th>Variable</th>
<th>Number of Extracted Factor</th>
<th>Factor Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perceived Ease of Use</td>
<td>2</td>
<td>• MBA is understandable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• It is easier for one to become skillful in using MBA.</td>
</tr>
<tr>
<td>2</td>
<td>Perceived Usefulness</td>
<td>2</td>
<td>• Because of MBA, I can process more banking transactions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• MBA is always available.</td>
</tr>
<tr>
<td>3</td>
<td>Innovativeness of User</td>
<td>3</td>
<td>• I am an unconventional person.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• I prefer to experiment new things in life.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• I prefer to obtain information about new products.</td>
</tr>
<tr>
<td>4</td>
<td>Design of Application</td>
<td>5</td>
<td>• Using MBA is secure.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Using MBA has a pleasant experience on my mood.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• It is easier to navigate MBA.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• I can customize MBA according to my needs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• MBA gives me an opportunity to compare charges with competitors.</td>
</tr>
<tr>
<td>5</td>
<td>Finance Cost</td>
<td>2</td>
<td>• Using MBA saves transportation cost, to and from stores.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Using MBA saves time of visiting Bank.</td>
</tr>
</tbody>
</table>

Researcher used Statistical Program for Social Sciences for analysis of data. In this regard, “compute” command was used to generate composite variables. These composite variables (independent) were then used for multiple-regression. The outputs of multiple regression is given below.

Table 4.24: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.734a</td>
<td>.541</td>
<td>.471</td>
<td>7.13726</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), FC, DoA, IOU, PEOU, PU
b. Dependent Variable: Future Usage Intentions of Users of Mobile Banking Applications

Table 4.24 presents model summary. It presents different values. R represents square root of R-squared. Moreover, it is also an indicator of correlation between observed and predicted values of dependent variable. Further to this, value of R-square was also given. This is an indicator of
proportion of variation in the dependent variable, which is caused by independent variable. Higher the value better it is. The value of adjusted R-square is associated with extraneous predictors of the model. From the above table, it can be seen that value of R square is 0.541, which shows that fifty percent variance in the dependent variable is caused by the independent variables. Hair (2009) suggested that value of 0.5 or above is acceptable for multiple regression models. Keeping this thing in mind, it was decided by the researcher to proceed further with analysis.

Next table deals with analysis of variance.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>9452.832</td>
<td>5</td>
<td>2479.118</td>
<td>47.32</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>9872.658</td>
<td>187</td>
<td>52.395</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19325.488</td>
<td>192</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Future Usage Intentions of Users of Mobile Banking Applications
b. Predictors: (Constant), FC, DoA, IOU, PEOU, PU

The model column is concerned with presentation of more than one model in the offer. Since, there was only one model in the analysis so it was meaningless. The rows have regression, residual and total variance values which were divided into different categories. Likewise, sum of squares is concerned with also associated with regression related variance and error related variance. Likewise degree of freedom is concerned with N minus one, since there are six coefficients in the model so the value of degree of freedom is 5. Value of F-statistics is computed by dividing mean square of regression with mean square (residual). In case of this research, it was 2479.118/52.395 = 47.32. Likewise, value of p is associate with confidence level. In case of this research value of F-statistics and value of p are acceptable so it was decided by the researcher to proceed further with analysis.
From the above table multiple regression equation can be developed. This is given below.

\[
\text{FUI} = 12.230 + 0.376 \text{PEoU} + 0.554 \text{PU} + 0.503 \text{IOU} + 0.266 \text{DoA} + 0.509 \text{FC} \quad \text{(Equation 4.1)}
\]

The alphabetical codes give in the above table can be explained as under.

- FUI = Future Usage Intentions of Users of Mobile Banking Applications
- PEOU = Perceived Ease of Use
- PU = Perceived Usefulness
- IOU = Innovativeness of User
- DoA = Design of Application
- FC = Finance Cost

The above table shows that all of these factors are positively associated with future usage intentions of mobile banking application. Perceived usefulness, innovativeness of users and finance cost are bigger influencers as compared to other factors. In addition to these, level of significance for all of these variables was provider. These values are according to the requirement so it was plausible for the researcher to proceed further with analysis (Hair, 2009). Discussion on these findings will be presented in the next chapter.

4.4: Summary:
This chapter gave presentation of findings of the survey which was carried out for this research project. At the outset of this chapter, an account of reliability of findings was presented. It was found by the
researcher that all findings were plausible. Further to this, it was found that MBA is more popular among educated people rather than less educated people. Likewise, it was less popular among businessmen as compared to salaried class. Using factor analysis, different factors were extracted which were MBA is understandable, easier for one to become skillful in using MBA, can process more banking transactions, always available, user an unconventional person, user prefer to experiment new things in life, user prefer to obtain information about new products, MBA is secure, MBA has a pleasant experience on my mood, easier to navigate MBA, user can customize MBA according to my needs, MBA gives me opportunity to compare charges with competitors, MBA saves transportation cost, to and from stores and MBA saves time of visiting Bank. Moreover, influence of independent variables (perceived ease of use, perceived usefulness, innovativeness of user, design of application and finance cost) on dependent variables was future usage intentions of users of mobile banking applications were also evaluated. In the next chapter, discussion on findings will be presented.
SECTION 5: DISCUSSION

In the previous chapter, researcher presented findings of research along with related analysis. In this chapter, researcher will present discussion on the findings of research project. These findings are linked with relevant research objectives so that things can be put into perspective.

5.1: Discussion on Contextual Findings:

The contextual findings of this research project revealed that majority of the people who participated in this research project were male. Pakistan is a male dominated society where participation of males in the job and business sector is more. Likewise, participation of males in the education sector is also more as compared to females. This may have become basis of more representation of males in using mobile shopping applications (as in the case of this research, use of mobile banking application). While interpreting main findings of this research, it should be remembered that these findings originate from the work of males. At the same time, there is need of increasing representation of females among mobile banking application users. Further to this, it was also observed during analysis of contextual findings that majority of the people had been using mobile application at least once in a week. This is an indicator of good penetration of mobile banking application among the people who are using it. Keeping this mind that mobile applications are not very old, there are chances that usage of mobile banking application would increase in future. This is consistent with the findings of Wu et al. (2014) who highlighted that use of internet based business transaction would rise in future.

An analysis of relative popularity of mobile banking application among employees and businessmen revealed that use of mobile banking application is more prominent among employees as compared to businessman. One of the underlying reasons for this is that employees received after-tax salary from their employees and have white money. They do not need to hide their money from tax authorities whereas businessmen try to hide their incomes and spending so that they do not have to pay taxes. When one uses a mobile banking application or card, let’s say, then his spending gets documented and based on such documentation, tax department would have an idea of their incomes. Keeping this thing in mind, use of mobile banking application is not very popular among businessmen as compared to employees.
An analysis of age group of the people revealed that there none of the respondent was over 40 years of age. This may be because that at these people either are less risk-takers or generally hesitate from learning new things. In case of Pakistan, since MBA is not a very old phenomenon so it is taking time to penetrate in the market especially among the people who are of old age. This is a matter of concern as a large chunk of the market is not using MBA. This requires attention. If an awareness of these things is created among the people then they would have an idea of benefit of MBA which may, in-turn, motivate them towards using these mobile applications. Generally, older people have higher salaries and income so if these are targeted then there are chances that these people are attracted towards the business and as the result of such attraction organizations which are engaged in mobile commerce would earn more revenues.

It was also observed during analysis of contextual findings that there were very few less educated who were using MBA. In fact, educated people were the majority that was using MBA. An underlying reason for this could be lack of awareness among the people as well as difficulty in using MBA. It was also noted by the researcher that MBA was in English, which was non-native language of Pakistan. If, somehow, this difficulty is overcame then people may use MBA more than before.

5.2: Discussion on Research Objective 1:
First research objective of this research project was to analyze the extent to which the new mobile scenario able to change consumers established shopping behavior and to evaluate main drivers of new consumers shopping behavior. The findings came up in five areas. These five areas were perceived ease of use, perceived usefulness, innovativeness of user, design of application and finance cost.

An analysis of important dimensions of perceived ease of use for MBA reveals that users of MBA indicated that for them, it is understandable. As a matter, when this mobile banking application was designed, it was kept in mind that people who do not have technical banking background would have to use it so it was made as easy to use as possible. The software program developers carried out several evaluations of beta versions of the mobile program before actually launching it. Further to this, it was also observed during this research project that users of MBA feel that it is so easy to use that over time, they quickly become skillful in using it. The underlying reason for this was the fact that once the mobile banking application program was
launched, the developed did not make any change in the layout of the application. Since users did not find any different graphical users interface and layout, they did not find much problem in using mobile banking applications. This had made things easy for them. These findings, related to perceive ease of use, were consistent with the research carried out by Davis (1989) who highlighted that perceived ease of use is one of the important factors which may increase the level of technology adoption. The findings of this research work is also consistent with the work of Schnall et al. (2014) who highlighted that level of adoption of mobile application system increases if the person becomes skillful which leads to an increase in clarity and understanding.

Further to this, an analysis of important dimensions of perceived usefulness ease of use for MBA reveals that users value MBA as they perceived that using MBA for banking purpose is useful. As a matter of fact, users can use MBA for banking transaction without visiting bank branches. All they have to do is that they have to login they bank account from their telephone, tablet/ipad, laptop or desktop computer. They can use it while they are away from their home or even city and country. This is a great convenience for the customers as it not only saved lots of hustle of the customers but also at the same time and money which customers have to spend if they have to be in bank for some form of banking transaction. Likewise, findings of this research also indicated that customers perceived MBA to be useful as it is available round the clock. The time-less operations of MBA is a very important advantage of MBA as unlike traditional banks where customers have to visit banks during banking hours, in case of MBA, customers can use mobile application at any point of time. This is a great utility as money transfer, bill payment, balance inquiry, etc. can be performed round the clock. These findings, related to perceive usefulness, were consistent with the research carried out by Davis (1989) and Schnall et al. (2014) who highlighted that perceived usefulness of a software program increases the level of penetration of among users. If the customers find any use of an application then become inclined towards it and would be interested in using it.

Third factor, which was evaluated in this research project, was level of innovativeness of customers. An analysis of important dimensions of level of innovativeness of customers reveals that self-perception of the customers is also important for the customers. If the customers consider themselves as an unconventional person then they tend to use new products and services
which are offered in the market place. This self-perception of the customers may encourage him to leave old or routine products or services, which were also used by other people in the market. Such people generally tend to be unique so they leave those products and services, which are used by lots of people in the market space and try to purchase those which are not used by majority. Further to this, findings related to level of innovativeness of customers reveal that customers if the level of innovation among customers is high then they tend to experiment new things. Since, MBA is not very old in the market space so there would be a significant majority, which yet have to try it for the first time. It is the time, when banks have started promoting their e-banking (both mobile application as well as website) facilities as now customers have more knowledge as well as access to Internet. This will create awareness among the people and they may consider using it. Generally, when organizations promote their products and services, they highlight benefits associated with use of such products and services. In case of mobile banking applications, when banks and their employees would promote use of mobile banking applications then there are chances that customers may become interested in using. It would create a situation where customers would abandon using traditional banking channels or may start using mobile banking applications in addition to traditional banking channels. Another important findings of this research was related to the level of interest of these people which they show obtaining new products and services from the customers. Such people continue browsing information about new products and services. If any product or services match to their interests and requirements then they tend to purchase and use it. In case of MBA, customers had the options to receive information related to MBA from the websites of banks as well as from the published material. Likewise, customers may also obtain information about mobile banking application from the help menu of the software application. This information can be obtained once customers would have installed application on their computer systems (laptop, phone, desktop, etc.). Findings of this research are consistent with the work of Siu and Chang (2015). They highlighted that if a person is curious then that person attempts to try new things in life. Likewise, if a person intends to experiment new things, this will link to the level of innovativeness of the person. Further to this, findings of this research also corroborate the research work of Lin et al. (2013) who suggested that customers purchase products to promote their self-image. It was found in this research that customers wants to purchase new things as they perceive themselves to be risk takers and innovative. Likewise, findings of this research were aligned to the work of Siu and
Chang (2015) who suggested that if a person tends to try new products and services, then his level of innovativeness would be high.

Fourth factor, which was evaluated in this research project, was design of application. An analysis of important dimensions of design of application revealed different factors which were associated with the design and use of application. To start with, customers preferred using mobile banking application as they considered it to be secure. Since, banking transactions involve financial considerations so it remained a matter of major concern for the people who participated in this research project. If customers feel that their account would not be hacked then they will have a sense of security and they will be more inclined towards using mobile banking applications. As a matter of fact, banks are offering insurance packages to their customers which ensure that in the event of any online fraud, banks would indemnify their customers. This increases the level of penetration of mobile applications among the customers. In continuation to this, researcher also found that users of mobile banking application enjoy using it. This is because of pleasant interface of the mobile application. If the interface is attractive then customers will be happy and would be more interested in using it in future. Different aspects of application design which have a pleasant impact on the working of the people include its layout, color, pictures, text size, etc. It was also found that during the research that some of the companies who were offering MBA, had also provided customers option to customize the application so as to match their requirements or personality. This include changing background color, background picture and text size. This enhances users’ experience from MBA and they would continue using mobile banking applications in the time to come. Likewise, researcher also found that for users of mobile banking application, it is important that MBA should be easier to navigate. As it is suggested earlier, layout of MBA was a key element related to application design. It is further highlighted here that in order to make navigation of application easier, both menu based and icon based options were provided to the customers. Based on their convenience, they can select either of the two. The desktop versions of these applications were also developed in such a way that users can give commands to the application by using keyboard. This is to say that difference keyboard shortcuts were provided, so that customers do not have to switch between keyboard and computer mouse. The last two factors which were extracted were opportunity of customizing MBA according to customers’ needs and wants as well as MBA gives opportunity to compare charges with competitors. For customizing mobile banking
application, customers can change color, theme and background picture. Researcher has also explained this factor. So far, opportunity to compare charges with competitors is concerned; mobile banking applications provide details of service charges. A user of MBA can download or access more than one mobile application programs. By doing that, they can have information about the service charges of different banks. This would serve as the basis of comparison of service charges. This information may be used for making decision related to deciding whether to work with a bank or not. In tradition banking environment, a person has to visit branches of different banks so that this information can be obtained by the users. This may help them in coming up with an informed decision, which may directly influence their financial well-being. The findings in this area are consistent with the work of Dedeke (2016) and Ahmed et al. (2010a) who highlighted different factors which were associated with design of applications. They highlighted that customers want to use a mobile application, which has aesthetics that match to their personality. According to Dedeke (2016) customers would prefer using a mobile application program if it is easier to navigate. This was also confirmed during this research. Likewise, Ahmed et al. (2010a) added that mobile application environment should be eye-catching and appealing. This was also confirmed during this research.

The last factor was financial cost. It was observed during this research project that customers gave due importance to money spent on using banking services. Customers favored using mobile banking application as they perceive that using mobile banking application saves transportation cost which they have to spend when they to go or come back from branches of the bank. This is, actually, a direct out-of-the pocket expense that they have to spent for accessing banking services and then coming back to their offices or homes. By using MBA, users do not have to leave their offices and they can use their bank accounts. This is a great convenience for the customers. Further to this, using MBA from the offices or homes also saves time of the customers as they do not have to visit banks. Time saving, in most cases, is an implicit saving yet it is highly valuable as users can save time and can spend this time elsewhere (like in other important tasks at home or office). For busy professionals, time saving is an important thing as this helps them stay focused on their day-to-day work and at the same time, accessing their bank accounts. The findings in this area are also consistent with findings of earlier researchers. For example, Ahmed et al. (2010b) suggested that financial issues are an important determinant of whether someone uses a software program or not. If using an application saves money or other resources, then
people may be attracted towards using it and vice versa. Transportation cost is one of the important elements of overall cost, which a person has to spend when he has to use banking services.

5.3: Discussion on Research Objective 2:
Second research objective of this project was to evaluate the impact of drivers of mobile-shopping on future purchase intentions. Findings related to this research objective are given below.

\[ \text{FUI} = 12.230 + 0.376 \text{PEoU} + 0.554 \text{PU} + 0.503 \text{IOU} + 0.266 \text{DoA} + 0.509 \text{FC} \] (Equation 4.1)

The alphabetical codes give in the above table can be explained as under.

FUI= Future Usage Intentions of Users of Mobile Banking Applications
PEoU = Perceived Ease of Use
PU = Perceived Usefulness
IOU = Innovativeness of User
DoA = Design of Application
FC = Finance Cost

The above findings suggest that all of the independent variables have some form of influence on the independent variable which is future usage intentions of users of mobile banking applications. Moreover, all of these independent variables are positively associated with dependent variable. This means that as the values of these independent variables would increase then it would have an influence on the dependent variables. The values of these five independent variables show their relative influence on the independent variables. For example, the coefficient of perceived usefulness given in the equation 4.1 is the highest. This is an indicator that it is the most influential determinant of future usage intentions of mobile banking application. The value for this variable was 0.554. Likewise, the values for future cost and innovativeness of users was
low. This is an indicator that these variables are less influential as compared to perceived usefulness. Likewise, the weakest predictor of future usage intention was perceived ease of use.

The findings related to this research objective were consistent with the work of Davis (1989) suggested that there are two factors which increase the chances of acceptance of penetration of a technologically advance product. These two factors were perceived ease of use and perceived usefulness. Likewise, Siu and Chang (2015) highlighted that personal characteristics of a person influence his current or future purchase intentions. They highlighted that if a person is curious then that person attempts to try new things in life. Likewise, if a person intends to experiment new things, this will link to the level of innovativeness of the person. According to Lin et al. (2013), if a product helps a person fulfills his self-image then there are increased chances that if future that product/service will be purchased by the customer. Further to this, Dedeke (2016) suggested that there is a link between design of a product and its future or current usage. Finally, Ahmed et al. (2010b) suggested that an important factor which may have an influence on the preferences of the customers is the cost of obtaining that product or service.

**5.4: Summary:**

In this chapter, researcher presented discussion on findings of research project. These findings were linked with relevant research objectives so that things can be put into perspective. In the next chapter, conclusion and contribution to research will be presented.
CHAPTER 6: CONCLUSIONS AND CONTRIBUTIONS

In this chapter, conclusion of research will be given. This will be accompanied by contribution to knowledge by the researcher.

6.1: Conclusion of Research:

Huang (2014) highlighted influence of advancement in information technology and suggested that it has influenced various aspects of human lives. It has penetrated various aspects of human life and lots of activities of life have now become dependent on use of information technology. If one excludes information technology from today’s life, then lives of human would be very different. Registering course on University’s website to tracking daily walk patterns, technology is helping human beings in various spheres of life (Legris et al., 2003). We use technology for getting in-touch with each other. People use technology to carry large amount of data with each other. Venkatesh et al. (2012) suggested that over the period of information technology has evolved and during such evolution it brought ease to human lives in various ways. The penetration of information technology is likely to increase in future.

In the last few years, considerable research has been conducted which covered different aspects of online shopping. A notable and recent work was carried out by Pantano and Priporas (2016) who conducted research to investigate consumers' motivation to change their shopping behavior in the new mobile marketing context and develop understanding of this new consumer experience and how it might create value for mobile consumers. Pantano and Priporas (2016) differentiated online (website) shopping experience from mobile shopping experience and highlighted that overall experience of using mobile technology for shopping adds to the customers’ value. They highlighted number of factors which motivated customers’ towards using mobile phone for shopping using mobile phones. These factors include time saving, security, and cost-efficiency, link with life-style, transaction security and better service quality. Pantano and Priporas (2016) distinguished value received at the time of buying a product and value received by a customers from using a product and added that customers are willing to switch from traditional purchase channels to mobile-shopping channels as they receive unique value while buying through mobile-shopping channels. Their findings are consistent with the work of Xie and Shugan (2001) and Verhoef et al. (2009). Further to this, Wang et al. (2015) suggested that
over the period of time, mobile shopping became important in marketing and retailing. They evaluated and highlighted that with the emergence of mobile banking, preferences of consumers have widely changed. Moreover, the extent of penetration of mobile shopping is also increasing so it is important for the business organizations to evaluate the factors, which motivate customers towards using mobile-commerce. Moreover, Lu and Yu-Jen Su (2009) and Yang (2010) suggested that organizations should analyze the preferences of consumers towards mobile-commerce and incorporate those in their business strategy. Pantano and Priporas (2016) suggested that web-based and mobile-based environment are very similar to each other in helping customers purchase from a website. However, since customers prefer mobile-shopping environment over internet-shopping environment. This requires an analysis of such preference. The current research was based on the future research areas highlighted by Pantano and Priporas (2016) and covered the limitations of their study using a larger sample (150 customers) using the context of Pakistan. Shahid et al. (2015) highlighted that mobile-phone industry of Pakistan is one of the vibrant industries of the world. The mobile-density of Pakistan is one of the highest of Asia. The findings of this researcher revealed different dimensions of independent variables. For perceived ease of use, these dimensions were understandable and easier for one to become skillful in using MBA. Likewise, for perceived usefulness, these dimensions were opportunity of processing more banking transactions and always available. Further to this, for innovativeness of user, these dimensions were being an unconventional person, prefer to experiment new things in life and prefer to obtain information about new products. Likewise, for design of application, these dimensions were using MBA is secure, using MBA has a pleasant experience on my mood, easier to navigate MBA, can customize MBA according to my needs and MBA gives me an opportunity to compare charges with competitors. Finally, for finance cost these dimensions were using MBA saves transportation cost, to and from stores and using MBA saves time of visiting Bank. In addition, this study helped in identification of relative importance of different independent variables on the dependent variables. It was revealed that perceived usefulness is the most influential factor which influences future usage intentions of the people whereas design of application is least influential factor. Likewise, finance cost and innovativeness of users are also important factors.

6.2: Contribution to Previous Knowledge:
In this section, researcher will highlight the extension to present body of knowledge.
1- This study confirms the work of Wu et al. (2014) who highlighted that in future, internet based business transaction would wise. In this research, participants indicated that they have been using mobile banking and in the time to come, they will continue to use mobile banking applications.

2- This study helped in identification of important dimensions of perceived ease of use related to mobile banking applications. These dimensions were understandable and easier for one to become skillful in using MBA.

3- This study helped in identification of important dimensions of perceived usefulness related to mobile banking applications. These dimensions were opportunity of processing more banking transactions and always available.

4- This study helped in identification of important dimensions of innovativeness of use related to mobile banking applications. These dimensions were being an unconventional person, prefer to experiment new things in life and prefer to obtain information about new products.

5- This study helped in identification of important dimensions of design of application related to mobile banking applications. These dimensions were using MBA is secure, using MBA has a pleasant experience on my mood, easier to navigate MBA, can customize MBA according to my needs and MBA gives me an opportunity to compare charges with competitors.

6- This study helped in identification of important dimensions of finance cost related to mobile banking applications. These were using MBA saves transportation cost, to and from stores and using MBA saves time of visiting Bank.

7- This study helped in identification of relative importance of different independent variables on the dependent variables. It was revealed that perceived usefulness is the most influential factor which influences future usage intentions of the people whereas design of application is least influential factor. Likewise, finance cost and innovativeness of users are also important factors.

8- The current research was based on the future research areas highlighted by Pantano and Priporas (2016) and covered the limitations of their study using a larger sample (150 customers) using the context of Pakistan.
CHAPTER 7: LIMITATIONS, MANAGERIAL IMPLICATIONS, FURTHER RESEARCH

In the previous chapter, conclusion of research was given. In this chapter, limitations, managerial implications and future research for this project.

7.1: Limitations of Research:
1- The first limitation of this research is use of sample. If the data would have been collected from population, findings would have been more reliable.

2- Researcher did not have opportunity of corroborating findings of this research.

3- This research did not use qualitative research methods. Had those been used, an in-depth analysis of different issues would have been carried out.

7.2: Implications of Research:
Third research objective of this project was to recommend to organizations who use mobile technologies for selling their products/services. The recommendations related to this research project are given below.

7.2.1: Focus on Females as Well:

Table 4.2 shows that majority of the people who had been using mobile applications were males. It is suggested that banks should also focus on provision of mobile banking services to females as well. In case of Pakistan, females are almost as many as males. So, focusing on both males and females at the same time, will provide banking organizations to increase their market share.
7.2.2: Create Awareness of MBA among older people:

Table 4.6 and chart 4.5 shows that none of the respondents were older than 40 years of age. This is a matter of concern for the people who are engaged in provision of mobile banking applications or in Internet business as a significant segment of market is not using mobile banking applications. A considerate effort is required so that these people may create awareness among people and based on this more and more people can be convinced towards using it.

7.2.3: MBA in Native Language:

It was also observed during analysis of contextual findings that there were very few less educated who were using MBA. In fact, educated people were the majority that was using MBA. Researcher noted that MBA is available only in English language (not in Urdu, which is native as well as official language of Pakistan). It is suggested that MBA should also be made available in local language so that more and more people can use it and can get benefit out of this.

7.2.4: Focus on Perceived Usefulness:

The multiple-regression equation suggested that perceived usefulness is one of the most important determinants of future usage intentions of the customers. It is suggested that mobile banking application providers should focus on enhancing this feature of their application so that more and more customers may adopt it.

7.2.5: Focus on Cost Efficiency:

The multiple-regression equation suggested that finance cost is one of the most important determinants of future usage intentions of the customers. It is suggested that mobile banking application providers should highlight that using mobile banking application is cheaper and they should inform this thing to their customers. By doing this, they will have a good response from the customer as the level of penetration of MBA would increase.
7.3: Directions for Future Research:

Following are suggestions for future research.

1- It is suggested that future researchers should select a larger sample and conduct this research on such larger sample and apply research methods on it. Keeping all other factors contact, findings based on a larger sample are more reliable and have more potential for generalization (Bryman and Bell, 2007).

2- It is also suggested that future researchers should conduct a similar study in other settings so that findings of this research can be checked in other areas. These other settings could be different industries (retail, trade, and telecommunication) or different countries.

3- It is suggested that future researchers should include more variables in the model so as to evaluate the relative impact of other variables on the model.

3- It is also suggested that future researchers should use independent variables as moderate and mediating variables and evaluate their impact on future usage intentions of mobile banking application.
REFERENCES


APPENDIX

QUESTIONNAIRE

This questionnaire is divided in two parts. The first part of this questionnaire deals with analysis of different factors, which generally motivates people towards using mobile commerce. In the second part of this questionnaire, demographics features of people who are participating in this research will be asked.

If you have never used a mobile application for buying any product/service, then please return this questionnaire to the person who provided you this questionnaire.

PART A

This is the first part of the questionnaire and deals with analysis of factors which motivates people towards using mobile commerce. Please share your feelings about these factors. The researcher has developed a scale on which you can share your feelings. A scale is developed and presented below.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree

If you would select 5, then it would mean that you are strongly agreed with the statement. Similarly, if you would select 2 then it would mean that you disagree with the statement. The statements are given below.

<table>
<thead>
<tr>
<th>FACTORS THAT MOTIVATE TOWARDS MOBILE BANKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTORS</td>
</tr>
<tr>
<td>PERCEIVED EASE OF USE</td>
</tr>
<tr>
<td>1 It is easier to learn how to use mobile banking application (MBA).</td>
</tr>
<tr>
<td>2 I am able to handle day-to-day problems related to MBA.</td>
</tr>
<tr>
<td>3 I can easily get what I want from MBA.</td>
</tr>
<tr>
<td>4 It is easier for one to become skilful in using MBA.</td>
</tr>
<tr>
<td>5 MBA is understandable.</td>
</tr>
<tr>
<td>6 It is easier for me to interact with MBA.</td>
</tr>
<tr>
<td>PERCEIVED USEFULNESS</td>
</tr>
<tr>
<td>7 MBA helps me in accomplishing my job in a batter way</td>
</tr>
<tr>
<td>8 MBA helps me in accomplishing my job quickly.</td>
</tr>
<tr>
<td>9 MBA helps me in controlling my finances.</td>
</tr>
<tr>
<td>10 MBA is always available.</td>
</tr>
</tbody>
</table>
Because of MBA, I can process more banking transactions.

LEVEL OF INNOVATIVENESS OF USER
- I am curious about new things in life.
- I prefer to experiment new things in life.
- I take chance in life.
- I am an unconventional person.
- Using MBA is innovative.
- I prefer to obtain information about new products.

DESIGN OF APPLICATION
- Using mobile application is easier.
- MBA gives me an opportunity to compare charges with competitors.
- I can customize MBA according to my needs.
- It is easier to navigate MBA.
- Colour of MBA matches to my requirements.
- MBA have the option of customization.
- Aesthetics of MBA matches to my personality.
- Using MBA has a pleasant experience on my mood.
- Using MBA is secure.

FINANCIAL COST
- Using mobile banking application is cheaper.
- Using MBA saves time of visiting Bank.
- Using MBA saves transportation cost, to and from stores.

PART B

This is the second part of the questionnaire and deals with general profile of the customers. Please select the option which best applies to you.

Question 1: What is your name? (optional)

Question 2: What is your gender? (select one)
- Male
- Female

Question 3: Where do you live? (select one)
- Lahore
- Multan
- Sialkot
- Rawalpindi

Question 4: How often do you shop using mobile applications? (select one)
- Daily
- Once in a week
- Once in a Month
- Very seldom

Question 5: What do you do? (select one)
- Student
- Businessman
- Employee

Question 6: How old are you? (select one)
Less than 20 years □ 21 to 25 □ 26 to 30 □ 31 to 35 □ 36 to 40 □ 41 to 45 □ 46 to 50 □ 51 to 55 □ 56 to 60 □ 61 and above

**Question 7:** What is your education level? *(select one)*
- □ Under Matric
- □ Matric
- □ FA/FSc/ICom
- □ Graduation
- □ Masters
- □ PhD
- □ Profession Qualification

**Question 8:** Will you continue using mobile-banking facilities in future? *(select one)*
- □ Definitely Yes
- □ Yes
- □ Not Sure
- □ No
- □ Definitely Not

Thanks for your Time and Support.