FACTORS DETERMINING CUSTOMER SATISFACTION IN PAKISTANI BANKS: A STUDY ON ATMS

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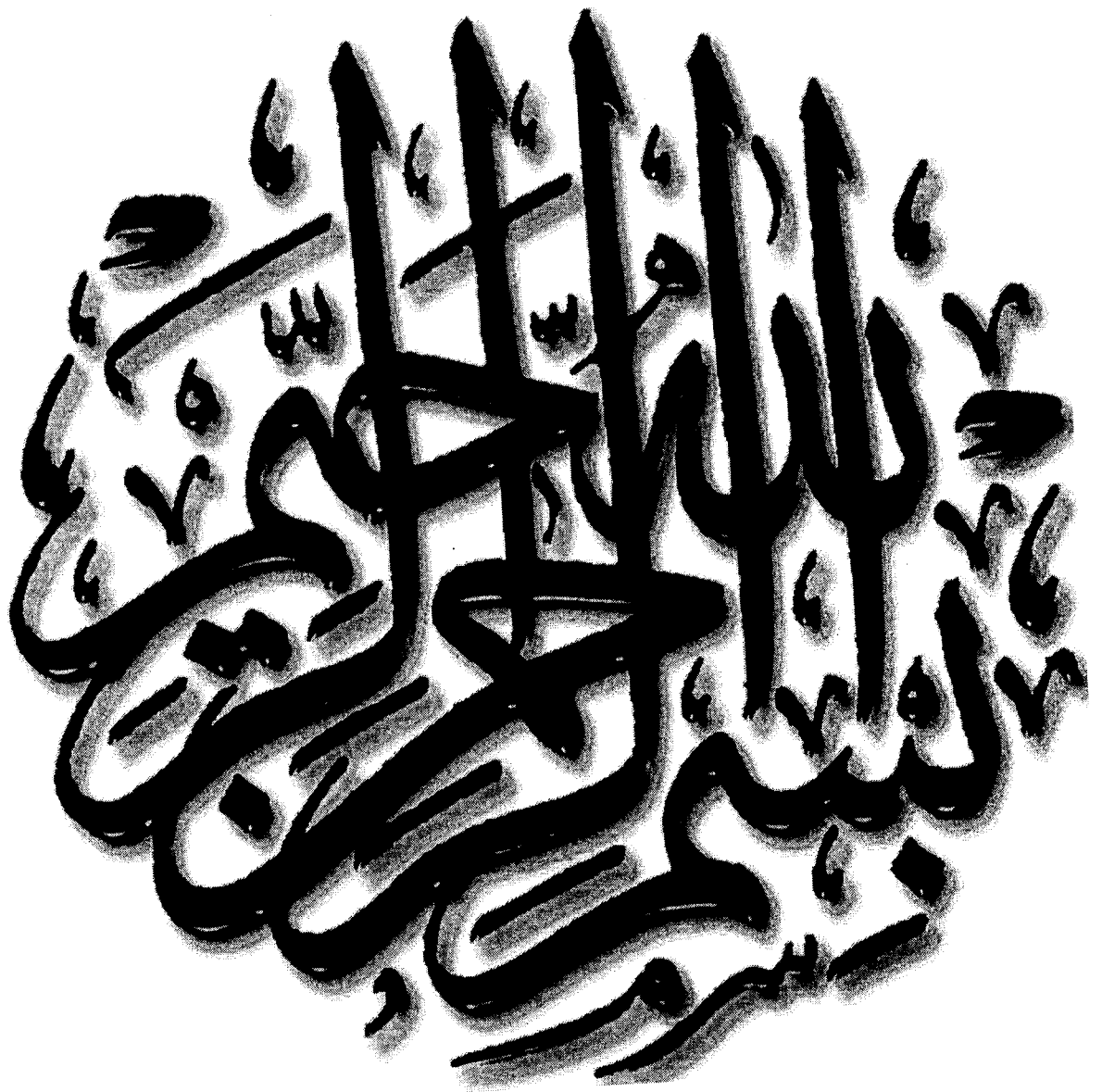
consumer satisfaction
organizational effectiveness

FACTORS DETERMINING CUSTOMER SATISFACTION IN PAKISTANI BANKS: A STUDY ON ATMS

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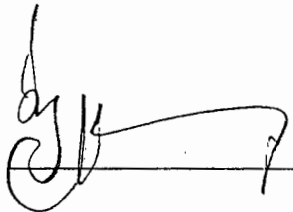International Islamic University,
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Syed Nayyer Abbas Kazmi

February, 2010

بسم الله الرحمن الرحيم

FORWARDING SHEET

The thesis entitled <u>Factors determining Customer Satisfaction in Pakistani Banks: A Study on ATMs</u> submitted by <u>Kausar Fiaz Khawaja</u> in partial fulfillment of MS. Degree in Management Sciences with specialization in Technology Management has been completed under my guidance and supervision. I am satisfied with the quality of students research work and allow him to submit this thesis for further process of as per IIU rules and regulations

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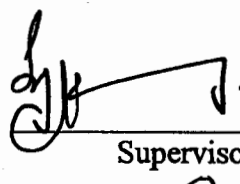
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DEDICATION

Dedicated to Mummy and Papa

ABSTRACT

In Pakistan a tremendous rise in the usage of ATM has been seen, as banks are installing more ATMs in near by vicinity of customers. Moreover the inter connectivity of all banks also facilitate customers to withdraw cash from branches other than their own banks. Keeping in mind the importance of technology based self service, different researches has been conducted in other countries. Present research was conducted for evaluating the customer satisfaction towards ATM in Pakistani Banks. Quantitative data was collected through Questionnaires and interviews from Telecom sector organizations, Entrepreneurs and Universities. Qualitative data was collected through past literature and bank reports. Review of the literature and 80% responses received through questionnaires suggested that only two factors (Benefit, Behavior) have a positive impact on customer satisfaction, whereas personality has no impact over customer satisfaction. It was also investigated that Consumers of different age groups, Education level and Occupation view technology from different perspective, according to their usage and need.

Service providing companies play a significant role in creating a strong relationship between the user and technology. Different technology based self service have been developed, and is needed to be examined. However, the research is limited to the banking sectors (ATMs) only. The proposed conceptual model explains factors that determine customer satisfaction by using ATM. The researcher conjectures that factors in the model has its importance and must by used by the banks for exploring the customer satisfaction towards ATMs.

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DECLARATION

I, _Kawar Fiaz Khawaja_ Son/Daughter of _Fiaz M.O. Khawaja_
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being handed over to the competent authority, has not already been submitted or

published and shall not in future be submitted by me for obtaining any degree from

another university or institution.

I also confirm that this thesis is entirely my own work. It has not, in whole or in

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<div align="right">Kausar Fiaz Khawaja</div>

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CHAPTER 1

INTRODUCTION

It is indeed, very difficult for service providing companies to serve their customers efficiently and satisfy them with different services. Luckily technology plays this vital role and helps companies in providing these services efficiently and safely. Customers use different technologies in their daily life (like: Cell Phone, ATM, Computer etc.). A major challenge for companies is to pay attention towards the perception of customers, whether they are willing to adopt technology or not. Dabholkar (1994), Parasuraman, Zeithmal, and Berry (1994b) investigated that customer satisfaction towards technology depends on their preference level towards that service. Higher the preference level of a customer towards ATM usage, the higher will be his satisfaction. It has been investigated that demand for a service varies among customers, on the basis of their wants, needs, expectations, perfect standards, and preferred services (Teas, 1994). Service providers must consider these characteristics while fulfilling the expectations of customers (Parasuraman, Zeithmal, & Berry, (1985), (1994b), (1998)).

Services of automated teller machine (ATM) flourished in America in the mid 1970s (Stavins, 2000). However, in Pakistan this service was introduced in the Late 1990s, and flourished between 2005 -2007 (State bank, 2000-2008). Now banks are offering more services based on the research conducted over the customer preference.

This study explores customers satisfaction towards automated teller machine, for customers of different age groups, education level, and gender. The research views that the preference of a customer towards ATM depends upon the personality of a customer, benefits provided by ATM, relationship between the bank and customer, and user behavior over information system. Preference of a customer is used to explain the satisfaction of users towards ATM.

ATM ACCEPTANCE STUDIES

In a competitive business environment, financial organizations are emphasizing on technology based self- services. Banks prefer the use of technology to achieve better customer satisfaction, and higher market penetrations. Moutinho and Curry (1994) investigated that bank managers evaluate customer satisfaction and preference through the adoption of new technology based self-services. These include E-banking, E-care, E-customer service, E-billing, and ATM. Further investigated, that the productivity of ATM

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was due to the availability of ATMs at nearby locations, and interconnected networks (Leonard and Spencer, 1991; Moutinho and Curry, 1994).

Murdock and Franz (1983) reported that in spite of the advantages of these new technologies, a large number of customers still resist in using ATM, because they feel somewhat embarrassed and degraded. This resistance can be overcome by creating awareness about the technology and assuring its benefits to customers (Stemper, 1990, p. 127). Several researches indicate that ATMs provide great satisfaction to its consumers, and their use is profitable for banks, because the access of customers to bank transactions can be spanned over 24 hours a day and 365 days a year.

Further research confirmed that customer satisfaction is related to location, accessibility to ATMs, and willingness to accept new technology (Moutinho & Brownlie, 1989). But bank customers are moderately satisfied with the ATM service due to errors in the statement, long queues for the ATM machine, unavailability of amount in machine, or breakdown of ATMs (Howcroft, 1991). Therefore loyalty of a customer towards a bank is likely to undergo a change due to increased competition and the use of advanced technology. A competitive bank for future would be the one that offers speedy technology and trained staff (coyle, 1999). Barnes and Howlett (1998) investigated a complete transformation of traditional bank-customer relationship, due to the induction of technology between them and observed a huge market share and loyal customers, on sustainable basis.

Research conducted over the relationship among the respondents of age group 18-25 and the data held by financial institutions revealed that this age group people have

accounts in more than one bank, because of convenience, more services offered, more ATMs, 24- hours' availability of ATM and location (Lewis & Bingham, 1991; Meller, 1993; Almossawi, 2001). They preferred to use ATMs due to their approach towards computer-based activities.

TAM AND RELATED STUDIES

Although, organizations depend on efficient information systems for reducing costs, increasing productivity with quality of services or products (Lederer, Maupin, Sena, & Zhuang, 1998). Yet due to the implementation of information system employees feel dissatisfied, or have a potential threat in their minds of losing their jobs or their powers due to which they resist. It has been evaluated that one of the major risks associated towards adopting an information system is user resistance and could be overcome through employee training programs (Venkatesh & Davis, 1996; Succi & Walter, 1999, Kwon and Zmud, 1987).

Ives, Olsaon, and Baroudi, (1983) suggested that success of a system does not merely depend upon its technical quality, but also upon the effectiveness and efficiency of the system. Hence success of a system could be measured through the level of ease, usefulness and satisfaction users receive while using a technology.

Davis (1986) introduced a Theory of Reasoned Action (TRA) followed by Technology acceptance model (TAM) (Davis, 1989) and found that perceived ease of use

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and perceived usefulness has a significant impact on the technology acceptance. Theory of Reasoned Action (TRA) is used in predicting and explaining the behavior of a user towards a system. TAM explains that the actual system usage is determined by users' behavioral intention to use, their attitude, ease of use and perceived usefulness. In TAM these beliefs have key significance for technology acceptance. Recent research extended TAM to TAM2, explaining how subjective norms and cognitive instrumental process affect Perceived usefulness and intention (Venkatesh & Davis, 2000). TAM has been found best in explaining user attitude towards an information system than TRA and TPB (Davis, 1989; Davis, Bagozzi & Warshaw, 1989; Mathieson, 1991; Adams, Nelson, & Todd, 1992; Davis 1993; Segars & Grover, 1993; Taylor & Todd, 1995).

"Information Technology (IT) in Pakistan is being applied in industry, trade, publishing, accounting, graphics, advertisements, movie-making, or routine office work" Aslam (2000). Currently, we are experiencing an IT Revolution which resulted in a great demand for IT applications in Pakistan.

ATMS IN PAKISTAN

In recent years, Tele Banking, Credit and Debit Cards, Automated Teller Machines (ATM), Online Banking, etc. have brought about a transformation of traditional banking products and services in Pakistan. Foreign banks introduced credit cards in Pakistan in mid-1990s (State Bank of Pakistan, 2003). This was followed by the domestic banks, as a

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result of which ATMs were introduced in Pakistan in late 1990s. This late entry in electronic-banking can be explainable by the regulatory hurdles, higher start-up costs, and lack of technical skills.

Nowadays, commercial banks have placed their own standalone ATM network, offering 24 hours services, at convenient locations. Different Pakistani banks are interconnected, and help users for transaction through ATM of other banks.

Other e-banking activities are still to start. Services offered through ATM in Pakistan are: cash withdrawals, balance information, PIN change, and to print mini-statement. Figure 1.4-1, 1.4-2, 1.4-3 depicts the numbers of ATMs, number of transaction and total cash transaction in each year. The ATM transactions and number have recorded significant growth from year 2005-2008.
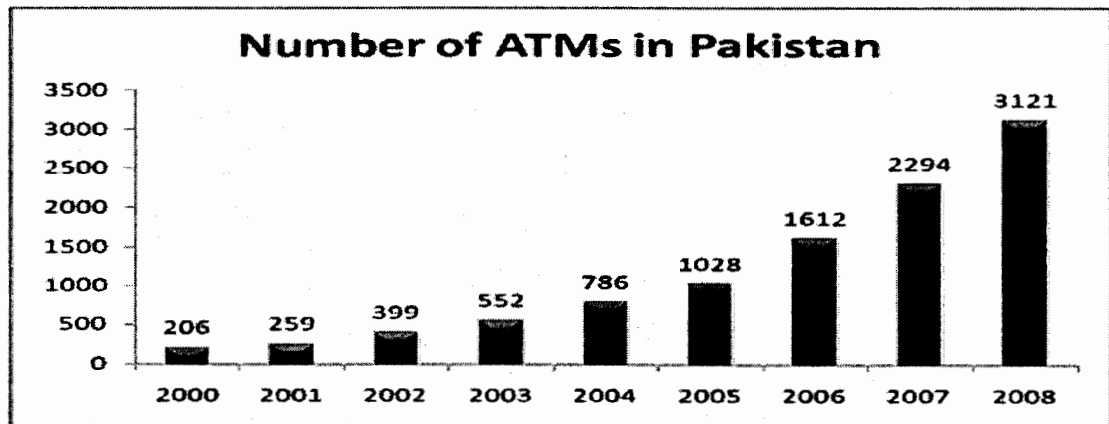
Figure 1.4-1 Number of ATMs in Pakistan (State bank of Pakistan, 2000-2008)

Figure 1.4-1 depicts that number of ATM in 2004 was 786. In 2005 this number increased to 1028 showing an increase of 23.5%, whereas in 2007 there was 2294 number

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of ATMs in Pakistan. These tremendous increases in number of ATMs could be due to

awareness of technology and less fear for use it.
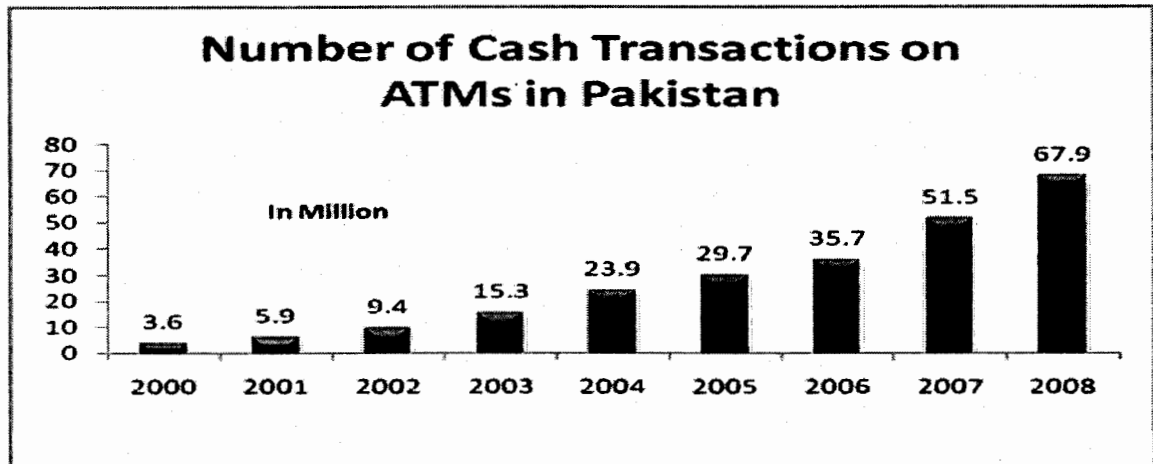
Figure 1.4-2 Number of Transaction by using ATM in million (State bank of Pakistan, 2000-2008)

Figure 1.4-2 illustrates a tremendous increase in the number of transaction by ATM in

Pakistan every year. This increase was more prominent between the years 2004-2008

(State bank of Pakistan). Number of cash transaction on ATMs in 2000 was 3.6 million;

2001: 5.9 million; 2002: 9.4 million; 2003: 15.3 million; 2004: 23.9 million; 2005: 29.7

million; 2006: 35.7 million; 2007: 51.5 million; 2008: 67.9 million. This increase could

be because of more number of ATMs and interconnected banking network, allowing user

to withdraw amount from any bank.

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Amount of Cash Transaction using ATMs in Pakistan

Amount in billions

Year	Amount
2000	12.5
2001	22.1
2002	38.5
2003	68.9
2004	119.9
2005	153.7
2006	208.2
2007	316.2
2008	452.9
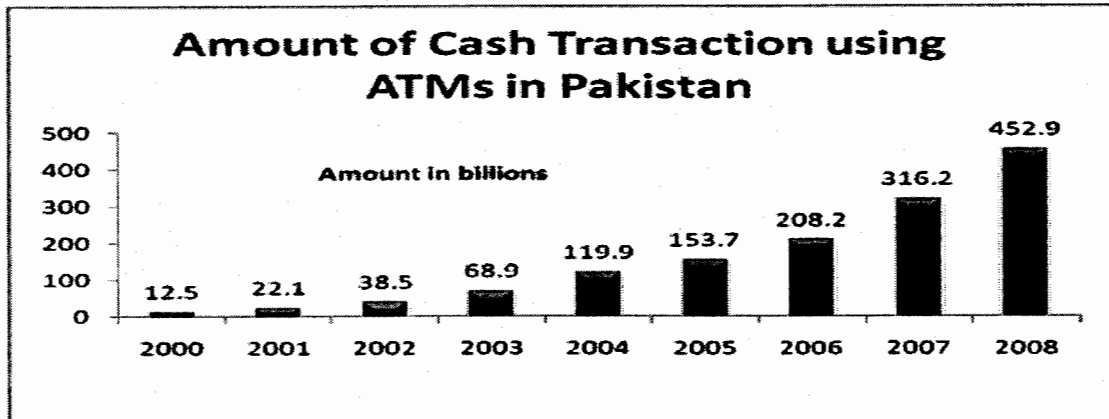
Figure 1.4-3 Amount of cash transaction using ATMs in billion (State bank of Pakistan, 2000-2008)

Above figure: 1.4-3 shows more cash withdrawal between the years 2004-2008. Hence proving that with the increase in number of transaction using ATM, an increase in the cash withdrawal was also seen.

CHAPTER 2

LITERATURE REVIEW

INTRODUCTION

As a matter of fact, employees play a key role in a company, for generating revenue and satisfying the customers. Moreover front line employees serve as a bridge between the organization and the customers. They build a positive relationship and provide services to the customer. But due to the competitors and technology revolution, companies have to work hard to keep this relationship. In order to achieve this, different technologies such as E-banking, E-commerce and ATM are developed to serve customers at convenient location for 24 hours a day. These technologies based self services can be adapted with respect to the requirement of the company. Quinn (1996); Bitner, Brown and Meuter (2000) investigated the key benefit of technologies that it can be customized with respect to the requirement of business and customers. They explored three key

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benefits, why companies offer Technology based self service (TBSS): (1) To reduce companies cost; (2) To control quality of service and its level; (3) Direct customer connection.

The chapter is based on review of literature concerning customer preference and satisfaction towards technology based self service (Automated teller machine). Annam. B. and Yallapragada. N. (2006) used four independent variables (personality, user's behavior towards information system, relationship between user and technology, and benefits) for identifying customer satisfaction towards ATM, whereas customer preference mediates the relationship. The present study amended the attributes of personality and behavior variable, by introducing actual models (Big Five Personality Factors, Technology Acceptance model) from the past, whereas two variables (relationship and benefit) remained unchanged.

PERSONALITY

Personality has a rich and versatile history in psychology, with different theories. Major theories deal with humanistic, learning, and behaviorist perspective. It can be explained as a blend of eminent patterns of views, observations, and behaviors that make a person different form those around him/her. Jung, (1924) defined Personality as "A set of organized characteristics present in a person that have an effect on his/her activities, motivation and performance in various circumstances." Researchers revealed that personality can be evaluated by understanding to what we say when we use word I. "I"

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basically stands for - our likes and dislikes, worries and qualities, power and flaws regarding something (Adams 1954 cited in Schultz & Schultz, 1994).

Personality traits

Eysenck (1947) developed a theoretical model consisting of three dimensions of personality traits only: Extraversion, Psychoticism and neuroticism. Later Cattell (1957) identified 35 major clusters of personality traits, and then added ten more traits obtained from a review of the psychiatric literature. Constructed personality tests for these 45 traits, and the data obtained from these tests was analyzed with the emerging technology of computers combined with the statistical method of factor analysis. It resulted in sixteen major personality factors, which led to the development of the 16PF Personality Questionnaire. Tupes and Christal (1961) analyzed personality data from eight large samples. Using Cattell's trait measures, found five recurring factors.

The work was simulated by Normann (1963), who developed five major factors, which were sufficient to account for a large set of personality data. These factors included Surgency, Agreeableness, Conscientiousness, Emotional Stability, and Culture. Goldberg (1981) found five factors of personality. Big Five factors and their constituent traits can be summarized as follows:

Conscientiousness: Conscientiousness of people can be defined as people who are goal oriented, punctual, disciplined and efficient (Costa and McCrae, 1992a). Conscientious individuals are trustworthy and meticulous and are always committed in

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doing the task in right way (Scandura & Schriesheim, 1994). Conscientious persons define their entire task clearly and make a road map to cover up those tasks. As they are goal oriented and define every thing clearly so they are considered to be the leaders of less conscientious individuals.

Research suggested that conscientiousness is one of the best predictors of satisfaction. Individuals who are high on conscientious, are said to be dependable, vigilant, persistent, tidy, watchful, planner, hard working, and goal-oriented (Mount & Barrick, 1995; Koestner, Bernieri & Zuckerman, 1992; Sansone, Wiebe & Morgani, 1999).

Extraversion: Extrovert individuals are described as people who are gregarious, adventurous, ambitious, and sociable (Mount & Barrick, 1995). Extraverts are mostly optimistic and have complete control over themselves (Williams, 1997). In contrast introverts are less talkative, shy, lazy, reserve and less outgoing.

The term extroversion was first time introduced by Jung and Baynes (1921). All personality models contain this trait, starting from Jung's analytical psychology, Eysenck's PEN model, Cattell's 16 Personality factors, Normann (1963) and Goldberg (1981) Big Five personality trait.

Neuroticism: Neurotic individuals are likely to be over-sentimental, nervous; lacking trust (Goldberg, 1990). These people are always dissatisfied with their surroundings, resulting in lack of trust which becomes the cause of nervousness.

Barrick, Stewart, Neubert, and Mount (1998) compared personality factors to career success. It was established that extraversion, and conscientiousness shows a positive impact towards career success and a negative relationship exist between neuroticism and job satisfaction (Costa & McCrea, 1992a).

Openness: Individuals open to experience are civilized, artistic and imaginative (McCrae, Zonderman, Costa, Bond, & Paunonen, 1996). Such people are inventive, inquisitive, open minded and arty (Goldberg, 1990).

Agreeableness: Agreeable individuals tend to be nicer and more trusting to others; further, a review has shown that agreeable individuals tend to make better "relation" (Barrick, Mount, & Judge, 2001).
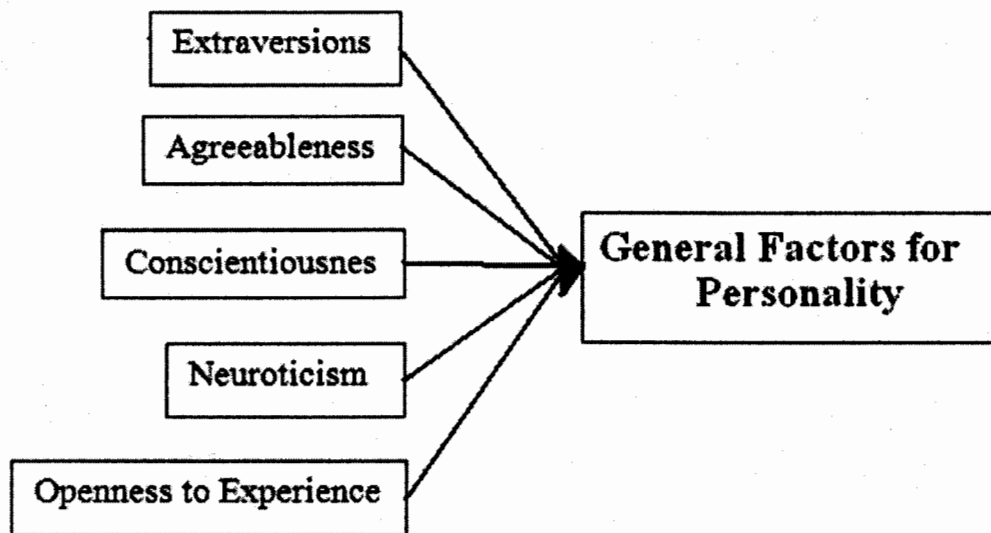
Figure 2.2-1 Big Five Personality Factors Source: Goldberg (1981)

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Personality and Customer Satisfaction

In the last 20 years, a five factor model of personality, commonly known as Big Five was investigated to describe the personality, shown in figure: 2.2-1. This Big five factor model of personality has been broadly investigated in areas, such as job/career satisfaction (Barrick & Mount, 1991; Costa & McCrae, 1992a; McCrae & Costa, 1991; Judge, Heller, & Mount, 2002b, Digman, 1990; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990; Barrick et al., 1998; Schmidi & Hunter, 1998; Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001). But the relationship between five factor model and customer satisfaction towards technology is less studied.

Customers prefer technology, in which they were in complete control and were entertained with complete attention. Whereas some of them do not prefer technology as they lack trust on technology; and prefer face to face conversation. Garbarino and Johnson (1999) investigated that customer trust towards a technology depends upon his confidence in quality and reliability of the service. Hence preference of a customer towards a technology depends upon trust (smith, 2006).

BEHAVIOR

In this competitive environment technology is important for survival of the companies. But the adoption of new technology by the companies is getting critical. Employees resist in changing the business process and IT implementation (kwon & zmuds, 1987). This resistance creates problem for the management to work or to run the organization accordingly.

Lee, Kim, Rhee, and Trimi (2006) explored that despite that technologies are becoming more complex and difficult, organizations are overcoming this difficulty. Top management is making major decisions for investing in new technologies, training the employees and motivating employees towards IT usage. Though organizations are overcoming these problems, still new technologies pose great challenges to researches with respect to the adoption process and factors of adoption failure. This adoption failure leads to the dissatisfaction of a customer towards technology.

The present research uses adoption model for examining the impact of user behavior towards customer satisfaction. Given below are four proposed technology adoption models, which help the researcher in determining the parameters to be used in user behavior.

(1) Theory of Reasoned Action (TRA) Fishbein and Ajzen (1975);

(2) Theory of Planned Behavior Ajzen (1991);

(3) Technology Acceptance Model Davis, Bagozzi and Warshaw (1989);

(4) A unified theory of acceptance and use of technology Venkatesh, Morris, Davis, & Davis, (2003).

Theory of Reasoned Action

Figure 2-3-1 depicts theory of reasoned action (TRA) that was evolved from information integration theory (IIT). Two new determinant behavioral intention and subjective Norms (expectation of other people) was added in the model. Theory of reasoned action believes that individuals are usually rational and make efficient assessment of information available to them (Fishbein & Ajzen 1975). For example Ahmad's attitude suggests him to watch superman series, but his friend stops him by saying it is a childish act (subjective norm) if he does so. Now its upto Ahmad, whether he moves according to his attitude or do what his friend asked him to do. Actually behavioral intention is dependent upon friend's advice or attitude towards technology, which further helps in determining his behavior towards a technology.
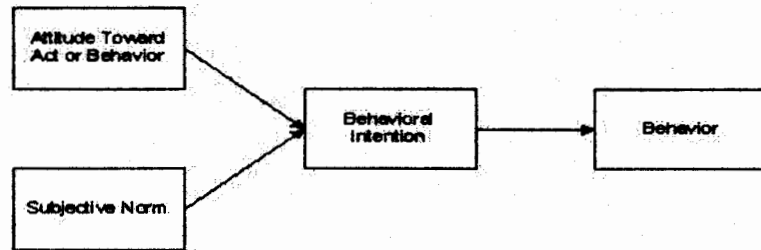
Figure 2.3-1 Theory of reasoned action (TRA). Source: Fishbein, & Ajzen (1975)

Theory of Planned Behavior

After Fishbein and Ajzen (1975) developed Theory of reasoned action, he realized that it works only if individual behavior is totally under his control (Ajzen, 1991). But if not then the relationship between the behavioral intention and the usage will not be stronger. To overcome this Ajzen (1991) proposed a new model Theory of Planned Behavior (TPB).

Theory of Planned Behavior indicates that not just attitude and subjective norms but perceived behavioral control (PBC) also influences behavioral intention followed by the Actual usage of the technology. Researcher further explored that behavior also has a direct influence from Behavioral intention and PBC. PBC is defined as individuals' difficulty in performing a behavior. Attitude is a good or bad feeling of an individual towards his or her behavior. A subjective norm is the perception or expectation of other people towards ones behavior.

Taylor and Todd (1995) proposed a model where two new determinants were used self-efficacy (Self-control) and facilitating (availability of resources). PBC is actually the combination of these two determinants. Ajzen (1991) belief that individual that has self confidence and has availability of resources can perform a behavior.
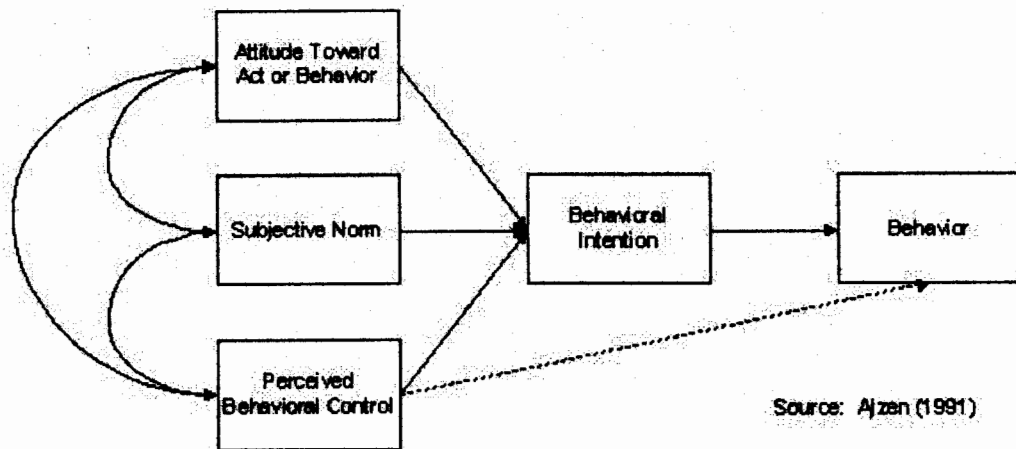
Figure: 2.3-2 Theory of Planned behavior, Source: Ajzen (1991)

Technology Acceptance Model

Technology acceptance model proposed in 1989 was based upon theory of reasoned action (TRA) and theory of planned behavior (TPB). It helped in determining and predicting the behavior of the user towards the technology. In TRA researchers explained that a persons behavioral intention is influenced by its attitude towards act or a behavior and subjective norms. Whereas in TPB researcher investigated that behavioral intention is not just influenced by the two factors (attitude and subjective norms) but also by the perceived behavioral control.

Davis, Bagozzi and Warshaw (1989) proposed TAM model which was an extension of these theories. It explains a relationship between psychological variables i.e. attitude, behavioral intention, technology usage and belief. Belief (Park, Roman, Lee, & Chung, 2009) is said to be the ease of use and usefulness of IT. These two key variables helped

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in determining the attitude of an individual towards a system, leading to the adoption and usage of a technology.

Perceived ease of use is defined as the level to which a user feels that the technology is easy to use, while perceived usefulness means a user belief that by using technology his/her performance will increase. Figure 2.3-3 depicts TAM model proposed by Davis, Bagozzi and Warshaw (1989).
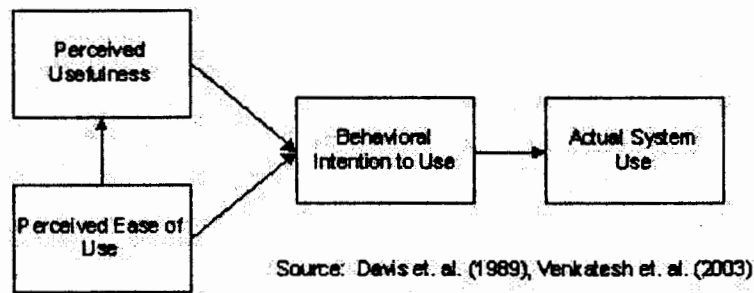
Figure 2.3-3 TAM source: Davis, Bagozzi and Warshaw (1989), Venkatesh et al., (2003)

A unified theory of acceptance and use of technology

A unified theory of acceptance and use of technology explains user behavioral intention towards technology usage. The theory holds four independent variables (Facilitating conditions, social influence, effort expectancy, performance expectancy), which influences the usage intention and behavior. Age, gender, experience and voluntariness of use are mediating variables which mediate the impact of four key variables over the behavioral intention. Venkatesh et al. (2003) proposed UTAUT, after reviewing the previous model of technology acceptance as shown in Figure: 2.3-4.

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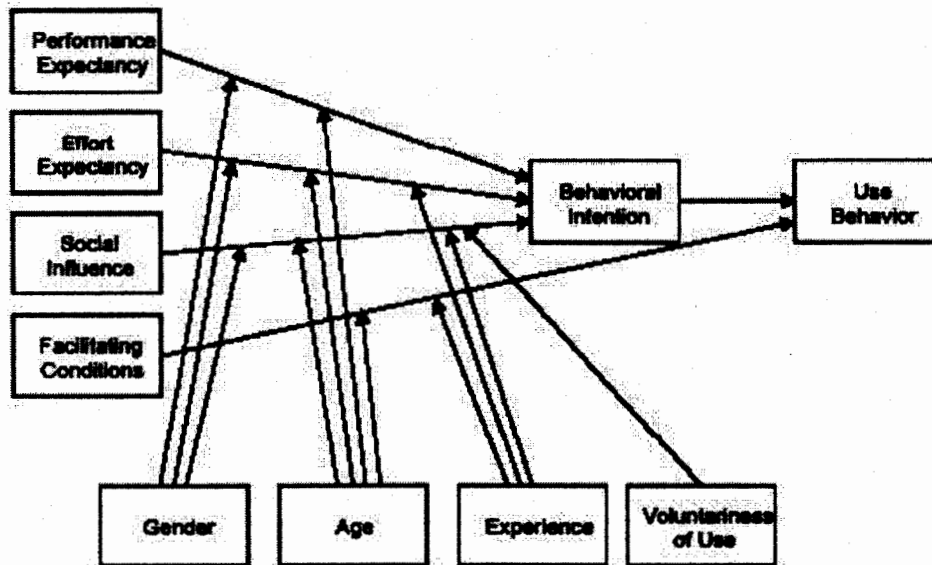
Figure 2.3-4 UTAUT Source: Venkatesh et al. (2003)

Users Behavior and Customer satisfaction

Bitner (1990); Bowen (1986); Brady and Cronin (2001) advocated the influence of users'
behavior over the customer satisfaction. Researcher investigated that users' behavior
plays an important role in massive production, high consumption rate and attitude
towards the service (Parasuraman, Zeithmal, & Berry, 1985). To evaluate the
relationship between user behavior and customer satisfaction following parameters were
used as shown in figure: 2.3-5.

1. Technological experience

2. Attitude towards technology

3. Ease of use

4. Usefulness

5. Enjoyment

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Technological Experience: Understanding why users resist using technology has remained a challenging issue for the researchers. Different theoretical models have been proposed by the researchers regarding the adoption of technology (Davis, Bagozzi and Warshaw, 1989; Taylor & Todd, 1995). The models were designed to measure users' perception and its acceptance. Davis, Bagozzi and Warshaw (1989) proposed TAM, which is one of the widely used model, explaining the impact of users' technology experience towards perceived ease of use.

Saade and kira (2007), Liaw (2008) found a significant difference between experienced and inexperienced users. Their findings revealed that users' having positive behavior towards technology is only if they are well experience. Certain scholars believed that users experience is an individual factor, which varies among users. Experience can be gained from past usage of a product which further affects user perception and makes technology easy to use. Nidumolu and Bajaj (1998) investigated that previous experience influences the ease of use, and further affects the behavior of the user towards a technology. However prior research (Colley & Gale, 1994; Conger & Loch, 1995; McIlroy & Bunting, 2001) revealed that not just previous experience but direct experience towards a technology would also lead towards a user's positive behavior. Venkatesh and Morris (2000) investigated that direct experience with a specific technology increases individual's better assessment towards the technology.

Attitude towards a technology: Nowadays most companies invest money on technology by implementing them and training, informing, and convincing the users. These companies are highly emphasizing on understanding the attitude of the users

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towards the technology. Basically attitude helps in determining the behavioral intention of the user with respect to technology and its usage. It explains a good or bad feeling of an individual towards his or her behavior to use the technology. Findings revealed that attitude has a significant positive effect on the behavioral intention (Kuo and Yen, 2009).

Ease of Use: According to researcher (Park et al., 2009) perceived ease of use means the extent to which a user believes that using a particular technology would be free of physical and mental effort. Various researchers have supported the significant impact of ease of use towards the attitude of the user (Agarwal & Prasad, 1999; Davis, Bagozzi and Warshaw, 1989; Hu, Chau, Sheng, & Tam, 1999; Jackson, Chow, & Leitch, 1997; Venkatesh, 1999; Yi & Hwang, 2003). Researchers (Venkatesh & Davis, 1996) reported that with the increase in the experience, the attitude of a user towards a technology may show a significant change. Igbaria, Guimaraes, and Davis, (1995) investigated that technology experience and enjoyment are positively related with perceived ease of use. According to Venkatesh and Davis (1996) perceived ease of use of a system is measured through level of experience users have and the enjoyment he feels while using a technology.

Usefulness: Scholars reported that by usefulness of a technology the user feels that using a particular technology would enhance his/her performance (Park et al., 2009). Hence one can say that the intention of the user to use a technology is highly dependent upon the usefulness of a system (Davis, Bagozzi and Warshaw, 1989). Researchers investigated that the usefulness of a technology has a strong significant impact over the user behavior (Agarwal & Prasad, 1999; Davis, Bagozzi and Warshaw, 1989; Hu et al.,

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1999; Jackson, chow, & Leitch, 1997; Venkatesh, 1999; Yi & Hwang, 2003). If the technology is useful, users would prefer it to use it in their daily lives.

Enjoyment: Normann (1963) investigated that users accept physical effort in using technology only when the technology is enjoyable, and they feel it pleasant to use. Moreover, it was further found that pleasure is a very important factor in determining users' perception towards a technology (Foley, Dam, Feiner, & Hughes, 1990). Dabholkar (1996) investigated that enjoyment is the most important factor used in evaluating users' expectation and found that it may depend on the uniqueness of the technology, because the users get more enthusiastic in using a new technology. Researchers revealed that enjoyment has no direct link with the behavioral intention. According to Yi and Hwang (2003) Venkatesh (2000) enjoyment has a positive impact on the ease of use, and raises user's interest towards a technology if the user is more experienced or well trained.
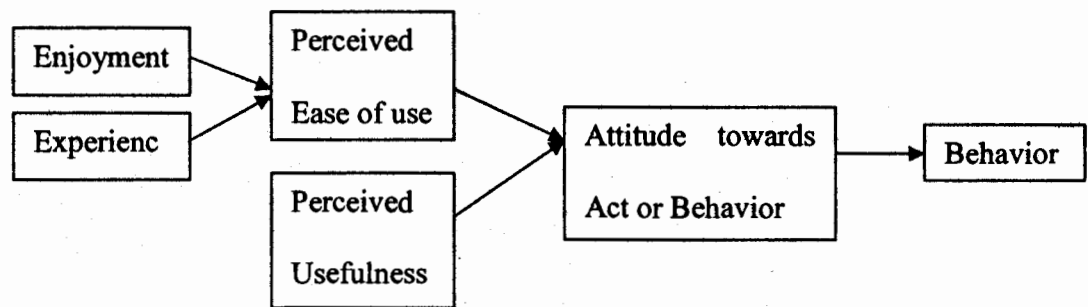
Figure 2.3-5 User Behavior over information system

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RELATIONSHIP

It has become an essential element for developing countries, for obtaining the real-time, regular information in businesses (Metzger, 1987). Organizations prefer those employees who have IT knowledge along with the basic education. This IT knowledge helps in creating a link between the customers and the organizations. The front line employees, who serve as a bridge between the customers and the organization are responsible for building relationship with the customers and make them committed with the organization. In case of service providing technology, customer relationship could be established through customer loyalty and trust (Annam. B & Yallapragada. N, 2006). This relationship gets stronger if customer feels that the service provided by the organization is reliable.

Present research evaluates the impact of customer relationship with respect to technology over customer satisfaction. Parameters used for evaluating customer satisfaction are given below:

1. **Commitment**

2. **Reliability**
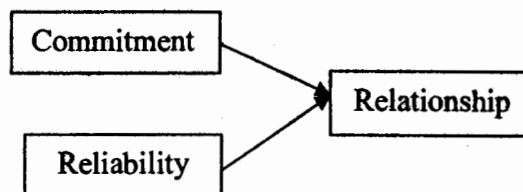
Figure 2.4-1: Relationship between user and technology

24

BENEFIT

During the recent years, organizations have been using technology in offices and for delivering their services. Using technology in offices helps managers and professionals improve organization performance (Fairhead, 1990). Moreover, technology works as a tool to assists organization in becoming efficient.

As companies have started using technology in delivering services, technology based self-services (TBSS) are developed. In TBSS customers are made to directly interact with the technology. ATM is one of the best known examples of self service, where customers use ATMs because of speedy delivery and complete control over the technology. Fink (2003) found that users prefer technology that is beneficial in the form of quality, speed and control.

Speed of delivery: Speed of delivery is one of the key parameters in selecting and evaluating technology based self service (Dabholkar, 1996). Further investigated that the duration (time) taken by a technology in completing a task, evaluates its quality and efficiency (Foley et al., 1990). Lindley, Topping and Lindley (2008) reported that speed is one of the benefits, which technology provides to the customers.

Control: Control is defined as the degree of control user has while running a process or using a technology (Annam. B & Yallapragada. N, 2006). Researchers suggested that not just speed, but control is also one of the important factors for customers to use a technology (Langeard, Bateson, Lovelock, & Eiglier, 1981).

DEVELOPMENT OF THEORETICAL FRAMEWORK

The literature revealed that customer satisfaction is emphasized over the marketing of the product/service, and loyalty of the customer. Customers get loyal with the technology based self service, if they find it reliable, easy to use, full of fun and beneficial. The research study reported here, takes an imperative step of examining Annam. B and Yallapragada. N (2006) model of technology based self-service (TBSS) for understanding customer satisfaction. The model explained the impact of independent variables over customer satisfaction.

Research model (Figure: 2-6-1) amends attributes of two independent variables (personality, Behavior), whereas attributes of relationship and benefits remained unchanged. For personality variable "Big five personality factors" were used. Researchers in the past had investigated the impact of personality traits (Figure 2.2-1) over job satisfaction, but impact towards customer satisfaction (with respect to technology) was less studied. Present study used personality traits as attributes of personality variable, which helps in investigating its impact towards customer satisfaction. Impact of user behavior towards customer satisfaction was evaluated by using Technology acceptance model (TAM), as shown in Figure 2.3-1.

The research included an examination of the relationship between four categories (Personality, Behavior, Relationship, and Benefits) to Preference, and preference to Satisfaction as given in Figure 2-6-1.

26
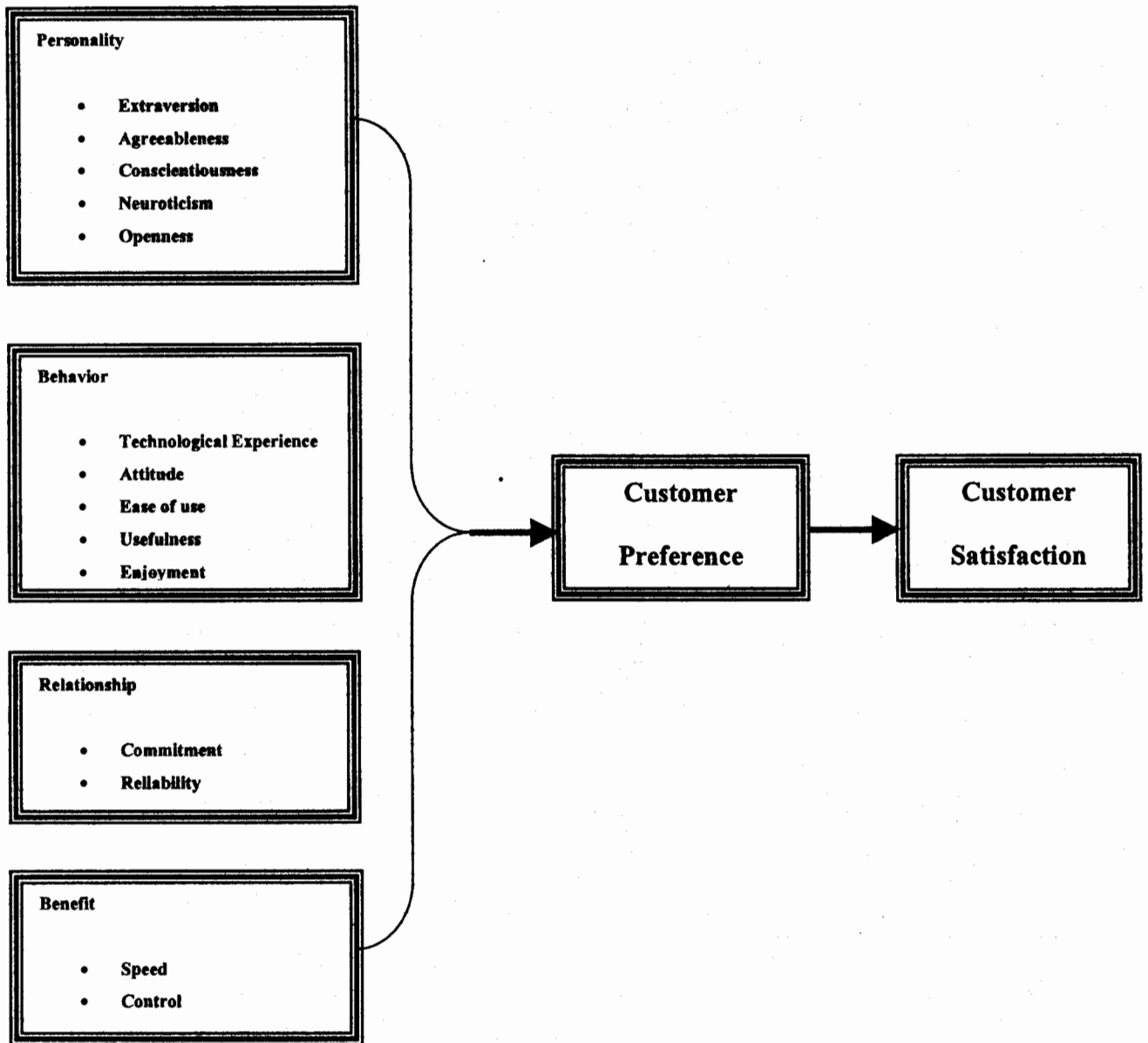
Figure 2.6-1 Conceptual Framework of Customer Satisfaction towards ATM

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CHAPTER 3

METHODOLOGY

INTRODUCTION

The methodology includes both Qualitative data and Quantitative data. Questionnaire was the main tool used to understand customer attitude and adoption behavior towards automated teller machine (ATM). They were based on research questions, personally filled by visiting respondents. Data was analyzed by using SPSS version 16, Statpro and Microsoft Excel for Windows.

In previous chapter, a theoretical framework was introduced, to evaluate the customer satisfaction level towards ATM. Framework was based on customer specific factors (Personality, Behavior, Relationship, and Benefit), whereas customer preference was used as a mediating variable.

APPLICATION OF THEORETICAL MODEL

Customer Satisfaction is an important aspect that helps organization in achieving competitive advantage for goods as well as service industries. But the measurement of customer satisfaction in case of service firms is a difficult task primarily due to the fact that no standards are available to measure the perceptions and expectations of the user, as it varies among users. Moreover the relative importance of any one dimension of the service might differ within the user groups as well as from the service provider's perception. Therefore in such an industry of fast growth and intense competition it is important to recognize the factors motivating the customers to use ATMs.

Considering the importance of adoption of ATMs, the respective challenges faced by the users and banks are needed to be addressed in real context. The primary motivation behind the research work is to explore the factors determining customer satisfaction while using ATM.

The research is helpful for public and private banks of Pakistan, to ensure the ATM usage and customer satisfaction. Basically the study is conducted:

1 To explore which factor has a major impact over the satisfaction of the user using ATM.

2 To identify which parameter of factor has a major impact towards the satisfaction of a customer in Pakistan.

3 To find user of which age group, education level and gender prefer ATM.

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RESEARCH QUESTIONS

The research questions to be investigated are:

Q1. To identify which user characteristics (Personality, Behavior, Relationship, and Benefit) has a major impact over satisfaction of the user using ATM?

Personality and behavior of a user plays an important role towards the adoption and usage of a technology. Different researchers have widely discussed the personality of an employee with respect to their job satisfaction, and relationship between the organization and the customer. But scarcity of research is available on the adoption of technology with respect to the personality of the user, and relationship with the technology. The acceptance of technology with accordance to benefit and behavior are broadly discussed. The present study explores the impact of these factors (Personality, Behavior, Relationship, and Benefit) towards satisfaction of the user using ATM.

Q2. To explore whether the satisfaction of users using ATM increase with their preference level?

The satisfaction receives from an interaction with a technology is said to be user satisfaction towards technology. This type of satisfaction also helps in identifying the overall satisfaction of the customer with the service provider. In recent years, customers are emphasizing more over self controlled technologies (e.g. ATMs, payment-at-the Petrol pumps, Balance transfer via cell phones). In such examples, customers use these

services by themselves provided by the firms, without the involvement of any employee. The present study, investigates customer's preferences towards Technology-Based Self-Service (ATM) followed by the customer satisfaction towards it.

Q3. To identify specifically that users of which age group, Education level, Gender, prefers using ATM and is highly satisfied?

Demographic variable consist of three attributes: age, education, gender. Researches have been conducted in which the behavior of the user is judged in accordance to there demographic difference. As the respondents here are students, employees, and business man, with different age group and gender; so their behavior toward the ATM technology is checked.

HYPOTHEIS DEVELOPMENT

Different research has been conducted over the career and job satisfaction of the employee with respect to personality. In jobs personality shows a stronger relationship with the performance of an individual. But in certain situations the performance of an individual may be negative, due to politics or lack of trust with in the organization. Personality of the customers could be considered as a main factor to influence the individual's use of technology (ATM). Therefore, it can be posited that:

Hypothesis 1: **Personality has a positive impact over the customer satisfaction.**

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User behavior and user satisfaction are two basic indicators of technology acceptance. Behavior of the user is used to judge actual usage of the technology. It helps in predicting the customer intention towards a technology. User satisfaction depends upon the user preference and judgment about a technology. Research indicates that a moderately significant relationship exists between the user behavior and the customer preference towards a technology (Khawaja & Manarvi, 2009). In order to test the relationship of user behavior toward customer satisfaction, second hypothesis of the present study is posted:

Hypothesis 2: **User Behavior has a positive impact over the customer satisfaction**

Organizations adopt technologies which are reliable, trustworthy; helps in reducing cost, and enhances organization productivity. Hence a strong relationship exists between user and technology. For a service providing technology, customer relationship could be established through customer loyalty and trust. This relationship gets stronger if customer feels that the service provided by the organization is reliable.

Hypothesis 3: **Relationship has a positive impact over the customer satisfaction.**

Customer satisfaction, preference and retention can be due to the benefits received by the customers while using a product/service. User prefers technology that shows effective IT benefit, in the form of cost, quality, control and speed, and ends with strong relationship with the technology. Therefore, hypothesis 4 is posted as:

Hypothesis 4: **Technology Benefit has a positive impact over the customer satisfaction.**

SAMPLE SELECTION:

In Pakistan, ATM services are under the control of banks; moreover numbers of foreign banks have also grown sharply over the last decade. These foreign banks are introducing new ATM services to their customers, one of which is that users can make utility bills payment. Present study was conducted in three different areas: three Telecom sector organizations, Six Educational universities, and Entrepreneurs. The respondents participated anonymously. One and half month time was set for collection of data. Entrepreneurs were selected randomly. Three Telecom sector organizations include: Ufone, Mobilink, Telenor. Six educational universities were: International Islamic University, Allama Iqbal Open University, and National University of Modern Language, Quaid-e-Azam University, SZABIST and Fatima Jinnah University.

Telecom Sector Sample:

Telecom sector sample consisted of 150 employees, who replied positively, however, there was a low participation rate. Many people replied that they were already busy in certain projects. The overall response rate was 77.3%.

Educational institutes:

Six universities of Islamabad/Rawalpindi were selected. In this case, researcher visited personally, and handed over the questionnaire to the respondents including: teachers, students, scholars. The sample comprised of 150 respondents. The overall response rate was 83.3%.

Entrepreneurs:

Small business owners were randomly selected by visiting blue area and Jinnah super. These business people were shop owners and are the permanent user of ATM service. The sample comprised of 10 respondents. The overall response rate was 70%.

DEMOGRAPHIC DATA

The sample comprised of 248 respondents. Appendix 8.1 depicts demographic analysis of ATM users, which consist of 45.2% males and 54.8% females. The male sample encompasses 43.7% employees, 53.5% students, and 2% entrepreneurs. The female respondents comprised of 49.2% employees, 47.7% students, and 2.9% entrepreneurs. Appendix 8.1.2 depicts education level of the respondents, which includes 22.9% Inter, 65.3% Bachelors, and 11.6% master and above. The Age ranges from less than 20 to 40

and above. Respondents with age group less than 20 were 15.3%, age group from 20-30 were 55.2%, age group from 31-40 were 13.7%, and above 40 were 15.7%.

SURVEY INSTRUMENT:

The data was collected by questionnaires, which contained:

1. Nine personality based items from the research conducted by Annam. B & Yallapragada. N, (2006) to understand the customers' attitude and adoption behavior towards self-service technologies were chosen.

2. Nineteen user behavior items developed by Davis (1989)

3. Four items on user relationship with the ATM were taken from the instrument by Annam. B & Yallapragada. N, (2006)

4. Two items on benefits of ATM taken from instrument by Annam. B & Yallapragada. N, (2006)

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

SCALE RELIABILITY

Reliability analysis helps in studying the calculation of the given measures and provides information about relationship between items in the scale. Table 5.1-1 and 5.1-2 illustrates the reliability statistics of the scale. Calculated cronbach Alpha is 0.881, showing that the scale is highly reliable.

Table 5.1-1 Reliability Statistics

Cronbach's Alpha	N of Items
.881	36

Table 5.1-2 items Reliability

Items	Cronbach's Alpha
I don't feel comfortable using technology (ATM)	.879
I love talking	.873
I have patience	.884
I remain calm, if ATM is out of order	.872
I feel that I am keeping up with technological developments when I use technologies like the ATM.	.878
If something goes wrong when I am withdrawing the money, I feel I am being thought dishonest or unfair.	.880
I always seem to be in a hurry and I feel difficult to wait in bank lines.	.879
I get upset easily, when ATM is out of order.	.873
I look positively on technological development towards the customer managing by himself.	.877
ATM improves my performance.	.879
ATM enhance my efficiency	.872
ATM would be useful	.885
ATM is easy for me	.873
ATM find it easy to get	.877
ATM is clear and understandable	.880
ATM find it easy to use	.879
Using ATM is a wise idea	.873
Using ATM is a good idea	.877
Using ATM is a positive idea	.879
Using ATM is a beneficial idea	.872
I intend to use ATM frequently in my daily life	.884
I intend to use ATM in doing my job.	.872
I intend to use ATM for withdrawing money.	.877
My prior experience in technology helped me to understand ATM	.880
I have confidence in using ATM.	.879
ATM has fun using	.873
ATM is pleasant	.878
ATM find it to be enjoyable	.872
I am loyal towards the ATM.	.881
I trust the ATM Banking service.	.880
ATM is often broken or out of order.	.883
ATM is reliable	.879
To withdraw money using ATM is fast when compared to personal banking	.881
I always get prompt service while withdrawing money from ATM.	.878
How much you prefer ATM rather than personal banking.	.884
What is your overall satisfaction level about ATM?	.880

DESCRIPTIVE ANALYSIS

Table 5.2-1(a & b), 5.2-2 illustrates a detail analysis of items and respondents view. Four independent variables were studied inorder to evaluate its impact over ATM usage.

Overall respondents rated personality 3.4. Personality consist of Big Five Factors i.e. Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness. Among the given factors respondents rated openness 4.04 and Conscientiousness 3.96, depicting that openness and Conscientiousness are the only two personality factors which forces users use technology, as they look positively towards technology development and prefer managing things themselves. They feel that by using ATM they are keeping up with then new technologies. Item of Personality factor: Neuroticism "I always seem to be in a hurry and I feel difficult to wait in bank lines." was rated 4.19, depicting that user prefers ATMs service as compare to personal banking in order to avoid long queues.

Overall respondents rated agreeableness 3.33. Agreeableness was measured through item "I remain calm if ATM is out of order", and was rated 3.33, depicting that user's get agitated when ATMs are out of order.

Respondents rated user behavior 3.52, depicting moderate impact of user behavior towards ATM acceptance. Five parameters (experience, enjoyment, ease of use, usefulness, attitude) on behavior was used, among which experience and ease of use is the only two parameters which make user use ATM. Respondents rated experience and ease of use 3.7, depicting that prior technology experience makes ATM easy to use. Items of ease of use and experience "ATM find it easy to use", "I have confidence in using ATM." was rated 4.2, depicting that overall mean value estimated for ease of use and experience was valid.

A strong relationship was associated between the user trust towards ATM and customer preference. Table 5.2-2 illustrates the detail view of the items showing strong customers loyalty and trust towards ATM. Respondents found ATM reliable rating 3.78, hence more the customers get loyal and trust the ATM service, higher the preference level would be.

Customer satisfaction was rated 3.7, depicting that overall customers were satisfied with the service. Respondents rated benefits 3.76 showing that they were satisfied with the benefits provided by the ATM services to the users in Pakistan, but need some advancement in it.

Table 5.2-1(a): Descriptive Analysis

	Mean
Extraversion	3.0101
Agreeableness	3.3347
Conscientiousness	3.9877
Neuroticism	3.5632
Openness	4.0484
Usefulness	3.1855
Ease of use	3.7308
Attitude	3.3942
Behavioral Intention	3.8035
Experience	3.7319
Enjoyment	3.5161
Relationship	3.7893
Benefit	3.7801
Preference	3.5605
Satisfaction	3.7984

Table 5.2-1(b): Descriptive Analysis

	Mean
Personality	3.4884
Behavior	3.5199
Relationship	3.7893
Benefit	3.7601
Preference	3.5605
Satisfaction	3.7984

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Table 5.2-2 Items Descriptive Analysis

Items	Mean
Extraversion	
I don't feel comfortable using technology (ATM)	2.6895
I love talking	3.3306
Agreeableness	
I have patience	3.3387
I remain calm, if ATM is out of order	3.3306
Conscientiousness	
I feel that I am keeping up with technological developments when I use technologies like the ATM.	3.9677
Neuroticism	
If something goes wrong when I am withdrawing the money, I feel I am being thought dishonest or unfair.	3.1411
I always seem to be in a hurry and I feel difficult to wait in bank lines.	4.1976
I get upset easily, when ATM is out of order.	3.3508
Openness	
I look positively on technological development towards the customer managing by himself.	4.0484
Perceived usefulness	
ATM improves my performance.	2.7742
ATM enhance my efficiency	3.3548
ATM would be useful	3.4274
Perceived ease of use	
ATM is easy for me	3.3347
ATM find it easy to get	4.0685
ATM is clear and understandable	3.2823
ATM find it easy to use	4.2379
Attitude	
Using ATM is a wise idea	3.2782
Using ATM is a good idea	4.0605
Using ATM is a positive idea	2.8266
Using ATM is a beneficial idea	3.4113
Behavioral intention	
I intend to use ATM frequently in my daily life	3.3185
I intend to use ATM in doing my job.	3.3831
I intend to use ATM for withdrawing money.	4.1089
Perceived experience	
My prior experience in technology helped me to understand ATM	3.2137
I have confidence in using ATM.	4.25
Perceived enjoyment	
ATM has fun using	3.2298
ATM is pleasant	3.9597
ATM find it to be enjoyable	3.3589
Relationship	
I am loyal towards the ATM.	3.7742
I trust the ATM Banking service.	4.0363
ATM is often broken or out of order.	3.7702
ATM is reliable	3.5766
Benefit	
To withdraw money using ATM is fast when compared to personal banking	3.9758
I always get prompt service while withdrawing money from ATM.	3.5444

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DESCRIPTIVE ANALYSIS W.R.T AGE

Figure 5.2-1, 5.2-2, 5.2-3, 5.2-4, 5.2-13 and 5.2-14 depicts the mean value of factors with respect to age. Age measures used on X-axis: Less than 20, 20-30, 31-40 and more than 40.

Descriptive Analysis of Personality Factor with respect to Age

Figure 5.2-1 depicts the mean value of personality factors with respect to age. Figure 5.2-13 illustrates the mean of personality with respect to age.

1. Figure 5.2-1 illustrate that users less than 20 were more conscientious and open minded, but least desire for power and status. The respondents were almost students; so they use ATM for withdrawing cash, and balance inquiry.

Figure 5.2-13 depicts the average value 3.52 for the responses given by the respondents with age level less than 20.
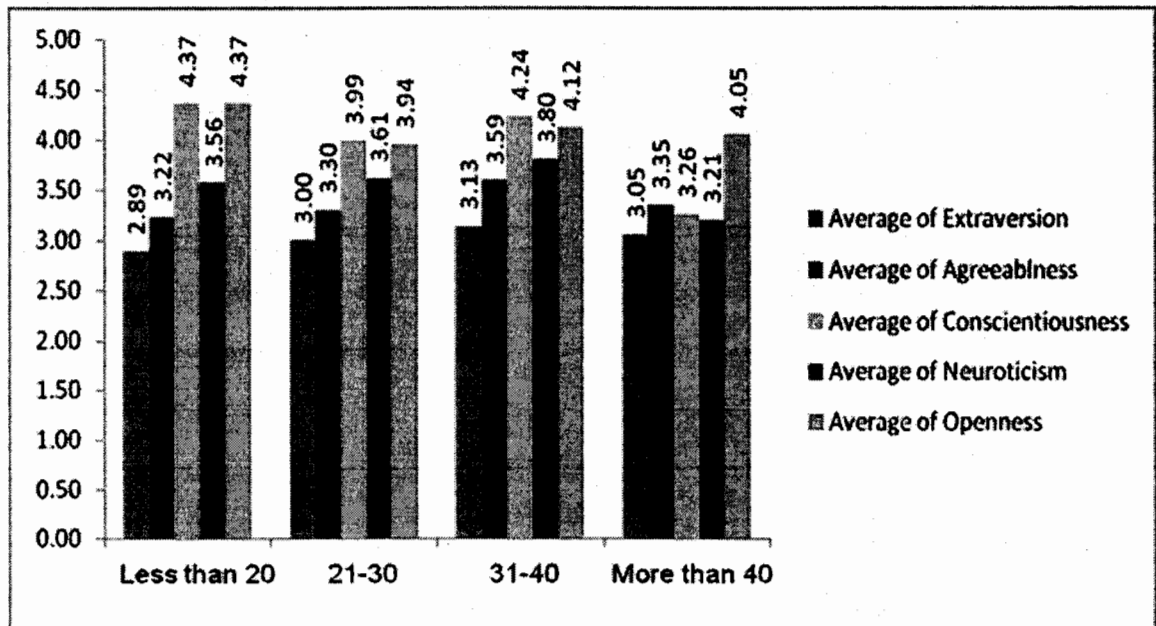
Figure 5.2-1 Descriptive Analysis of Personality factors w.r.t age
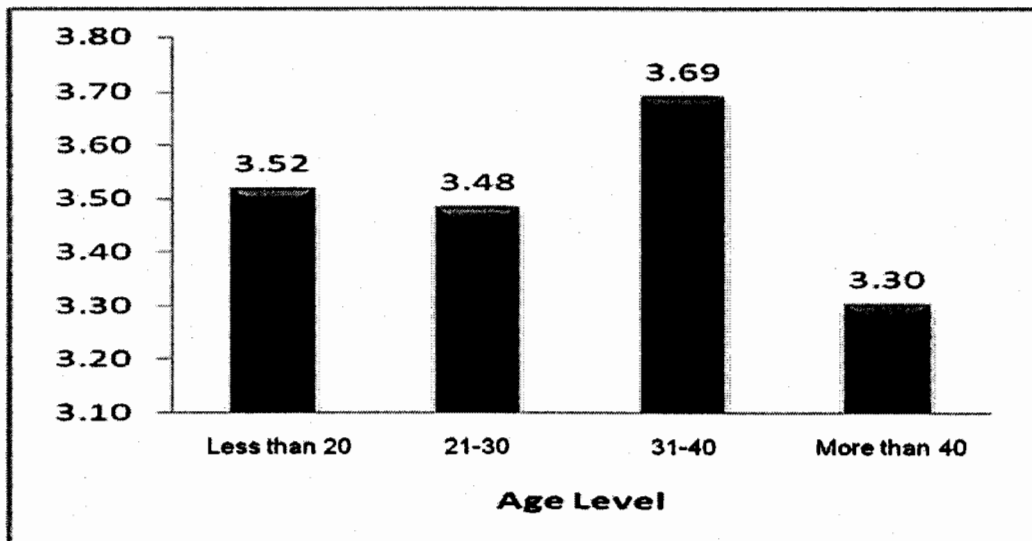
Figure 5.2-13 Descriptive Analysis of Personality w.r.t age

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2. Figure 5.2-1 and 5.2-13 depicts average value 3.48 for respondents with age group 20-30. They were either goal oriented or were open to new experience. Factors like neuroticism, extraversion, or agreeableness were not in them, due to which their personality poses a neutral impact towards preference of ATM.

3. The average mean value for the respondents with age group 31-40 was 3.69. The respondents were employees and entrepreneurs. Level of openness to experiences, conscientiousness and the impact of personality over ATM usage was more in this age group. Research investigated that they remain always in hurry and don't have time for standing in long queue of bank lines, so highly prefer ATM.

4. Figure 5.2-1 and 5.2-13 depicted that respondents with age group more than 40 prefer ATM only if they are Agreeable and Open minded. But the research suggested that overall users of this age group don't prefer using technology, and prefer personal banking.

Descriptive Analysis of User Behavior with respect to Age

1. Figure 5.2-2 shows the mean value of user behavior with respect to age. It depicts that overall user found ATM service easy to use but didn't find it useful. This could be the reason that ATMs were mostly out of order or without cash or they were extraverts and prefer face to face personal banking service.

2. Further illustrates that users with age level less than 20 and more than 40 enjoy using ATM. When interviewed, found that most of them used technology first time, so enjoy using it.

3. The average value for usefulness was low for all age group, because of which user's behavior towards ATM service was also neutral.

4. Figure 5.2-14 shows the mean value of overall behavior factor, resulting that users with age group 30-40 prefer ATM more because they found it useful, easy to use, enjoyable, and hence had much past technology experience in technology.
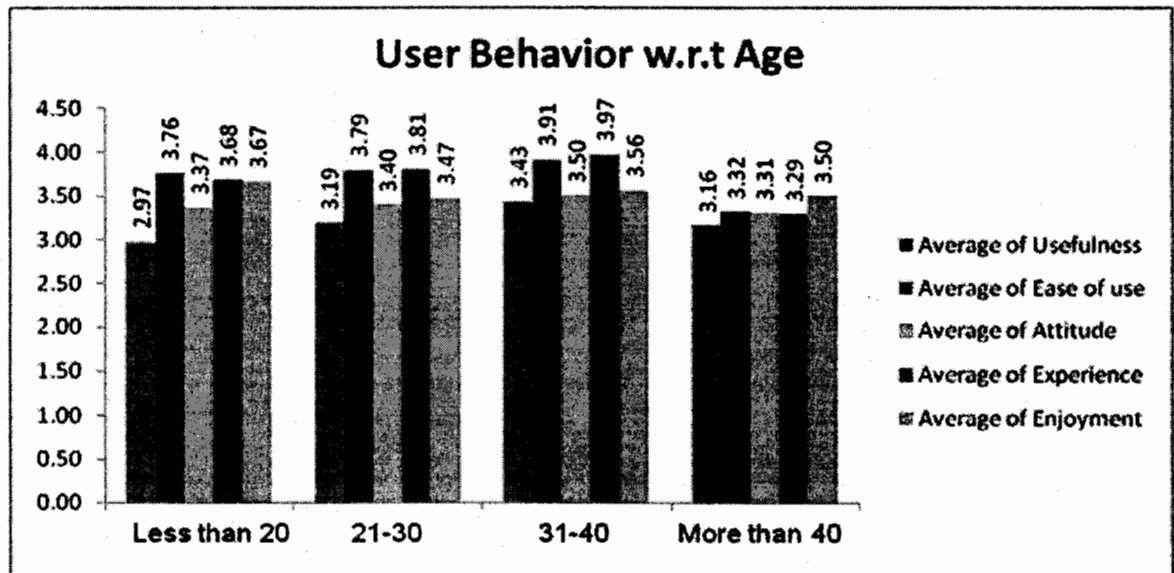
Figure 5.2-2 Descriptive Analysis of user behavior w.r.t age
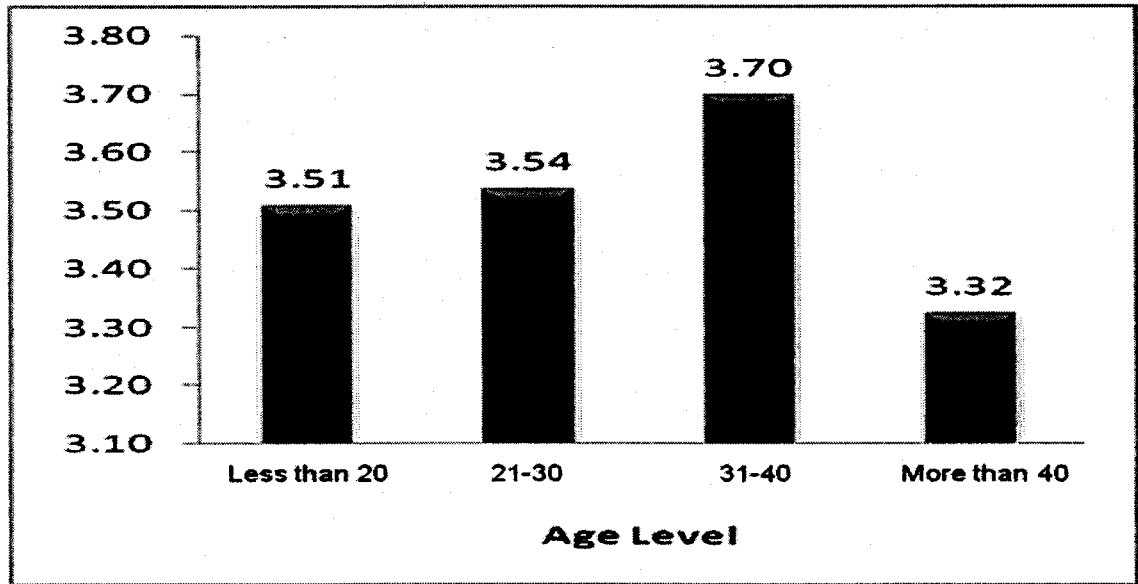
Figure 5.2-14 Descriptive Analysis of overall user behavior w.r.t age

Descriptive Analysis of Relationship with respect to Age

Figure 5.2-3 depicts that as users were loyal and committed towards ATM service, so a strong relationship exists between technology and customer. Users with age level less than 20 find ATM more reliable and trustworthy, hence prefer it. A minor variation in responses was shown, this could be due to unreliable ATM service i.e. unavailability of money.
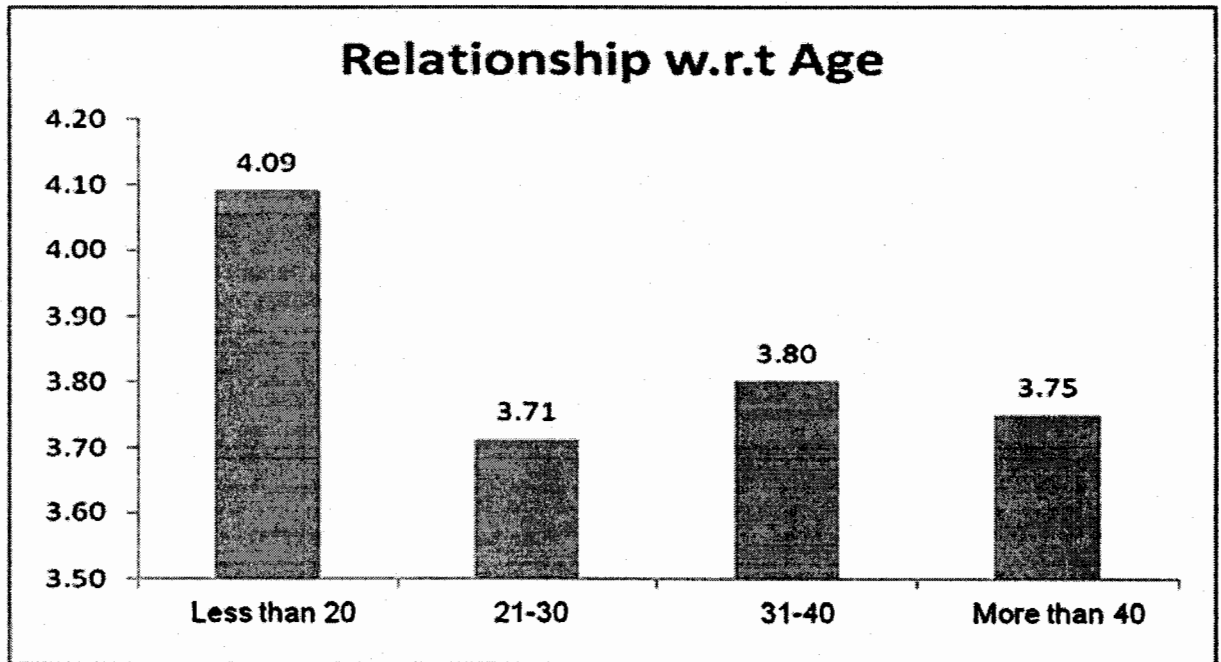
Figure 5.2-3 Descriptive Analysis of Relationship w.r.t Age

Descriptive Analysis of Benefit with respect to Age

Figure 5.2-4 revealed that students found ATM more beneficial; as mostly live at far places from their parents, and find it easy and helpful in withdrawing money. Respondents of age level 20 to more than 40 didn't find ATM detrimental and rated it moderately beneficial. Hence they prefer it, but not as much as respondents with age level less than 20.
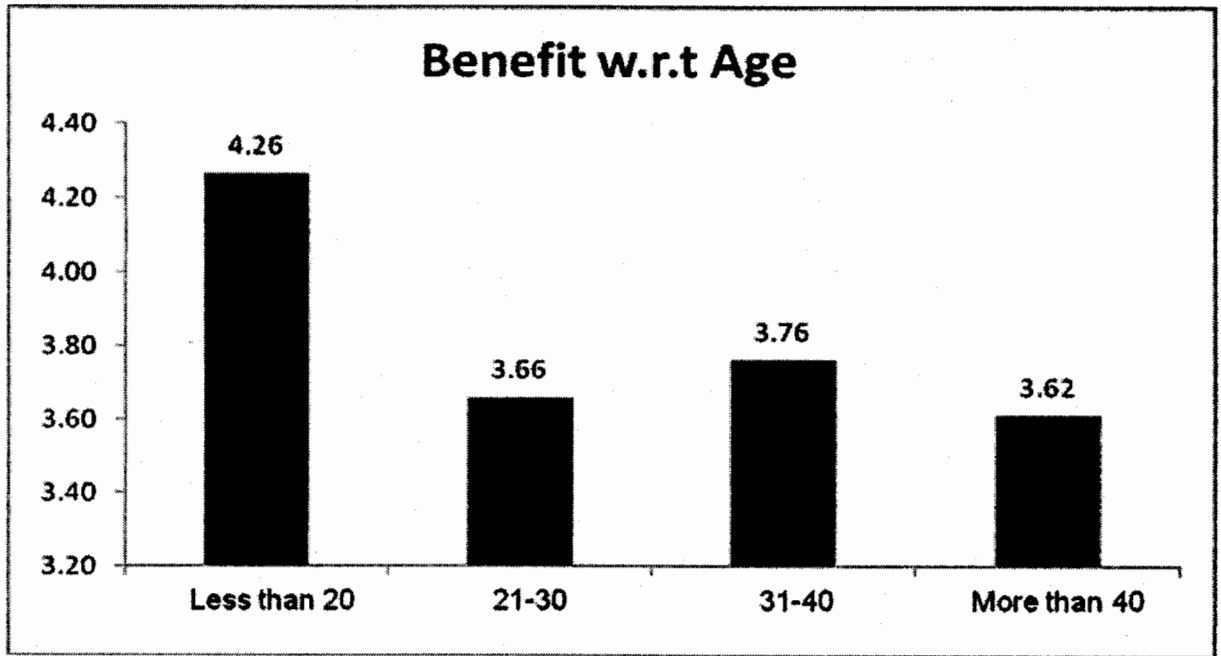
Benefit w.r.t Age

Figure 5.2-4 Descriptive Analysis of Benefit w.r.t age

DESCRIPTIVE ANALYSIS W.R.T EDUCATION

Figure 5.2-5, 5.2-6, 5.2-7; 5.2-8 depicts the impact of education over factors determining user preference towards ATM usage. Four education measures were used: Matric, Inter, Bachelor, and Master and above.

Descriptive Analysis of Personality Factor with respect to Education
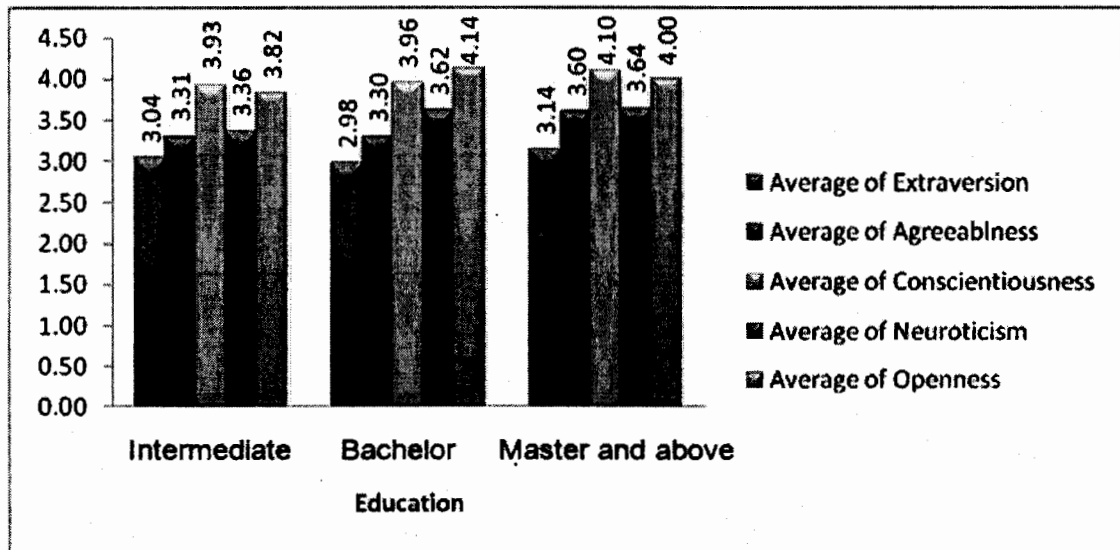
Figure 5.2-5 Descriptive Analysis of Personality w.r.t Education

1. Figure 5.2-5 depicted that respondent with education Inter, Master and above seems to be more conscientious whereas respondents with education level bachelors were more open.

2. The study resulted that there was no huge difference among the three educational levels. The order of personality factors remained the same in all the three categories of education, and the impact of conscientiousness and openness seemed more.

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Descriptive Analysis of User Behavior w.r.t Education
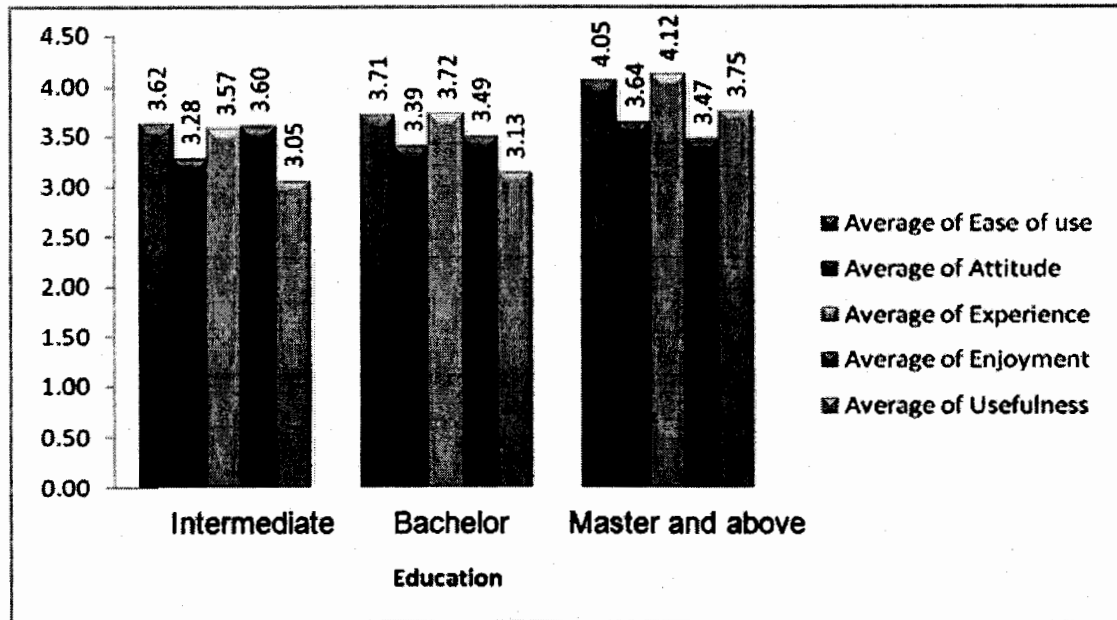
Figure 5.2-6 Descriptive Analysis of user behavior w.r.t education

Research revealed that overall respondents use ATM service, because of ease of use and good previous experience, but didn't find it useful and enjoyable and fun using.

Descriptive Analysis of User relationship w.r.t Education

Research revealed that respondents with education inter and bachelor use ATM, and had a strong relationship with technology. They found ATM reliable hence was committed to it.
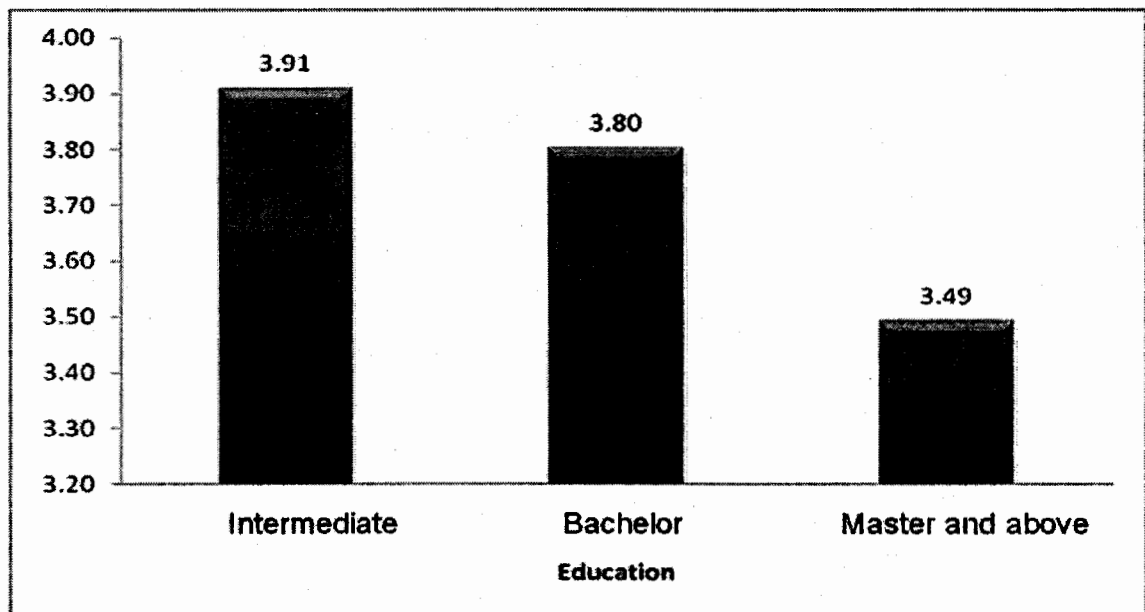
Figure 5.2-7 Descriptive Analysis of user relationship w.r.t education

Descriptive Analysis of User Benefit w.r.t Education

Research revealed that respondents found ATM beneficial. A minor difference can be seen from the figure below, depicting that overall respondents find ATM service helpful and useful, regardless of different education level.

51
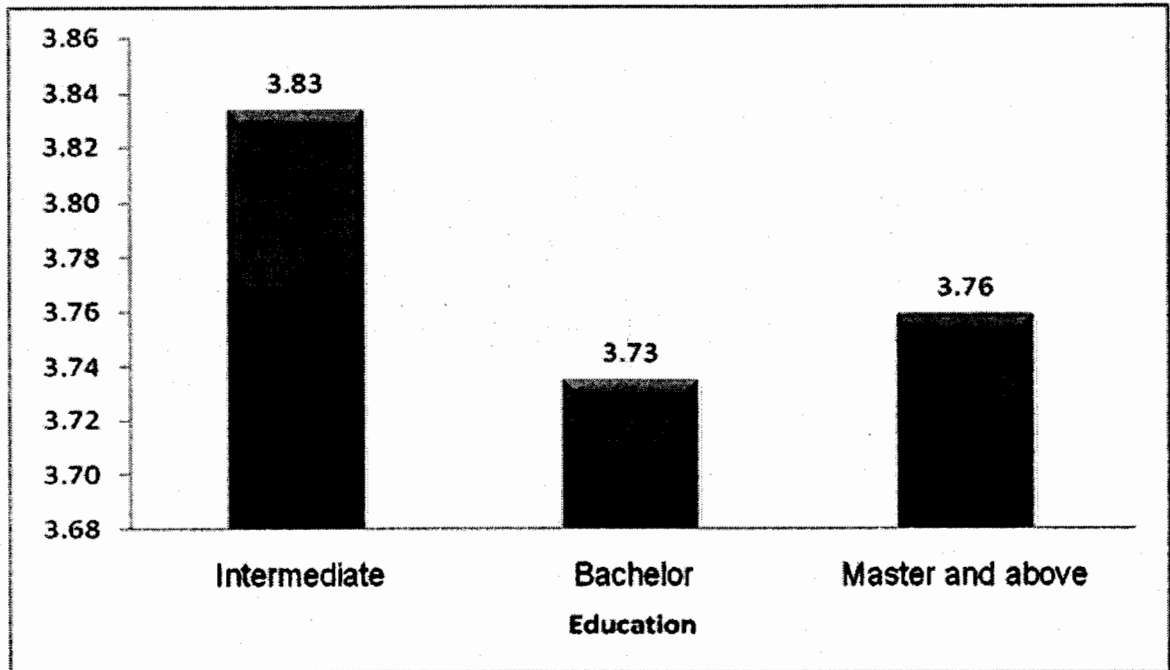
Figure 5.2-8 Descriptive Analysis of user benefit w.r.t education

DESCRIPTIVE ANALYSIS W.R.T GENDER

Figure 5.2-9, 5.2-10, 5.2-11, 5.2-12 depicts the impact of gender towards ATM preference.

Descriptive Analysis of User Personality w.r.t gender

A minor difference can be seen from the figure 5.2-9 given below, demonstrating that male personality shows slightly more impact towards ATM usage as compared to female.
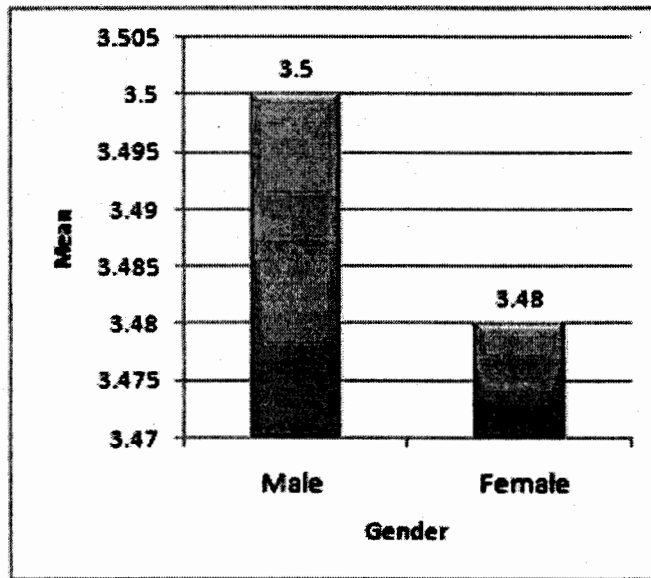
Figure 5.2-9 Descriptive Analysis of Personality w.r.t gender

Descriptive Analysis of User Behavior w.r.t Gender

Figure 5.2-10 depicts the impact of gender over the user behavior. Research revealed that behavior moderately influences ATM usage. A slight difference can be seen from the figure below, demonstrating that female prefer ATM more as compared to male.
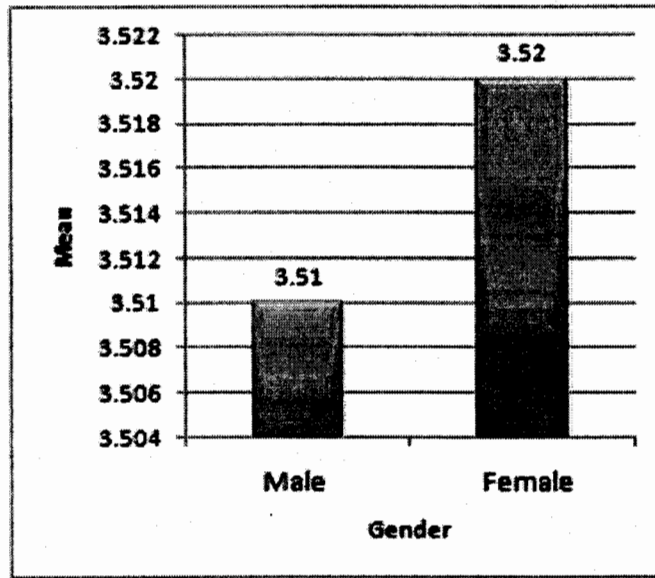
Figure 5.2-10 Descriptive Analysis of user behavior w.r.t gender

Descriptive Analysis of User relationship w.r.t Gender

Figure 5.2-11 depicts the impact of gender over the User relationship with technology. Research revealed that respondents had moderate relationship with the ATM. A minor difference can be seen from the figure below, demonstrating that male finds ATM more reliable and so were more committed as compared to female.
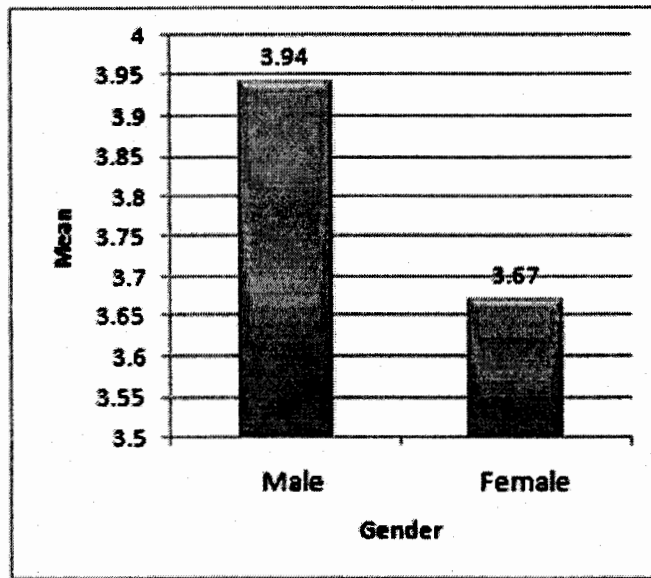
Figure 5.2-11 Descriptive Analysis of user relationship w.r.t gender

Descriptive Analysis of User Benefit w.r.t Gender

Figure 5.2-12 depicts the impact of gender over the User benefit. Research revealed that respondents find ATM beneficial. A minor difference can be seen from the figure below, illustrating that male finds ATM service more helpful and useful as compared to female.

55
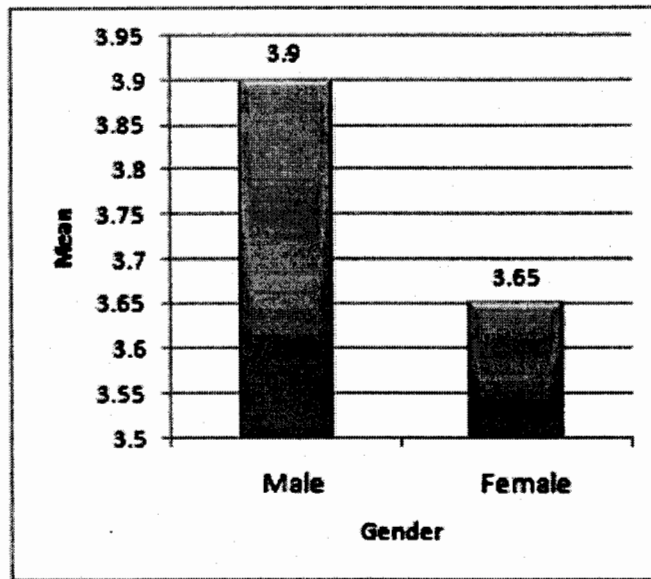
Figure 5.2-12 Descriptive Analysis of user benefit w.r.t Gender

ANALYSIS OF PREFERENCE AND SATISFACTION LEVEL

Analysis of Preference and Satisfaction w.r.t Age

Figure 5.3-1 depicts the preference and satisfaction of the user using ATM. Four age measure were used *(less than 20; 20-30; 31-40; and more than 40)*, which helps in exploring the impact of age on user preference and satisfaction towards ATM usage.
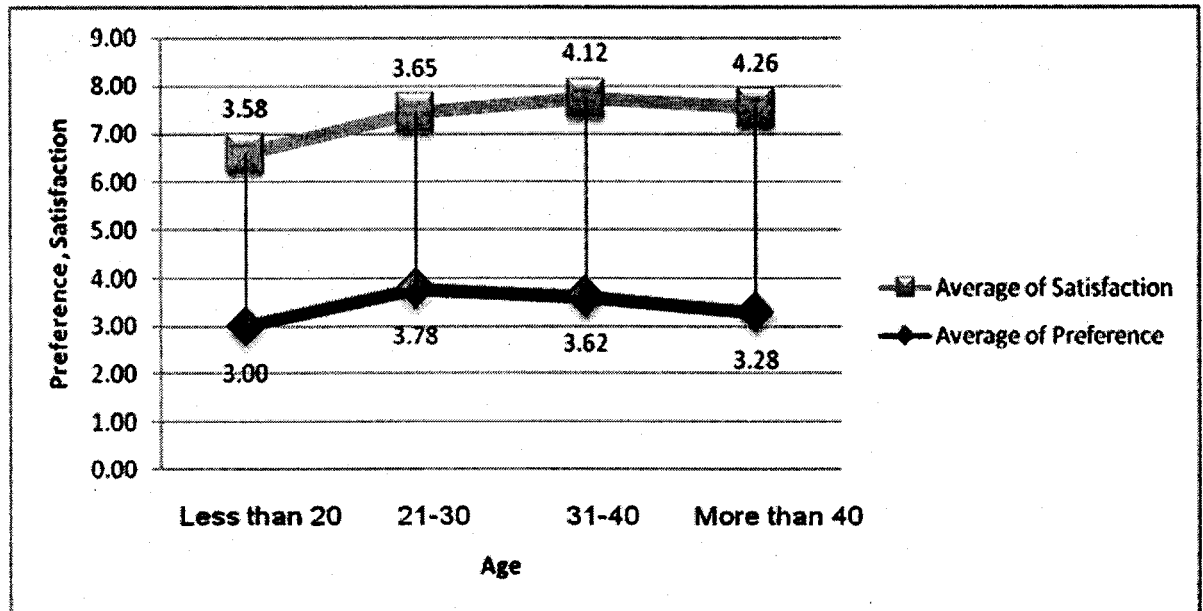
Figure 5.3-1 Analysis of user preference and satisfaction w.r.t age

From the above figure it is clear that users with age group 20-30 and 31-40 highly prefer the ATM service. These were the respondents with occupation students and employees, hence required ATM for withdrawing their salary and tuition fee. But respondents with age level 31-40 and more than 40 were highly satisfied. As these respondents were fulltime employees, hence need ATM service for balance inquiry and withdrawing of salary.

Respondents with age level 20-30 prefer ATM but were not satisfied with it. When interviewed said that they doesn't have so many ATM place at near by location. Respondents of this age group were mostly students, and the ATM machine located near their university remains out of cash. Hence they prefer ATM but were not highly satisfied with it.

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Analysis of Preference and Satisfaction w.r.t Education

Figure 5.3-2 depicts the impact of education over the preference and satisfaction of the user using ATM. Four education measure were used *(Matric; Inter; for Bachelor; and Masters and Above)*, which helps in exploring the influence of education towards user preference and satisfaction.
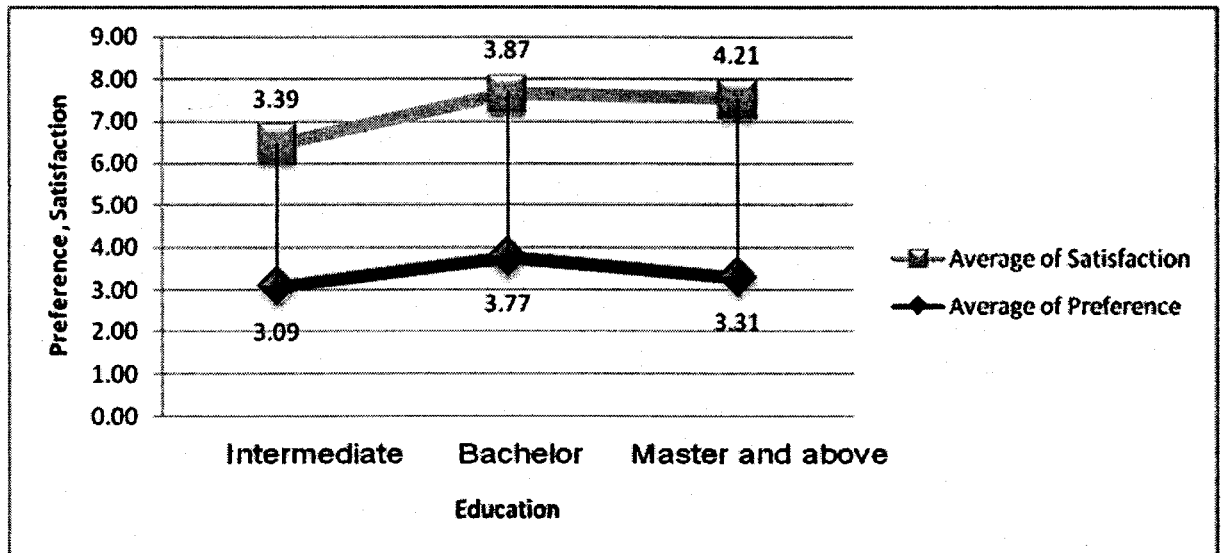
Figure 5.3-2 Analysis of preference and satisfaction w.r.t education

The above figure depicts that respondents with education bachelor and master not only prefer ATM but was also satisfy with it. Might be it could be the reason that as they were mostly students and employees so they use ATM for withdrawing cash and balance inquiry.

Analysis of Preference and Satisfaction w.r.t Gender

Figure 5.3-3 describes the impact of gender over the preference and satisfaction of the user using ATM. Two gender measure were used *(Male; Female)*, which helps in exploring the impact of gender on user preference and satisfaction.
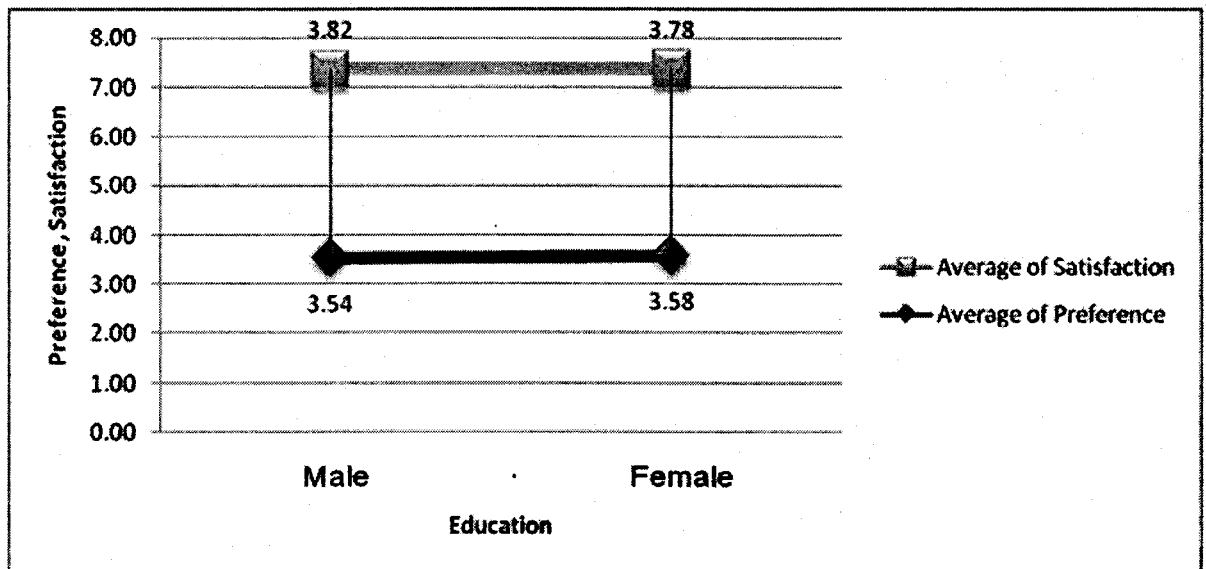
Figure 5.3-3 Analysis of Preference and Satisfaction w.r.t Gender

The above figure illustrates that there is no difference in the preference and satisfaction of the user with respect to their gender.

REGRESSION ANALYSIS

2-Stage Least Square Regression (2SLS) was carried out using SPSS.

1. The impact of four factors on customer satisfaction towards ATM service was evaluated.

2. Customer Preference was used as Mediating Variable.

Multiple Regression was carried for

1. Evaluating the impact of four factors on Customer Preference.

Two-Stage Least Square Regression (2SLS) Analysis with four factors (Personality, Behavior, Relationship, and Benefit) as independent variable (Predictors) and customer satisfaction as dependent variable.

1. **First stage:** Two-stage least-squares regression uses instrumental (Mediating) variable(s) that compute with the predictor(s)

2. **Second stage:** those computed values are then used to estimate a regression model of the dependent variable.

Table 5.4-1 Types of Variables

Model Description

		Type of Variable
Equation 1	Satisfaction	Dependent
	Relationship	Predictor
	Benefit	Predictor
	Personality	Predictor
	Behavior	Predictor
	Preference	Instrumental

Table 5.4-2 Four Factors as IV and Customer Satisfaction as DV

Mode l	R	R Square	F	Sig.
1	.661ᵃ	.567	4.865	.000ᵃ

1   Table 5.4-1 depicts three types of variable used in 2SLS. Dependent Variable (Satisfaction), Predictor/Independent Variable (Relationship, Benefit, Personality, Behavior), Instrumental/Mediating Variable (Preference).

2   Table 5.4-2 illustrates R value. As R=66%, so a moderately strong relationship exists between four determinants (Personality, user behavior, benefit, relationship) and customer Satisfaction.

3   R square explains the variation in the dependent variable accounted by the independent variables. Hence 56% variance in customer satisfaction has been

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significantly explained by the four independent variables (Personality, Behavior, Relationship, and Benefit).

4   The significant F value, F (4.865), p<.05, indicates that a significant relationship exists between the independent variable and dependent variable. If this F value was not statistically significant, further analysis or interpretation could not be proceeded. Moreover F statistics shows that the variation explained by the model was not by chance.

Table 5.4-3 Impact of factors on customer satisfaction

Coefficients

		Beta	t	Sig.
Equation 1	(Constant)		-.577	.565
	relationshipmean	1.099	2.171	.031
	benefitmean	.913	1.948	.045
	Personality_Mean1	-.126	-.233	.816
	Behavior_Mean1	.098	.189	.850

5   Table 5.4-3 depicts tabulated and calculated values. Tabulated value and calculated value helps in assessing each variable unique contribution towards the prediction of dependent variable. When tabulated value is greater than calculated value a significant relationship exists between dependent variable and independent variable and so vice versa. In Present research Relationship (t=2.171 > 0.031< 0.05) and Benefit (t=1.948 > 0.045 < 0.05) possess positive relationship with dependent variable i.e. Customer satisfaction towards ATM.

6   In Table 5.4-3, calculated value for personality = 0.816 and Behavior = 0.850, which is greater than significant value 0.05, hence Personality and Behavior poses a negative impact over customer satisfaction. Further depicts that Beta value for Personality = -0.126 explaining that customer satisfaction towards ATM reduces with the increase in the level of personality factors (like extraversion, agreeableness, and neuroticism). Beta value for behavior is 0.098, hence showing that if behavior increases with 1 unit customer satisfaction increases by 0.09 units.

Multiple Regression

Table 5.4-4 Four Factors as IV and Customer Preference as DV

Model	R	R Square	F	Sig.
1	.548ᵃ	.301	5.157	.001ᵇ

1. Table 5.4-4 exemplifies that as R=55%, so a moderate relationship was present between four determinants (Personality, user behavior, benefit, relationship) and customer Preference.

2. Overall model explain 30% variation only. Hence 30% variance in customer preference has been explained by the four independent variables (Personality, Behavior, Relationship, and Benefit).

3. F statistics depicts that the variation explained by the model was not by chance.

CUSTOMER SATISFACTION INCREASES WITH AN INCREASE IN CUSTOMER PREFERENCE.
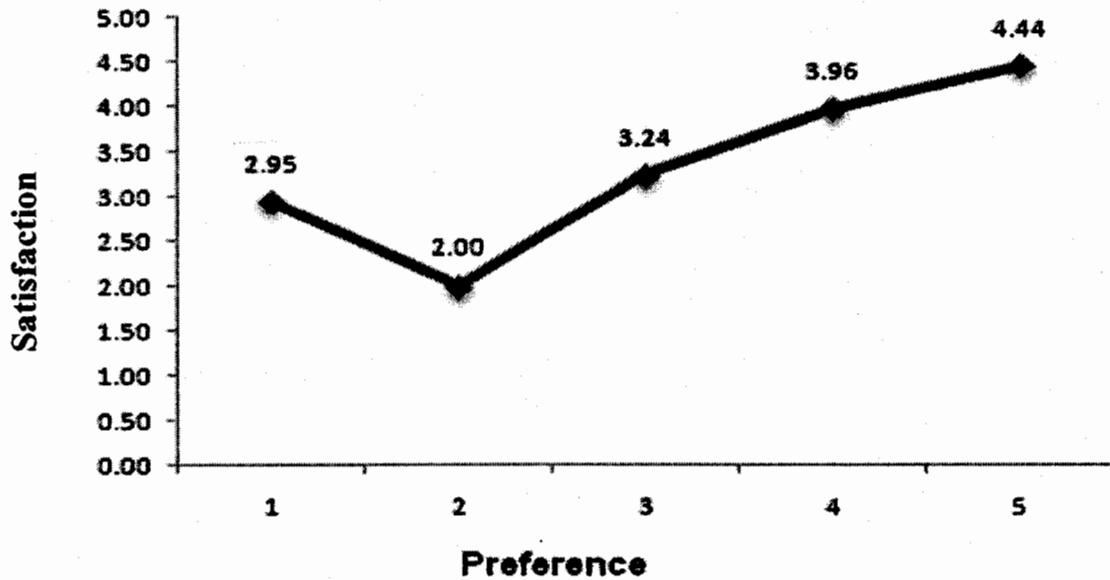
Figure 5.5-1 Customer satisfaction towards ATM increases with an increase in Customer Preference

As shown in figure: 5.5-1, customers who strongly prefer ATM service were strongly satisfied by the ATM service (mean=4.44). A slight dissatisfaction could be because of the breakdown and unavailability of money in ATM, but by and large there is a positive impact of customer preference on customer satisfaction, and it increases with an increase in preference of the customer.

COMPLAINTS

Respondents when interviewed complained that,

1. In a country like Pakistan where the national language is Urdu, the language of ATM should also be Urdu. This new interface will help in attracting more number of customers.

2. ATMs are mostly found out of order, especially on days when the employees require it for withdrawing their salaries.

3. Owing to the long queues on ATM machines, personal banking service is preferred.

4. Certain banks restrict withdrawing of money, after certain prescribed amount, which is unbeneficial for entrepreneurs.

5. Sometime ATMs do not provide receipts, which dissatisfies the customers.

CHAPTER 5

FINDINGS

In this study, satisfaction of the consumers towards ATM service was calculated by incorporating the impact of personality, behavior, relationship, and benefit on it. Each variable was estimated on the basis of its items. As a result of a comprehensive examination of all the constraints and methodology adopted above, the following findings have been established:

1. In Pakistan there was a steady rise in the number of ATMs from 2000 to 2005. However a prominent growth was observed after 2005, due to the increase in awareness and expediency of usage among users.

2. Due to increase in the number of ATMs, a phenomenal rise in the numbers of transactions was also observed. Especially users found ATMs to be more convenient in the area of cash withdrawals as seen in transactions from 2005 to 2008.

3. ATM has become a basic need of the user; for withdrawing money and balance inquiry. Moreover in the west ATMs are also used for paying utility bills, however

the service has been recently introduced in Pakistan. Such innovative services expose users to new experiences and make them loyal towards the bank.

Research findings indicate that customer satisfaction was not influenced by the personality. It has been found that as ATMs are a basic necessity of the customers, and are useful in their busy work schedule, so customers of every age, education and gender use ATMs. However customers prefer those technologies which are beneficial, easy to use and reliable.

4. Perceived Ease of use and Experience of technology were major factors of user behavior, provoking users for using ATMs to fulfill their requirements.

5. Unreliability, due to ATMs being out of order, could be one big barrier in creating strong relationships. To overcome this problem customer had an option of using ATMs of other banking networks rather than their own. Thus the loyalty and trust of the customers could be gained by providing 24 hours service at convenient locations. Research findings revealed that these parameters motivate customers in preferring ATM service and help in creating strong relationships.

6. Speed of transaction and control were the major benefits that provoked customers for using ATMs. They found ATMs faster in withdrawing money as compared to personal banking and got prompt service while doing this. As seen in the Figure: 1.4-2 and Figure: 1.4-3, more number of transactions and cash withdrawals was found during 2005-2008.

7. ATMs did not provide customers face to face personal banking, but they still preferred ATMs and were satisfied with the services. This satisfaction could be due to various factors as recognized through above listed findings.

RESEARCH QUESTIONS

Certain research question and hypothesis were suggested, which incorporate certain findings. These findings imparted by the research are explained below:

First Research Question

To identify which user characteristics (Personality, Behavior, Relationship, and Benefit) has a major impact over satisfaction of the user using ATM?

Users of every age, education level and gender use ATMs. ATM is a basic need of a user, and used for paying utility bills, withdrawing money, and balance inquiry. Present research used four factors for determining customer satisfaction towards ATM service, among which personality plays a minor role. Study specifies that openness and conscientiousness were two parameters of personality which were rated 4.0 (I agree) by the respondents. Whereas overall personality factor was rated 3.4, showing that ATM usage were moderately influenced by the personality. Test conducted to evaluate the

impact of user personality towards customer satisfaction indicates (t= -0.233 < 0.816 > 0.05) insignificant result. Hence **Hypothesis: 1** was not supported.

H1: Personality has a negative impact over the customer satisfaction.

Technology acceptance was highly dependent upon the need and benefit. User behavior helps in determining whether the technology was required by the user or not. It helps in investigating the attitude of the user towards technology adoption. Research indicates that ease of use and experience were the only two parameters motivating customers to use ATMs. Further illustrates that users behave positively and could have strong relationships with the technology if they enjoy using it. Statistical test conducted to evaluate the impact of user behavior towards customer satisfaction indicates (t= 0.189 < 0.850 > 0.05) insignificant result. Hence **Hypothesis: 2** was not supported.

H2: Behavior has a negative impact over the customer satisfaction.

For technology based self-service, customer relationship could be established through customer loyalty, trust and experience towards technology. This relationship gets stronger if customers feel that the service provided by the organization is reliable. Present research investigated that due to good previous experience of technologies; users possess strong relationships with ATMs and find them reliable. Statistical test conducted to evaluate the impact of user relationship towards customer satisfaction indicates (t= 2.171 > 0.031 < 0.05) significant result. Strong relationship of the users with the technology makes them prefer ATM service, and poses a positive impact over customer satisfaction. Hence **Hypothesis: 3** was supported.

H3: Relationship has a positive impact over the customer satisfaction.

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Benefits allied with the technology; like: easily reachable location and 24 hours service motivate customers for using ATM. Nowadays banks are interconnected, due to which customers could withdraw their amount from the ATM of any other banks. Statistical test conducted to evaluate the impact of benefit towards customer satisfaction indicates (t= 1.948 > 0.045 < 0.05) significant result. Hence **hypothesis 4** was accepted:

H4: Technology Benefit has a positive impact over the customer satisfaction.

Second Research Question

To explore whether the satisfaction of users using ATM increase with their preference level?

Figure 5.5-1 depicts that user satisfaction increases with the increase in the preference level of the customer.

Third Research Question

To identify specifically that users of which age group, Education level, Gender, prefers using ATM and is highly satisfied?

1. The research has shown that the level of preference and satisfaction of the users with age group 20-40 was higher than the respondents of other age groups (Figure 5.3-1). ATMs have been the basic need of every individual. Customers of different age

levels not only preferred them but were also satisfied with the service. This could be because of the convenience and availability of ATMs at near by vicinity of the users. Moreover banks in Pakistan are interconnected, sharing a single network. Hence customers could withdraw their amount from the ATMs of other banks.

2. Users with education level bachelors and above preferred ATM and were fully satisfied with it (Figure 5.3-2).

3. The preference and satisfaction level remained the same with both gender (Figure 5.3-3). This is because the respondents of the study were mostly employees or students. Employees use ATM for withdrawing salaries or balance inquiry, whereas students use ATMs for withdrawing tuition fee or pocket money, which is the basic necessity. They get satisfied due to the availability of ATMs in nearby vicinity of the customers and interconnectivity of the banks.

CHAPTER 6

CONCLUSION

INTRODUCTION

In the study, data was analyzed and certain findings were drawn. This chapter includes the discussion about the conclusions from the findings and implications of the model for managers and practitioners.

CONCLUSION

Usage of ATMs started steadily in Pakistan but an exponential increase was found in recent years. This increase could be due to growing awareness and availability of ATMs at convenient locations and 24 hours service. This research facilitates banks by explaining them the change in the level of preference and satisfaction with respect to age, gender, and education. The analysis of the present research indicates that the level of preference and satisfaction of the respondents with age group 20-40 were higher than the respondents of other age groups. This could be because of the convenience and

availability of ATMs at nearby vicinity of the user. Moreover banks in Pakistan are interconnected, sharing a single network. Hence customers could withdraw their amount from any other bank's ATM. Users with education level bachelors and above preferred ATM and were fully satisfied with it. The preference and satisfaction level remained the same with both genders. This is because the respondents of the study were mostly employees or students. Employees use ATM for withdrawing salaries or balance inquiry, whereas students use ATMs for withdrawing tuition fee or pocket money, which is the basic necessity. They get satisfied due to the availability of ATMs in nearby vicinity of the customers and interconnectivity of the banks.

Present research helps management understand the factors (personality, behavior, relationship, benefit) responsible for evaluating customer satisfaction towards ATM service. The result specifies that relationship and benefit were the only factors determining customer satisfaction. Further evaluated that reliability, commitment, speed, control, conscientiousness, openness, ease of use and experience were the parameters influencing customer satisfaction towards ATM service in Pakistani banks.

Banks with ATMs are overall considered to be successful. As customers use ATM cards regularly, so it helps them in getting loyal towards the bank. One of the immense services offered by the banks of Pakistan is that, they are interlinked. Hence customers can withdraw amount from any other banking network.

The analysis in respondents' behavior has confirmed that ease of use and previous technology experience give them less opportunity to avail personal banking services in Pakistan. As a result they prefer to use ATMs over personal banking. The behavior and

commitment poses positive gestures to bankers suggesting them to open their branches in different cities of Pakistan, and ensuring the connectivity of ATMs to other banks network.

IMPLICATIONS

In this global world every firm has to implement new technology, keeping in mind the security system, in order to ensure a secure transaction between the firm and the customer. The study helps in examining the technology, which customers use in their daily routine. Moreover the research helps in viewing the influence of technology implementation over the service firm. Lastly, the impact of customer characteristics and customer preferences were investigated. Different technologies are available in the market. But the study is limited on automated teller machines. The study will be helpful in giving a broader perspective of customer preference and satisfaction towards ATM services, considering the customer characteristics and technology-based characteristics.

CHAPTER 7

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CHAPTER 8

APPENDICES

DEMOGRAPHIC ANALYSIS OF ATM USERS

Age

Descriptive	Frequency	Approximate Percentage
Less than 20	38	15.3%
20-30	137	55.2%
31-40	34	13.7%
More than 40	39	15.7%
Total	**248**	

Education

Descriptive	Frequency	Approximate Percentage
Matric	0	0.00%
Inter	57	22.9%
Bachelors	162	65.3%
Master and above	29	11.6%
Total	**248**	

Gender

Descriptive	Frequency	Approximate Percentage
Male	112	45.2%
Female	136	54.8%
Total	**248**	

QUESTIONNAIRE

Instructions:

Please take a few minutes to complete this survey. We are conducting a research on the satisfaction level of the users using ATM. Your specific answers will be completely anonymous, but your views, in combination with those of others, are extremely important.

DEMOGRAPHIC

Age group (years): ☐ Less than 20 ☐ 20-30 ☐ 31-40 ☐ More than 40

Current Education Level: ☐ Matric ☐ Inter ☐ Bachelors ☐ Masters and above

Gender: ☐ Male ☐ Female

PERSONALITY

Strongly Disagree	Disagree	Neither Agree/ Neither Disagree	Agree	Strongly Agree
1	2	3	4	5

Instructions:

Please take a few minutes to complete this survey. We are conducting a research on the satisfaction level of the users using ATM. Your specific answers will be completely anonymous, but your views, in combination with those of others, are extremely important.

Extraversion *(Please circle one number for each statement)*

- I don't feel comfortable using technology (ATM)

1...............2................3.................4.................5

- I love talking.

1...............2................3.................4.................5

Agreeableness *(Please circle one number for each statement)* .

- I have patience.

1...............2................3.................4.................5

- I remain calm, if ATM is out of order.

1...............2................3.................4.................5

Conscientiousness *(Please circle one number for each statement)*

- I feel that I am keeping up with technological developments when I use technologies like the ATM.

1................2................3................4................5

Neuroticism *(Please circle one number for each statement)*

- If something goes wrong when I am withdrawing the money, I feel I am being thought dishonest or unfair.

1................2................3................4................5

- I always seem to be in a hurry and I feel difficult to wait in bank lines.

1................2................3................4................5

- I get upset easily, when ATM is out of order.

1................2................3................4................5

Openness *(Please circle one number for each statement)*

- I look positively on technological development towards the customer managing by himself.

1................2................3................4................5

91

BEHAVIOR

Strongly Disagree	Disagree	Neither Agree/	Agree	Strongly Agree
		Neither Disagree		
1	2	3	4	5

Instructions:

Please take a few minutes to complete this survey. We are conducting a research on the satisfaction level of the users using ATM. Your specific answers will be completely anonymous, but your views, in combination with those of others, are extremely important.

Perceived usefulness *(Please circle one number for each statement)*

• ATM improve my performance

   1................2................3................4................5

• ATM enhance my efficiency

   1................2................3................4................5

• ATM would be useful

   1................2................3................4................5

Perceived ease of use *(Please circle one number for each statement)*

• ATM is easy for me

   1................2................3................4................5

• ATM find it easy to get

   1................2................3................4................5

- ATM is clear and understandable

  1................2................3................4................5

- ATM find it easy to use

  1................2................3................4................5

Attitude *(Please circle one number for each statement)*

- Using ATM is a wise idea.

  1................2................3................4................5

- Using ATM is a good idea.

  1................2................3................4................5

- Using ATM is a positive idea.

  1................2................3................4................5

- Using ATM is a beneficial idea.

  1................2................3................4................5

Behavioral intention *(Please circle one number for each statement)*

- I intend to use ATM frequently in my daily life.

  1................2................3................4................5

- I intend to use ATM in doing my job.

  1................2................3................4................5

- I intend to use ATM for withdrawing money.

  1................2................3................4................5

Perceived experience *(Please circle one number for each statement)*

- My prior experience in technology helped me to understand ATM

  1................2................3................4................5

- I have confidence in using ATM.

  1................2................3................4................5

93

Perceived enjoyment *(Please circle one number for each statement)*

- ATM has fun using

  1...................2...................3...................4...................5

- ATM is pleasant

  1...................2...................3...................4...................5

- ATM find it to be enjoyable

  1...................2...................3...................4...................5

RELATIONSHIP

Strongly Disagree	Disagree	Neither Agree/ Neither Disagree	Agree	Strongly Agree
1	2	3	4	5

Instructions:

Please take a few minutes to complete this survey. We are conducting a research on the satisfaction level of the users using ATM. Your specific answers will be completely anonymous, but your views, in combination with those of others, are extremely important.

- I am loyal towards the ATM.

  1................2................3................4................5

- I trust the ATM Banking service.

  1................2................3................4................5

- ATM is often broken or out of order.

  1................2................3................4................5

- ATM is reliable.

  1................2................3................4................5

BENEFIT

Strongly Disagree	Disagree	Neither Agree/ Neither Disagree	Agree	Strongly Agree
1	2	3	4	5

- To withdraw money using ATM is fast when compared to personal banking.

    1...............2.................3.................4.................5

- I always get prompt service while withdrawing money from ATM.

    1...............2.................3.................4.................5

ATM PREFERENCE

Please choose in percentage, about how much you prefer ATM rather than personal banking.

10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%

ATM SATISFACTION

What is your overall satisfaction level about ATM? Select any one

Fully dissatisfied / Dissatisfied / neither satisfied nor dissatisfied / Satisfied / Fully satisfied

Any comments about ATM

_____

_____

_____