

## Bank Patronage Factors in Dual Banking System: An Empirical Analysis in Pakistan

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### **Abstract**

*This paper aims to find the factors customers use to patronage Islamic and conventional banks in Pakistan. We statistical analysis on the primary data collected from bank customers in different cities of the country. The analysis of variables constitutes different aspects of customer selection criteria showing that there are five over riding dimensions for Islamic and five for conventional bank customers. Customers in Islamic banks consider security of money as an important factor in selecting an Islamic bank while customers of conventional banks regards convenience more important in selection of bank. In the same manner other four factors are derived which are discussed before in this study. These two factors are highly regarded by the both Islamic and conventional bank customers. Second important factor by Islamic bank customers was human resource while conventional bank customers are considered about reliability of bank and its services.*

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## **Introduction**

In past Islamic banking was considered as non-viable and non-productive due to lack of knowledge and research in this field. Investors were also reluctant to invest in this field because of less profitability at that time. From last two decades, this concept had changed gradually all over the world not only in Muslim countries but also in European countries where majority of population is non-Muslims. The main reason for this change was increased awareness of Islamic financial laws in Muslims. According to a rough estimate, Muslim population in the world is 2.1 billion, which is the target population for Islamic banks, and this ultimately leads towards increasing demand of Islamic banking.

Due to increasing demand, Islamic banking system is progressing day by day and rapid changes are taking place in order to accommodate the choice of customers and to improve Shari'ah compliance. Due to inception of Islamic banking about four decades ago the number of Islamic financial institutions increased from 1 to 300 operating in more than 75 countries, mostly concentrated in middle east and south east Asia and appearing in Europe as well.

Islamic banking practices are not confined only to Islamic banks but these are also used in conventional banks to attract Muslim customers. It is noted a large population of Muslims in front of permissible and halal rate of return does not consider that interest rate important whatever it is less or more. After 9/11 attacks Arab, Muslims withdrew their money and invested in Islamic banks. In Islamic countries, vast majority of Muslims is still dealing with conventional banks because they are not aware of the concept and working of Islamic banking.

According to Mehboob ul Hassan (2007), Muslim population can be divided into three parts:

The strict or pious Muslims who totally avoid interest based banking.

The less devoted or less strict Muslims who hold accounts in Islamic and conventional banks

The least strict Muslims who have accounts only at conventional banks no matter the Islamic banks are available in their surroundings.

Therefore, it is seen that greater part of Muslims does not consider interest rate for investment as compare to non-Muslims. They only consider legitimate return on their account permissible by Shari'ah.

There is range of variables banks must consider for their operations regarding consumer behaviours and patronage because in this era of competition only the survival of fittest is possible. This is all due to emergence of many new financial institutions in the world economy, which in return resulted into extensive level of

competition. These challenging factors have transformed banking industry from “traditional banking to more dynamic and vibrant environment”.

From last four decades emergence of Islamic banking has become feasible and viable alternative to conventional banking system in many Muslim-majority countries. The main purpose of Islamic banks is to provide banking services according to the teachings of Islam. Therefore, to accomplish this mission it is duty of Islamic banks to study the customer’s choice criterion and their degree of satisfaction with the products with respect to Shari’ah compliance. However, it is interesting to note that with 97% Muslim population in Pakistan, Islamic banking has captured only a small fraction, about 7% of total banking system. Therefore, the purpose of this study is to investigate the factors, which influence the choice of bank’s customers in Pakistan. The study also tries to find the relative importance of Shari’a compliance for banks’ customers and their confidence on the existing Islamic banks and their associated Shari’a scholars. It is hoped that findings in this study will provide useful and pertinent practical policy implications to Islamic and conventional banks managers in formulating their marketing strategies. The study will also add to the body of existing literature by incorporating Shari’a compliance as a bank patronage factor and its associated importance. Although there exist some work on banking patronage factors but this area lacks research in the context of Pakistan. Few studies are available in Pakistan but these studies have limited scope (see for example Ahmad and Rehman (2010), Awan and Bukhari (2011) There are two main reasons for conducting this study in Pakistan;

Sufficient research work has not been done in this area in the context of Pakistan, Increasing trend of adopting Islamic banking has inspired Muslims to invest in Islamic financial institutions. However, unfortunately lack of professionalism and knowledge in Pakistan in this sector Muslims are not investing in Islamic banks.

This study will provide guidelines to banks to attract customers by providing them best services according to their choice.

Therefore, this study will provide a good start for new comers and help the existing banks to improve their services and attract foreign investment in light of the findings of this study.

This study is divided into five parts first part contains introduction and objectives of the study. In second part, a broader picture of banking sector in Pakistan is described with reference to some facts from banking industry of Pakistan and evolution of Islamic banking in Pakistan. Third part is about literature review and fourth section includes collection of data, methodology, and estimation. Conclusion and policy implications are described in the last section of this study.

## REVIEW OF THE RELATED LITERATURE

An assortment of empirical research using different methodologies has been applied in various parts of world to check the motivation factors for clients to deposit money

in specific bank. In this chapter, factors, which affect the choice of customers, are discussed with reference to previous literature.

#### **MOTIVATIONAL FACTORS FOR SELECTING A BANK:**

Factors that are considered important by different authors in different studies are discussed below:

#### **RECCOMENDATION BY FRIENDS:**

Anderson et al. (1976) carried out a survey by using determinant attribute analysis. Based on 15 selection criterion recommendation by friends and availability of credit were ranked higher. Tiong Tan.C and Chua.C (2007) have discussed social influences in selection of a bank and results signify that social influence is the major criteria in selecting a bank. In this study multi attribute, type model was used for attitude research. Findings suggests that traditionally designed banking system is not applicable everywhere particularly where culturally and socially different people are living.

#### **LOCATION:**

Phuong Ta and Har kar (2000) found by analytical hierarchy method that location, friend's recommendation, reputation of bank, availability of credit and friendliness of staff are more important factors in Singapore. Study by Delvin.J (2011) provided an insight into customer's choice criteria in retail banking. The data was drawn from the UK where there are no large scale empirical investigations available secondly choice criteria regarding customers financial knowledge was studied. 2000 questionnaires were collected by face to face interviews. It was found that customers having less knowledge of banking are mostly attracted by bank's building and location while customers having more knowledge are more concerned towards variety and uniqueness of the services offered by the bank.

#### **FAST AND EFFICIENT SERVICES:**

Haron et al. (1994) worked on requirements and selection decisions of Islamic and conventional environment for this purpose a sample of 301 bank customers was surveyed from different towns of Malaysia, which consist of highly competitive banking environment. In survey, customers were asked to indicate on five point likert scale about their view for selecting a commercial bank. By using uni-variate and multivariate statistical techniques, it was revealed that the potential customers can be targeted by gaining their attention right at the time of selection of the bank. The most important factor considered by Muslim customers is fast and efficient services followed by internal appearance of the bank, interior comfort, wide range of services offered, speed of transactions and friendliness of bank staff, while non-Muslim customers ranked reception received at the bank, friendliness of bank personnel first followed by reputation and image of bank. While both non-Muslims and Muslims confirmed pricing as selection criteria. It was recommended in the study due to changing environment and increasing rate of literacy banks must provide different

and unique products to their customers and increase their branching network to facilitate them. Erol et al. (1990) found that fast and efficient services and bank reputation are most important factors for investors to invest in specific institution. Some work on bank patronage is also been carried out in Pakistan. One study was accomplished by Rehman and Ahmed (2008) who found that customer service, convenience and online banking services were more important to customers' satisfaction. Another previously accomplished study in Pakistan found a strong relationship between service quality and customers' satisfaction (Jamal and Naser, 1993). T-test was adopted by Omar.O and Orakwue.E (2006) to discover the overall view of bank customers and worth of those services. Most important factor by male customers was security of funds and efficient services and female customers ranked speed of transaction as the most important factor. These differences were result of lack of trust for banks in Nigeria by customers because female customers rely over recommendations of their family of friends rather to take an independent decision. Managers were suggested in this paper that they must not only focus on the male customers as female customers are also growing in numbers day by day.

**RELIGIOSITY:**

Ahmed et al. (2007) found that Malays prefer Islamic banking due to religious factor while in this selection, most influential factors for bank selection found were availability of ATM machines for working people, fast and efficient services, availability of deposit cheque, and friendliness of staff, variety of services offered. Items that have Islamicity flavour were ranked fourth which shows that efficient services are more appealing. While Muslim who are more religious tends to choose Islamic bank for either deposit or financing. All this was checked by distributing 430 questionnaires from which 332 usable questionnaires were obtained from Malay Muslims of two cities, which was developed by previous empirical studies by including religious factor. By applying factors analysis on the data, results were obtained.

Same as Geard.P et al. (1997) analysed the banking patronage factors between two different groups in Singapore i.e. Muslims and non-Muslims. Some differences regarding to religion exists in both groups. Muslims prefer to invest in Islamic bank due to religion and profitability.

**TABLE NO 3.1**

Literature	Religi ous Factor	Cost/Be nefit	Servi ce Deliv ery	Size n Rep ute	Staf f fact ors	Conveni ence	Confident iality	Frien ds n Relati ves	Mass Media Adverti sing
Anderson and Fulcher(1976)	n/a	+	-	+	+	n/a	n/a	+	n/a
Riggall(1980)	±	+	+	+	+	+	+	-	-

Erol and El-dour(1989)	-	+	+	+	+	+	+	+	+
Erol et al(1990)	-	+	+	+	+	+	+	+	+
Omer(1992)	+	+	n/a	n/a	n/a	n/a	n/a	+	n/a
Haron et al(1992)	-	+	+	+	+	+	+	+	+
kader(1993)	+	-	+	+	n/a	+	n/a	+	+
kader(1995)	+	-	+	+	n/a	+	n/a	+	+
Gerrard and Cunningham(1997)	±	+	+	+	+	+	+	+	+
Methawa and Almassawi(1998)	+	+	n/a	n/a	n/a	+	n/a	+	n/a
Naser et al(1999)	+	+	+	+	+	+	+	+	n/a
Phuong ta and Harkar(2000)	-	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-
Almassawi (2001)	n/a		+	+	+	+	+	+	n/a
Naser.K(2002)	n/a	n/a	+	n/a	n/a	n/a	n/a	n/a	+
Othman and owne(2002)	+	+	+	+	n/a	+	+	n/a	+
Ahmed and haron(2002)	-	+	+	+	+	+	n/a	n/a	n/a
Sohail and shanmugham(2003)		+	n/a	n/a	n/a	+	+	n/a	+
Abbas et al(2003)	±	+	+	n/a	+	+	+	+	n/a
Delvin,J.& Gerrard,P . (2005)									
Dusuki, A.& Abdullah,N. (2006).	+	-	+	+	+	+	-	-	+
Denton.L and Chan.A (2007),	n/a	+	+	±	+	+	+	±	n/a
Tan, C. & Chua, C. (2007).	n/a	+	n/a	n/a	+	+	n/a	+	n/a
Saunders et al(2007),	n/a	+	+	+	+	+	+	+	+
Blankson et al(2007)									
Martenson(2007)	n/a	+	n/a	n/a	+	±	n/a	+	n/a
Yawas(2007)	n/a	+	+	+	+	+	+	n/a	+
Erol and Kaynak (2007)	n/a	+	+	+	+	+	+	+	+

Rehman, H.& Ahmed, S. (2008)	n/a	+	+	+	+	+	n/a	n/a	+
Ahmed.W et al(2008)	+	+	+	n/a	+	+	n/a	±	n/a
Haron et al(2009)	±	±	+	+	+	+	n/a	+	+
Mokhlis.S(2009),	n/a	+	n/a	+	+	+	+	+	n/a
Methawa and Almosawi(2009)	+	+	+	n/a	n/a	+	+	+	n/a
Awan.H et al(2011)	+	+	+	+	+	n/a	+	+	n/a
Delvin.J (2011),	n/a	+	+	+	n/a	+	+	+	n/a
Maiyaki.A(2011),	n/a	+	+	+	n/a	+	+	+	n/a

**CONVENIENCE:**

Tan and Chua (1986) and Blankson.C et al. (2007) have applied bank selection criteria for different countries having diverse cultures, economy and background and results shows that open and liberalized business climate appears to explain consumer decisions but there exist a similarity of convenience that is preferred in all these countries. Purpose of this study was to find the extent that customers are intended to select a certain bank. Computer and electronic revolution brought rapid changes in current banking system where everything is going to be digitalized and globalized. Same is the case in Malaysia where internet banking is growing at fast speed. Suganti et al carried out a survey to check the patronage towards internet banking it was revealed that by having so many reservations about internet banking like security of transactions, trust and reluctance to change customers preferred internet banking due to convenience and ease of use. Different promotional efforts were made by banks to increase awareness of internet banking.

**LOCATION:**

Riggall (1980) analyzed 250 new comers and found location motivated them towards selection of specific bank. Martenson.R (2007) has analyzed consumer choice criteria in retail bank selection. Her findings are based on survey of 558 Swedish bank customers and the results show that customers selects their bank randomly in contradiction to the previous studies where location and rate of return and some other factors are involved in choosing a bank

**BEHAVIOUR OF THE STAFF:**

Evans (1979) divided selection criterion into two factors i.e. “service factors” and situation factors. The findings showed that each of the factors do not show the same degree of importance to customers. And this study was supported by Laroche et al. (1986) who examined 140 households in Montreal, Canada. Manda chitar et al. (2009) revealed ethical behaviors of financial entities on consumer behavior led that corporate social responsibility which plays an important role in improving service quality brand effect and ethical behaviors of staff effects commercial performance.

Supporting these arguments Salmons et al. (2009) found that influence of ethical behaviors of financial entities on consumer behaviors. Relationship, trust, satisfaction, and identification were the key factors of loyalty. While ethical and social dimensions have an indirect effect. A study was conducted by Omar.M and Ali.M used probability random sampling to check the brand loyalty and its relationship with marketing. 500 samples were distributed in three different locations by considering Roscoe's rule of thumb (sekaran, 2003). In this study a model was suggested to Islamic banks to ensure high productivity and brand loyalty. In this regards employees played very important role in building good relationships with their customers. Customer's satisfaction in retail banking was confirmed by Jamal and Naser (2002). Abu Dhabi Bank was selected for this study because it is the most profitable bank in UAE secondly it is significantly important bank in retail market. Some conclusions were drawn by managerial perspective that employees must be trained that they not only give attention to customers but they should be courteous and willing to help customers. Managers should be expert in their field that they understand their customer's need.

#### **BANK EXPERIENCE:**

Yavas.U(2007) have examined banking behavior of Gulf customers and he found bank experience, reputation quality of services and pleasant personnel's as major concerns of Gulf customers while advertising and rate of return as least important concerns. Jain. A and Pinson.C(2007)carried out a study about customers loyalty as a construct in the marketing of banking services and consumer patronage factors for banking services have been examined. It was found that bank loyalty should be considered while designing marketing strategies. It was suggested that banks need to put some efforts in retaining the patronage of on hand customers to increase market share and experience growth. Furthermore, this study resulted in developing some strategies to target loyal and non-loyal customers and indicated some directions for future researches.

#### **INTEREST RATE:**

Analytical hierarchy process was used by Javalgi et al. (1989) to check the patronage and found that interests on saving accounts and availability of loans were ranked higher in selecting a bank. Methawa.S et al. (1998) have recommended Islamic banks to understand their customers in this highly competitive market. Gerrard and cunningham carried a study in Singapore which states that Muslims and non-Muslims have different attitude towards selecting a bank depending on the nature of matter for example non-Muslims were more attracted towards interest while Muslims were more attracted towards suggestion of friends and family. It was proposed in the study that Islamic banks should aim at distributing more profit as much as conventional banks do.

#### **USE OF TECHNOLOGY:**



Almossawi.M et al. (2001) focused on finding the criteria to attract potential customers. It was found that potential customers are mainly attracted towards technology-based transactions like use of ATM machines. It was also revealed that potential customers must be considered as a capable market with two distinct segments i.e. male and female each having different choices of selecting a bank. M.Sadiq Sohail, Shanmugham.B(2003) have analyzed customer's preferences for electronic banking and revealed that internet accessibility, awareness, attitude towards change, computer and internet access costs, trust in one's bank, security concerns, ease of use and convenience are the major factors affecting the adoption of internet banking in Malaysia.

#### **SHARIAH COMPLIANCE:**

While, a latest study accomplished in Pakistan found Shari'ah compliance as the most important factor for patronizing decision for Islamic banks' customers (Hamid and Masood, 2011). The inclination for Shari'ah compliance is also confirmed by a more recent study (Lee and Ullah, 2011) but its claim is that "Shari'a compliance is not the only satisfaction yardstick for Islamic banks' customers; they also expect their banks to be convenient, technologically advanced and provide security for their capital" (p.131). This is also the case with other studies claiming key priority for Shari'a compliance (Hamid and Masood, 2011, Naser et al., 1999, Gerrard and Cunningham, 1997). CARTER model is used by Osman and Ali (2009) to measure the customer's satisfaction in Malaysian Islamic bank. Compliance is significantly important in choosing IFI and reliability and tangibility are ranked second and third after compliance. This study supports researches done previously. It is found in this study that bankers must present good service quality to its customers to strengthen their position in the market. If customers are satisfied they will ultimately be loyal to that particular bank.

#### **FOREIGN EXCHANGE SERVICES:**

Erol. C and Kaynak. E (1989) have examined the patronized behaviours of Jordanian customers and revealed that services of foreign exchange, safety of deposits, night depository and travellers cheques were found most useful services offered by the banks. Bank customers are indifferent among Islamic and conventional banking services. Authors have recommended that Islamic bank services must not be the duplication of services offered by conventional banks. W. Thomas Anderson et al. (1976) have made an analysis of marketing activities in service industry and they concluded that in spite of unprecedented expansion, service sector needs improvements as compared to manufacturing sector. A Manarai. L and K Manarai. A (2007) has analysed bank switching behaviour of customer which is very helpful from managerial aspect. In this study customer satisfaction is mainly focused and revealed many theoretical and managerial implications

Kaynak.E (2007) has analysed that how to measure banks personality and came up with some specific guidelines for ideal banking system. Mismatch between the perceptions of managers and customers leads towards unsatisfactory performance.

#### **AWERANESS OF PRODUCTS:**

Ahmed. A et al (2010) examined perceptions of bank customers regarding service quality of the Islamic and conventional banks in Pakistan and a significant difference between the perceptions of Islamic bank customers was found on the basis of gender but in conventional banking there was no significant differences between male and female's perceptions. Some guidelines were provided for the provision of marketable products to fulfil expectations of male and female customers according to their specific requirement. Especially it was suggested that Islamic banks should enhance awareness regarding products and services offered to compete with conventional banks.

#### **PROFESSIONALISM:**

A study was conducted on bank selection criteria of multiple bank users in Japan by Denton and Chan (2007) and it was found that multiple banking in Hong Kong is prevalent which is not restricted only to higher income group. Secondly people in Hong Kong are well aware with the financial services of the banks in city and their level of competency in different fields so they use multiple banks which provide best services individually. Convenience, risk and return were the primary factors in selecting multiple banks which are revealed in this study. 1250 samples were distributed equally among two different cities to check attitudes and usage of credit cards and a specialised company in data collection was hired for this response rate was 57%. Factor analysis was performed to check the behaviour of the customers. Satisfaction with financial situation was found most important by both groups and the second factor was convenience. Phenomenon used in previous studies was identified that income has a definite impact on use and marketing of credit cards. Numbers of different attitudinal and behaviour differences between English and French customers were found in this study. So it was suggested that different strategies must be used for both group while marketing.

#### **BANK CHARGES:**

An online questionnaire was distributed among different students over one server then data was checked for reliability and validity by cronbach's alpha coefficient. Internet banking in Singapore was new due to this reason majority of customers never tried internet banking while self-efficacy and government support was needed to enhance internet banking. Attitudinal subjective and behavioural norms are important in understanding selection of internet banking. Ideally the internet banking should not charge any fee for those services which are for free in physical world.

#### **MARKETING STRATEGIES:**

Gender differences in retail bank selection were represented by Mokhlis (2009). A quantitative approached was used on the survey performed on college male and

female students and it was revealed that choice criteria for females is different from males. Females are more patronised towards marketing, attractiveness of bank building, financial benefits and ATM services offered.

This research explains variations in the choice criteria of three different groups in Malaysia namely Malays, Chinese and Indians. The analysis approved that differences do exist between three ethnic groups and where managers do should focus on marketing and providing services. Exploratory factor analysis and Friedman analysis and varimax rotated factor analysis were employed to check and compare the selection process

#### **SERVICE QUALITY:**

Tahir.I et al conducted an empirical study regarding customer's expectation and perceptions of service quality by using exploratory factor analysis it was found that service quality level was unsatisfactory because huge gaps exist between customer's expectations and perceptions. Because their perceptions were not up to the limit of their expectations. Some corrective suggestions were given by the authors in this study to bridge this gap.

250 questionnaires were distributed among four different cities of Pakistan to check the importance of factors for selection of a bank. Friedman and factor analysis were used for this purpose. Service Quality and product features were highly regarded in the study while customers expect long term financing while this service lack in IFI's. By managerial aspects it was suggested that Islamic bank must maintain service quality and products features along with Shari'ah compliance.

Convenience sampling and descriptive sampling frame was used to conduct a study in Nigeria to check the customer choice criteria Maiyaki.A (2011). In this study results were interpreted by using sample and population means and by Z score. It was revealed that the first bank was the most preferred bank in Nigeria followed by united bank for Africa and intercontinental bank.

In previous literature most of the studies were conducted for upper and medium income levels and poor were totally ignored but still these banking products and services are acquired by the poor. Saunders's et al (2007) conducted a study in USA on patronage motives of urban informal poor. They concluded four factors that influence the perceived usefulness of selecting a bank. It was also observed that there is a significant difference in the perception of the individuals who have bank account in contrast with those who do not have bank account so it may be difficult for banks to attract those informal poor who do not have bank account.

#### **DATA AND VARIABLE DESCRIPTION**

This section includes description about variables and data and the way it is designed, Collected, Analyzed, and tools used for this process.

#### **DATA COLLECTION:**

A questionnaire was developed to conduct a survey among the bank's customers to check the importance of multiple factors while selecting a bank. In present study, 1000 self-administered questionnaires are distributed among the Islamic and conventional bank customers by using cluster sampling. The geographical coverage of data extends to six different cities, Islamabad, Karachi, Wah Cantt, Swat, Rawalpindi, and Taxila and the data was collected from each in proportion of their population. The total population of the survey area is 23696611 (Karachi 54%, Rawalpindi 14%, Islamabad 5%, Malakand 18%, Wah Cantt 1%, Taxila 6%).

The demographics and socio economic characteristics are analyzed according to the selection of their banks. Respondents were randomly selected from different banks in working hours in order to avoid the bias occurred due to concentration of data at specified time or some unexpected events. Moreover, customers were approached to fill up the questionnaire after giving them a briefing about questionnaire.

#### QUESTIONNAIRE DESIGN:

The questionnaire contains three sections: the first section is designed to gather respondent's information, second section contain account information; in third section Likert style scale (1=Least important and 5=Most important) is used to rank the importance of variables which are common for conventional and Islamic banks. Section 3 is further divided into three parts in which variables seemed to belong from one group according to their characteristics. 1) Convenience. 2) Cost and return 3) Shari'ah compliance. While factor analysis will perform grouping based on correlation among variables.

To compare the competency of Islamic bank customers with conventional banks, these variables seem important for both banking systems. Initially 25 variables were selected that a respondent perceive important in selection of a bank these variables are Convenient location, Availability of parking, Accessibility with public transport, Security of your money, Branch outlook (Does it look like Islamic?), Friendly behavior of the staff, Queue system, Availability of ATM machines, Online banking facility, Quick service, Competence of staff, Staff's knowledge about Islamic banking, Staff's knowledge about Islamic banking, Reputation of organization and Recommendation of parents.

Respondents were to select on a five point Likert type scale ranging from not important to most important. Most of these factors were adopted by previous studies (Erol and El-Bdour, 1989; Erol et al., 1990; Omer, 1992; Haron et al., 1994; Gerrard and Cunningham, 1997; Metawa and Almossawi, 1998; Ahmad and Haron, 2002; Abbas et al., 2003).

#### FACTOR ANALYSIS

Factor analysis is a statistical tool used to "reduce a large number of variables to some smaller number by telling us which belong together and which seem to say the same thing" (Emory and Cooper, 1991).

The Model

The factor model assumes that for individual, the observable multivariate vector can be generated as

$$\mu = E(X) = xC - \mu$$

Where  $\mu$  is a vector of variable means and  $L$  is matrix of co-efficient, is vector of standardized unobservable variables. Is a vector of errors or unique factors?

The model express  $p$  observable variables in terms of  $m$  unobservable common factors.

The loading pattern of matrix links the unobserved common factors to observed data.

The  $j$ th row of  $L$  represents the loading of  $j$ th variable on common factor.

Restriction of the model:

While is the diagonal matrix of unique variances.

$$=$$

$$=$$

Variances of individual variables can be written as

For each  $j$ , are taken from diagonal element of element and is the analogous diagonal element of  $\Psi$ . represents common part of the variance of  $j$ th variable termed as communality. While is unique portion of the variance referred to as uniqueness.

Factor arrangement matrix can be obtained by:

$$=$$

We assume that factors are orthogonal

Then

Factor analysis is mathematically complex, involves diverse considerations in application. Technically it includes strange terms such as eigenvalues, Factor loadings, communalities, uniqueness, Eigen values, Rotation etc. So before applying factor analysis it is necessary to get familiar with the particular tools used in execution of this analysis.

**KAISER-MAYER-OLKIN:**

Before obtaining the results of whole factor analysis, it's better to see the results of Kaiser-Mayer-Olkin (KMO). This test determines that whether data is adequate for factor analysis. Kaiser-Mayer-Olkin measure of sampling adequacy, which has become a standard test procedure for factor analysis. This test investigates that either the partial correlations among variables are small. KMO must be in excess of 0.7,

which is the rule of thumb, and currently obtained measure is 0.9. In addition, Bartlett's test of sphericity is used to test that whether the correlation matrix is an identity matrix, which will indicate that data is inappropriate or appropriate for the model and results of the test shows that data is appropriate for analysis with zero level of significance.

**TABLE 4.1**  
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.949
Bartlett's Test of SphericityApprox. Chi-Square	11619.383
Df	300.000
Sig.	.000

**DESCRIPTIVE STATISTICS:**

Mean of the factors shows respectability of the product. If we look at the data in the table highest mean is 4.1 for conventional and 3.31 for Islamic banking which shows that a customer regards security of his money as most important while investing in a particular bank. This result negates the previous researches on the same issue i.e. Anderson and Fulcher (1976), Riggall (1980), Erol and El-dour (1989) and Awan.H et al (2011) etc and confirmed the results of Omar.O and Orakwue.E (2006). One reason to prefer this attribute could be current scenario when the law and order situation in Pakistan is not well then a customer regards the security of his money on priority basis.

**TABLE NO 4.2**

Descriptive Statistics(Conventional)			Descriptive Statistics(Islamic)		
	Mean	Std. Deviation		Mean	Std. Deviation
CONVINIENT LOCATION	3.70	1.31	CONVINIENT LOCATION	3.05	1.47
AVAILABILITY OF PARKING	3.32	1.44	AVAILABILITY OF PARKING	3.02	1.23
ACCESSIBILITY WITH PUBLIC TRANSPORT	3.78	1.32	ACCESSIBILITY WITH PUBLIC TRANSPORT	3.14	1.22
SECURITY OF YOUR MONEY	4.12	1.22	SECURITY OF YOUR MONEY	3.31	1.27
FRIENDLY BEHAVIOUR OF STAFF	3.85	1.24	FRIENDLY BEHAVIOUR OF STAFF	3.18	1.25

EASE OF ACCESS TO ACCOUNT INFO	3.80	1.27	EASE OF ACCESS TO ACCOUNT INFO	3.03	1.28
HOURS OF OPERATION	3.76	1.18	HOURS OF OPERATION	3.14	1.21
QUEUE SYSTM	3.61	1.33	QUEUE SYSTM	2.92	1.26
AVAILABILITY OF ATM MACHINES	3.85	1.31	AVAILABILITY OF ATM MACHINES	3.07	1.33
ONLINE BANKING FACILITY	3.82	1.29	ONLINE BANKING FACILITY	3.26	1.23
QUICK SERVICE	3.85	1.14	QUICK SERVICE	3.27	1.19
ATTRATIVENESS OF BANK BUILDING	3.45	1.25	ATTRATIVENESS OF BANK BUILDING	3.00	1.15
COMPETENCE OF STAFF	3.76	1.19	COMPETENCE OF STAFF	3.25	1.20
STAFF KNOWLEDGE ABOUT ISLAMIC BANKING	3.48	1.32	STAFF KNOWLEDGE ABOUT ISLAMIC BANKING	3.16	1.21
TRUST WORTHINESS OF BANK SHARIAH BOARD	3.60	1.27	TRUST WORTHINESS OF BANK SHARIAH BOARD	3.17	1.23
SHARIAH COMPLIANCE	3.45	1.43	SHARIAH COMPLIANCE	3.18	1.34
RECCOMENDATION OF PARENTS	3.56	1.25	RECCOMENDATION OF PARENTS	3.08	1.15
BRANCH OUTLOOK	3.33	1.44	BRANCH OUTLOOK	3.08	1.22
REPUTATION OF ORGANIZATION	3.74	1.20	REPUTATION OF ORGANIZATION	3.21	1.18
NO COMMISSION CHARGED ON SERVICES	3.42	1.27	NO COMMISSION CHARGED ON SERVICES	3.00	1.16
NO PENALTY FOR LATE PAYMENT	3.41	1.29	NO PENALTY FOR LATE PAYMENT	3.00	1.18

CONFIDENTIALITY OF INFORMATION	3.86	1.26	CONFIDENTIALITY OF INFORMATION	3.25	1.26
INTERBRANCH FACILITIES	3.63	1.19	INTERBRANCH FACILITIES	2.99	1.21
VARIETY OF SERVICES OFFERED	3.53	1.28	VARIETY OF SERVICES OFFERED	3.04	1.17
LOW BANK CHARGES	3.51	1.28	LOW BANK CHARGES	2.99	1.15

Optimal number of components can be selected with the help of scree plot. First five components shows variation in the line and after that Scree line is almost parallel to x-axis. Moreover, generally, factors lying on steep slope are selected while factors lying on shallow slope are ignored. The last big drop occurred between fifth and sixth factor so it is better to select first five factors.

**COMMUNALITIES:**

It is the squared multiple correlation coefficient of one variable with the all other variables When factor analysis is performed certain amount of information is lost that are small values which do not fit well in factor solution and certain amount of information is retained and it is decided based on communalities. After removing statements, relating to demographics of the data and a portion of information which is extracted from the data by using principal component extraction method five factors are performed. Extraction communalities in this table are high in values so we can say that components which are extracted represents the variables well there is no need to extract another component. It shows the pattern of variations in the characteristics. Principal Component Analysis work on the assumption that variance of all attributes is common so before extraction it is considered as one. After removing those variables which defines the same pattern and which are highly inter correlated we are left with five factors.

In complete principal components analysis, with no factors left behind, communality is 1.0, or we can say that 100% of the variance of the known variable. The summation of the squared factor loadings for entire factors of a known variable is the variance in that variable accounted for by all the factors, and this is called the communality.

The factor analysis model extorts only that of variance, which is because of the common factors and mutual items. The percentage of variance of a specific item that is because of mutual items is called communality. The percentage of variance that is unique to each item is then the respective item's total variance minus the communality.

Common variance in the data structure is represented in Extraction column. By using percentages of squared multiple correlation coefficients we can find the percent of



variation which can be produced for one variable by using all other variables for example for Convenient location it is 0.67 which means that 67% of the convenient location data can be predicted from the data on remaining 24 characteristics. By knowing the data of other 24 attributes we can find the importance of convenient location within 67 percent of the true value on average. Information extracted from each variable i.e. common variance is shown in the table as under.

**TABLE NO 4.3**

	communalities		
	Initial	Extraction (conventional)	Extraction (Islamic)
CONVINIENT LOCATION	1	0.67	0.72
AVAILABILITY OF PARKING	1	0.74	0.70
ACCESSIBILITY WITH PUBLIC TRANSPORT	1	0.56	0.71
SECURITY OF YOUR MONEY	1	0.67	0.66
FRIENTLY BEHAVIOUR OF STAFF	1	0.65	0.57
EASE OF ACCESS TO ACCOUNT INFO	1	0.71	0.64
HOURS OF OPERATION	1	0.68	0.55
QUEUE SYSTM	1	0.54	0.57
AVAILABILITY OF ATM MACHINES	1	0.60	0.62
ONLINE BANKING FACILITY	1	0.65	0.55
QUICK SERVICE	1	0.76	0.60
ATTRATIVENESS OF BANK BUILDING	1	0.59	0.59
COMPETENCE OF STAFF	1	0.73	0.66
STAFF KNOWLEDGE ABOUT ISLAMIC BANKING	1	0.68	0.71
TRUST WORTHINESS OF BANK SHARIAH BOARD	1	0.69	0.62
SHARIAH COMPLIANCE	1	0.65	0.56
RECCOMENDATION OF PARENTS	1	0.59	0.52
BRANCH OUTLOOK	1	0.73	0.49
REPUTATION OF ORGANIZATION	1	0.52	0.62
NO COMMISSION CHARGED ON SERVICES	1	0.55	0.65
NO PENALTY FOR LATE PAYMENT	1	0.71	0.53

CONFIDENTIALITY OF INFORMATION	1	0.61	0.65
INTERBRANCH FACILITIES	1	0.64	0.68
VARIETY OF SERVICES OFFERED	1	0.65	0.56
LOW BANK CHARGES	1	0.60	0.52

In different estimation methods, initial estimates of common variances are needed. In iterative methods, for example ML & GLS initial communalities are initial values in estimating uniqueness, while in principal factor analysis these are the basis for constructing estimates. In communality estimation diagonal elements of dispersion matrix are replaced with communality estimates and as a result, a reduced matrix is constructed

**COMMUNALITY ESTIMATION:**

In communality estimation, reduced matrix is performed by replacing diagonal elements of dispersion matrix with the estimates of communalities. Three basic steps are involved in estimating communalities.

Constant fraction of  $a=1$  is replaced in the original diagonal elements of correlation matrix performed by principal component analysis.

After that, largest correlation of one variable with the other within the matrix is selected.

Squared Multiple Correlations between variables is estimated for communality. These communalities are calculated as  $h$  where  $i$  is the  $i$ th diagonal of the inverse of the dispersed matrix.

Communalities indicates amount of variance for each variable and in principal component extraction method, initial communalities are always equal to one in correlation analysis.

**FACTOR LOADINGS:**

These are the weights and correlation coefficients between the variables and factors .Higher loadings are better in defining dimensionality of the data. Moreover, negative values have negative impact in defining the relationship of the factors of the data. Factor loadings are the foundation for assigning a name to singular factors. Corresponding to Pearson's correlation coefficient  $r$ , the squared factor loading is the percentage of variance in the variable, elucidated by a factor.

A variety of rotation stratagems are anticipated in the literature: Varimax, Oblimin, Quartimin, but the mostly preferred rotation stratagem is the Varimax rotation. The goal of these rotation strategies is to obtain a clear example of loadings, i.e. the factors are somehow clearly manifested between high and low loadings for other variables. This is called ‘Simple Structure’.

Varimax rotation search to maximize the variances of the squared normalized factor loadings across variables for all factors. This is equal to maximize the variances in the columns of the matrix of the squared normalized factor loadings.

**EIGENVALUES:**

Eigenvalues are a group of scalars related with a linear system of equations known as characteristic roots, characteristic values or proper values, or latent roots.

It shows the variance in all the variables, which is accounted for by that factor. A factor's eigenvalue can be calculated as the sum of its squared factor. The ratio of eigenvalues is the ratio of explanatory significance of the factors with respect to the variables. If a factor has a low eigenvalue, then it is causative little to the explanation of variances in the variables and may be overlooked.

As many eigenvalues are calculated as the number of variables. Eigen values more than 1 are selected and in this table, only five values are more than one so these five values are taken.

**TABLE NO 4.4**

Total Variance Explained (Conventional)				Total Variance Explained(Islamic)			
Component	Initial Eigenvalues			Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %		Total	% of Variance	Cumulative %
1	10.88	43.51	43.51	1	9.71	38.82	38.82
2	1.71	6.85	50.36	2	1.72	6.86	45.68
3	1.32	5.27	55.63	3	1.48	5.91	51.59
4	1.25	4.99	60.62	4	1.25	5.01	56.60
5	1.01	4.05	64.67	5	1.02	4.07	60.66
6	0.90	3.60	68.27	6	0.89	3.56	64.22
7	0.77	3.07	71.34	7	0.83	3.33	67.54
8	0.68	2.73	74.08	8	0.74	2.98	70.52
9	0.62	2.50	76.57	9	0.65	2.59	73.10
10	0.57	2.28	78.86	10	0.63	2.51	75.62
11	0.55	2.18	81.04	11	0.58	2.33	77.95
12	0.52	2.07	83.11	12	0.56	2.25	80.20
13	0.50	2.01	85.12	13	0.51	2.04	82.24
14	0.48	1.92	87.04	14	0.49	1.95	84.19

15	0.42	1.67	88.71	15	0.47	1.89	86.08
16	0.38	1.53	90.24	16	0.43	1.72	87.80
17	0.34	1.37	91.62	17	0.42	1.67	89.47
18	0.33	1.32	92.94	18	0.37	1.49	90.96
19	0.30	1.20	94.14	19	0.37	1.48	92.44
20	0.29	1.15	95.29	20	0.35	1.41	93.85
21	0.28	1.12	96.41	21	0.34	1.36	95.21
22	0.26	1.04	97.45	22	0.33	1.31	96.53
23	0.23	0.92	98.37	23	0.31	1.23	97.75
24	0.22	0.88	99.25	24	0.28	1.13	98.88
25	0.19	0.75	100.00	25	0.28	1.12	100.00

One important aspect of factor model estimation is eigenvalue of reduced or unreduced matrices. This table shows variance explained by the initial solution. The total column shows eigenvalue or amount of variance in original variable accounted for by each component. It can be seen from the table below that first variable which is security of money effects the first component 43.5%, the second factor accounts for 6.8 % of variation and third, fourth and fifth factors are affected by the variables in the same manner which is performed by factor analysis. Percentage of variance column shows ratio of variance accounted for each component by total variance. The Cumulative percentage column gives the sum of percentage of variance accounted for by components. For example, the cumulative percentage for the second component is the cumulative sum of each column. These 25 variables are examined by factor analysis at 5% level of significance, which is divided into 5 components.

**TABLE NO 4.5**

Extraction Sums of Squared Loadings(conventional)			Extraction Sums of Squared Loadings(Islamic)		
Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
10.9	43.5	43.5	9.7	38.8	38.8
1.7	6.8	50.4	1.7	6.9	45.7
1.3	5.3	55.6	1.5	5.9	51.6
1.2	5.0	60.6	1.3	5.0	56.6
1.0	4.0	64.7	1.0	4.1	60.7

Initial eigenvalues there are as many components as variables while in correlation analysis sum of eigenvalues equals to number of components because this analysis is executed on correlation matrix and variables are standardized and each variable have a variance of one. Because eigenvalue more than 1 is selected, so we have five components from the extracted solution. These five components explain 64% percent of variability in original 25 variables, which is a large portion of the data, so by selecting these five components variability of data can be reduced with 46% loss of the information. While other variables contribute very little to the data. Now these 25 variables can be arranged into five groups, which belong to the same category.

**ANALYSIS:**

The responses obtained were analyzed by using SPSS and EVIEWS to determine that which of the bank selection criteria is more important. Factor analysis is a technique, which is used to reduce the large number of variables into smaller number by combining those variables, which belong together (Emory and Cooper 1991). By factor analysis these observable random variables can be clustered into factors, each reflecting an underlying property, which is commonly shared by a certain group of variables (De Vaus, 2002)

**ROTATED COMPONENT MATRIX:**

This analysis is done to check whether some correlation among factors exists or not. It shows that what variables represents which factors or belong to same group. The first component is highly correlated with variable 1, 3, 4,7,9,10,17, and 25. Therefore, it is best representative of all these variables while it is less or not correlated with the other variables and in the same way, other four components are formed. Variable are grouped into that factor where its correlation coefficient or factor loading is high. Different methods of rotation are used for analysis but in this study varimax rotation method is used

**TABLE NO 4.6**

	Rotated Matrix(Conventional)	Component					Rotated Component Matrix(islamic)					
		Component					Component					
		1	2	3	4	5	1	2	3	4	5	
1	CONVINIENT LOCATION	0.7	0.2	0.2	0.0	0.3	CONVINIENT LOCATION	0.8	0.2	0.2	0.1	0.2
2	AVAILABILI TY OF PARKING	0.3	0.1	0.4	0.1	0.7	AVAILABILI TY OF PARKING	0.8	0.1	0.2	0.1	0.1
3	ACCESSIBILI TY WITH PUBLIC TRANSPORT	0.6	0.3	0.1	0.2	0.3	ACCESSIBILI TY WITH PUBLIC TRANSPORT	0.8	0.2	0.1	0.2	0.2

4	SECURITY OF YOUR MONEY	0.6	0.3	0.0	0.3	0.2	SECURITY OF YOUR MONEY	0.6	0.3	0.1	0.3	0.3
5	FRIENTLY BEHAVIOUR OF STAFF	0.3	0.3	-0.1	0.6	0.4	FRIENTLY BEHAVIOUR OF STAFF	0.5	0.3	0.1	0.4	0.2
6	EASE OF ACCESS TO ACCOUNT INFO	0.4	0.7	0.1	0.1	0.1	EASE OF ACCESS TO ACCOUNT INFO	0.0	0.1	0.0	0.6	0.5
7	HOURS OF OPERATION	0.5	0.6	0.2	0.1	0.1	HOURS OF OPERATION	0.3	0.1	0.2	0.2	0.6
8	QUEUE SYSTME	0.2	0.2	0.1	0.5	0.4	QUEUE SYSTME	0.3	0.1	0.1	0.7	0.0
9	AVAILABILITY OF ATM MACHINES	0.5	0.0	0.1	0.4	0.4	AVAILABILITY OF ATM MACHINES	0.2	0.2	0.1	0.7	0.0
10	ONLINE BANKING FACILITY	0.7	-0.1	0.1	0.3	0.1	ONLINE BANKING FACILITY	0.4	0.3	0.2	0.5	0.0
11	QUICK SERVICE	0.6	0.1	0.3	0.6	0.1	QUICK SERVICE	0.3	0.6	0.2	0.4	0.1
12	ATTRATIVE NESS OF BANK BUILDING	0.2	0.1	0.7	0.1	0.2	ATTRATIVE NESS OF BANK BUILDING	0.2	0.1	0.7	0.1	0.2
13	COMPETENCE OF STAFF	0.3	0.2	0.3	0.7	0.0	COMPETENCE OF STAFF	0.3	0.7	0.2	0.2	0.2
14	STAFF KNOWLEDGE ABOUT ISLAMIC BANKING	0.1	0.3	0.4	0.6	0.2	STAFF KNOWLEDGE ABOUT ISLAMIC BANKING	0.2	0.8	0.2	0.0	0.2
15	TRUST WORTHINES S OF BANK SHARIAH BOARD	0.0	0.6	0.4	0.4	0.2	TRUST WORTHINES S OF BANK SHARIAH BOARD	0.2	0.3	0.3	0.0	0.6
16	SHARIAH COMPLIANCE	-0.1	0.7	0.2	0.2	0.2	SHARIAH COMPLIANCE	0.2	0.4	0.2	-0.1	0.5
17	RECCOMENDATION OF	0.6	0.2	0.4	0.0	0.0	RECCOMENDATION OF	0.2	0.4	0.5	0.1	0.0

	PARENTS						PARENTS					
1 8	BRANCH OUTLOOK	0. 2	0. 2	0. 2	0. 1	0. 8	BRANCH OUTLOOK	0. 5	0. 3	0. 1	0. 2	0. 2
1 9	REPUTATION OF ORGANIZATI ON	0. 3	0. 2	0. 5	0. 4	- 0. 1	REPUTATION OF ORGANIZATI ON	0. 3	0. 6	0. 2	0. 2	0. 2
2 0	NO COMMISSIO N CHARGED ON SERVICES	0. 2	0. 3	0. 6	0. 1	0. 3	NO COMMISSIO N CHARGED ON SERVICES	0. 1	0. 1	0. 8	0. 2	0. 1
2 1	NO PENALTY FOR LATE PAYMENT	0. 0	0. 3	0. 7	0. 3	0. 3	NO PENALTY FOR LATE PAYMENT	0. 2	0. 1	0. 6	- 0. 1	0. 4
2 2	CONFIDENTI ALITY OF INFORMATIO N	0. 4	0. 6	0. 2	0. 2	0. 0	CONFIDENTI ALITY OF INFORMATIO N	0. 2	0. 1	0. 3	0. 2	0. 7
2 3	INTERBRAN CH FACILITIES	0. 5	0. 6	0. 2	0. 2	0. 2	INTERBRAN CH FACILITIES	0. 0	0. 0	0. 2	0. 6	0. 5
2 4	VARIETY OF SERVICES OFFERED	0. 5	0. 2	0. 6	0. 1	0. 0	VARIETY OF SERVICES OFFERED	0. 1	0. 3	0. 6	0. 2	0. 2
2 5	LOW BANK CHARGES	0. 5	0. 2	0. 5	0. 2	0. 1	LOW BANK CHARGES	0. 0	0. 4	0. 5	0. 4	0. 1

As a result of rotated component matrix these five groups are generated.

**NAMING COMPONENTS:**

The customer satisfaction data on 25 attributes is analysed by using factor analysis to obtain the dimensions of bank services. Results are shown with detail of methodology in the table below. Five dimensions of customer satisfaction are identified which are explained as

Some significant insights about banking services are provided by these factors. As it can be seen that factor 1 is correlated with 8 factors. In previous studies it was examined that financial considerations did stand out separately as compared to other non-financial services by AK Manrai and LK Manrai(2007) but in current study one attribute regarding bank financial consideration is included in the factor grouped with convenience.

The variance explained by different factors is an indication of the extent of variability that existed in surveyed population in their satisfaction with the bank services along the five service dimensions. Thus the variance describes the range of responses i.e. how scattered the customer's responses were along each of the six service dimensions. The financial aspects like penalty for late payment and commission charged on services explains 5% of variation in the data as compared to non-financial aspects like accessibility, Reliability, personnel and location which explains 57% of the variance. This finding suggests that greater variability exists in customer satisfaction on account of non-financial aspects.

#### FACTOR 1

The first factor for conventional bank describes group of variables relationship: convenient location, accessibility with public transport, security of money, hours of operation, availability of ATM machines, online banking facility, recommendation of parents and low service charges. The nature of the loaded variables suggests that these are convenience and family oriented customers. These findings confirmed an earlier analysis done by Erol and Radi (2007) who discovered that in factor one convenience and image oriented customers were grouped. This factor is considered as most important factor in selection of bank which explains largest variation of 43% in total variation. While looking at Islamic banking factor one consist of convenient location, availability of parking, accessibility with public transport, Security of money, Friendly behaviour of staff and branch outlook constitutes six main variables which have high loadings for factor one, which indicates that Islamic bank customers are convenience oriented and desires security of their assets aside.

#### FACTOR 2

Emerged from analysis of conventional banks data includes easy access to account info, trust worthiness of Shari'ah board, shariah compliance but in fact these variables must result in zero attraction for conventional bank customers because shariah board and shariah compliance are not available in conventional banks it happens because of less knowledge regarding shariah compliance to bank customers. While other variables are confidentiality of information and inter branch facilities, which are related to the reliability of a bank and it explains 6% of variation in total. While for Islamic bank customer's second factor consists of quick service, competence of staff, staff knowledge about Islamic banking, reputation of organization. This group is related with the human resource management in Islamic banking.

#### FACTOR 3

Represents financial strength of a bank i.e. how sound and well reputed is that bank by appearance and secondly charges applied on different services and payments given by that particular banks are good enough to make deposits. This factor explains 5% of total variations. While Islamic banks factor 3 contains seven variables i.e. attractiveness of bank building, branch outlook, recommendation of parents and no



commission charged on service, no penalty for late payment, variety of services offered, low banking charges this factor is about image and charges oriented customers.

**FACTOR 4**

Explains the behaviour and response of the staff in preceding any transaction in conventional banking it consists of five variables Friendly behaviour of staff, Queue system, Quick service, Competence of staff and staff knowledge about Islamic banking. This factor is labelled as human resource management. This explains total variance of 4%. Location includes availability of parking and outlook, which explains 4% variation of the total. While factor 4 in Islamic banking consists of Ease of access to account info, queue system, availability of ATM machines, Online banking facilities and interbank facilities variables, which explains technology related Services.

**FACTOR 5**

In conventional banking consists of two variables that is availability of parking and branch outlook. This group is labelled as convenient location. While in Islamic banking, it consists of four variables i.e. hours of operation, trustworthiness of bank Shari'ah board, Shari'ah compliance, and confidentiality of information that indicates the importance of Shari'ah compliance.

These results are somehow consistent with previous studies of Anderson and Fulcher (1976), Omer (1992), Methawa and Almossawi (1998), Phuong ta and Harkar (2000) and Ahmed. W et al (2008)

**TABLE NO 4.7**

<b>Fact ors</b>	<b>Attributes</b>	<b>Rotated Loadings</b>	<b>Variance Explained</b>	<b>Fact ors</b>	<b>Attributes</b>	<b>Rotated Loadings</b>	<b>Variance Explained</b>
<b>Factor 1</b>	CONVINIENT LOCATION	0.71	43%	<b>Factor 1</b>	CONVINIENT LOCATION	0.8	43.50 %
	ACCESSIBILITY WITH PUBLIC TRANSPORT	0.58			AVAILABILITY OF PARKING	0.8	
	SECURITY OF YOUR MONEY	0.64			ACCESSIBILITY WITH PUBLIC TRANSPORT	0.8	
	HOURS OF OPERATION	0.54			SECURITY OF YOUR MONEY	0.6	

	AVAILABILITY OF ATM MACHINES	0.53			FRIENDLY BEHAVIOUR OF STAFF	0.5	
	ONLINE BANKING FACILITY	0.71			BRANCH OUTLOOK	0.5	
	RECOMMENDATION OF PARENTS	0.62		<b>Factor 2</b>	QUICK SERVICE	0.6	6.80%
	LOW BANKING CHARGES	0.52			COMPETENCE OF STAFF	0.7	
<b>Factor 2</b>	EASE OF ACCESS TO ACCOUNT INFORMATION	0.69	6%		STAFF KNOWLEDGE ABOUT ISLAMIC BANKING	0.8	
	TRUST WORTHINESS OF BANK SHARIAH BOARD	0.64			REPUTATION OF ORGANIZATION	0.6	
	SHARIAH COMPLIANCE	0.72		<b>Factor 3</b>	ATTRACTIVENESS OF BANK BUILDING	0.7	5.30%
	CONFIDENTIALITY OF INFORMATION	0.56			RECOMMENDATION OF PARENTS	0.5	
	INTERBRANCH FACILITIES	0.60			NO COMMISSION CHARGED ON SERVICES	0.8	
<b>Factor 3</b>	ATTRACTIVENESS OF BANK BUILDING	0.69	5%		NO PENALTY FOR LATE PAYMENT	0.6	
	REPUTATION OF ORGANIZATION	0.45			VARIETY OF SERVICES OFFERED	0.6	
	NO COMMISSION	0.61			LOW BANK CHARGES	0.5	

	N CHARGED ON SERVICES						
	NO PENALTY FOR LATE PAYMENTS	0.68		<b>Factor 4</b>	EASE OF ACCESS TO ACCOUNT INFO	0.6	5%
	VARIETY OF SERVICES OFFERED	0.55			QUEUE SYSTEME	0.7	
<b>Factor 4</b>	FRIENDLY BEHAVIOUR OF STAFF	0.58	4%		AVAILABILITY OF ATM MACHINES	0.7	
	QUEUE SYSTEM	0.50			ONLINE BANKING FACILITY	0.5	
	QUICK SERVICE	0.58			INTERBRANCH FACILITIES	0.6	
	COMPETENCE OF STAFF	0.70		<b>Factor 5</b>	HOURS OF OPERATION	0.6	4%
	STAFF KNOWLEDGE ABOUT ISLAMIC BANKING	0.62			TRUST WORTHINESS OF BANK SHARIAH BOARD	0.6	
<b>Factor 5</b>	AVAILABILITY OF PARKING	0.69	4%		SHARIAH COMPLIANCE	0.5	
	BRANCH OUTLOOK	0.77			CONFIDENTIALITY OF INFORMATION	0.7	

- a) Eigen value of five factors is greater than one.
- b) Rotation is done by using varimax rotation. Variables written next to factors have a loading value greater than .50 on that factor.
- c) Reliability measure ranges 0-1. Higher values are better acceptable.
- d) Extraction method is principal component analysis.

Thus the overall banking services for conventional banks can be described in five dimensions that are

- Convenience
- Reliability
- Financial strength

HRM

Convenient Location

Five Dimensions for Islamic banks are:

Security of money

HRM

Image and Charges oriented considerations

Technology related services

Importance of Shari'ah Compliance

For each of these five factors compound variables are constructed by combining customer's answers on relevant attributes that was loaded on a particular factor. For each case and each component, the component score is computed by multiplying the case's standardized variable values (computed using list wise deletion) by the component's score coefficients. The resulting five component score variables are representative of, and can be used in place of, the twenty-five original variables. It is somehow good to use the component instead of using original variables because the factors are representative of original variables and these factors are not linearly correlated with each other.

FRIEDMAN ANALYSIS:

The Friedman test is a non-parametric statistical test developed by the U.S. economist Milton Friedman that compares three or more groups. In this test, values are ranked in each row from smaller to greater and every row is ranked individually. It then sum the rank in every column like the parametric repeated measures ANOVA, it is used to identify disparity in treatments across multiple test attempts. The process entails ranking each row collectively, then considering the values of ranks by columns.

CALCULATION METHOD:

Where

C= number of columns

n= number of rows

$R_c^2$  = sum or ranks in columns

Twenty-five variables were analysed by using Friedman's test to determine their ranks. Most of the variables focused on accessibility of customer while some measure financial benefits, location, and reliability. The results of the Friedman's test, which are significant with asymptotic

Test Statistics (Conventional banks)		Test Statistics (Islamic banks)	
N	221	N	778
Chi-Square	199.1655	Chi-Square	191.75
Df	24	Df	24
Asymp. Sig.	0.000	Asymp. Sig.	0
a. Friedman Test		a. Friedman Test	

### **RANKING (CONVENTIONAL BANKS)**

Conventional bank customers ranked security of money as most important while availability of ATM machines, Quick service, and Friendly behavior of staff are ranked second, third and fourth respectively. This indicates that customers are more concerned about security of their money and availability of ATM machines. Availability of ATM machines was ranked seventh by Rehman and Abdur (2008) who conducted a same kind of study in Pakistan. While this study supports the results of Sudin Haron, Norafifah Ahmed and Sandra and Planisek (1994) who revealed that customers rank ATM machines on second number. Quick service is the third most important factor ranked by conventional bank customers it indicates that customers are more considered about their time that is wasted on provision of slow services. Sudin Haron obtains almost similar results where Quick services are ranked fourth while Almosawi ranked quick service on sixth number. Friendliness of bank staff is ranked fifth followed by online banking facility, confidentiality of information, accessibility with public transport and ease of access to account info. Customers of conventional banks ranked availability of parking as least important factor in selection of bank which negates the findings of Kaynak and Kucukemiroglu (1992) who indicated availability of parking as second most important factor in selection of bank. Anderson and Fultcher (1976) and Yavas (2007) ranked as 10th. Second least important factor ranked by conventional bank customers is commission charged on services negating the results of Sudin haron(1994), Saunders and Russell abratt (2007) and Delvin (2011) who ranked commission charged on services in the top ten most important factors. While results of Erol, Kaynak and Radi (2007) are confirmed by this finding. The third least important factor for conventional bank customer is branch outlook. Which confirmed the results of Saunders, Bendixen and Abratt (2007) who ranked appearance of bank in least important factors. While negates the results of Erol, Kaynak and Radi (2007) who revealed that appearance of bank building is one of the most important patronage factor. These least important factors are followed by no penalty for late payment, Shariah compliance (It must be resulted as the least important factor but still it have gained some place in ranking factors which may be due to lack of information regarding shariah compliance to customers in Pakistan).

### **RANKING (ISLAMIC BANKS):**

Islamic bank customer's ranked security of money as most important factor in selection of bank results shows that Islamic bank customers in Pakistan are more concerned about security of their deposits. We can say when customer moves to a bank to open an account security of his/her money is the main reason for selection of a bank and in current scenario of Pakistan where law and order situation is not well it can be inferred that customers are more concerned about their security of money. Second most important factor in selection of Islamic bank is the competence of staff.

Methawa and Almossawi (1998) that future of Islamic banking depends upon competency of staff suggested same results. Online banking facility is the third most important factor revealed in selection of a bank. This is followed by confidentiality of information, Quick service, Reputation of organization and shariah compliance. The least important factor ranked by Islamic bank customer is queue system these findings are contradictory with the findings of Omar and Orakwue (2006) who suggested queue system as an efficiency indicator for Nigerian banks. Second least important factor by Islamic bank customers is attractiveness of bank building land third least important factor is low commission charged on services. These least important factors are followed by no penalty for late payment, convenient location, availability of parking and variety of services offered.

**SIMILARITIES AND DISSIMILARITIES:**

Ranking of variables with mean importance is shown in the table below. Variable, which is loaded first by Islamic and conventional bank customers, is security of your money, which indicates that Islamic and conventional bank customers most frequently use this service and it is considered as most important in selection of bank. Second most important variable considered by conventional bank customers is Availability of ATM machines while Muslim customers prefer competence of staff at second number. Quick service is third most important factor in conventional banking while it is considered as fifth in Islamic banking patronage and Islamic banking customers prefer online banking facility as third most important variable. Availability of parking and Queue system are given least importance by conventional and Islamic bank customers respectively. No penalty for late payment is the least important factor selected by both Islamic and conventional bank customers. While almost similar results are obtained for attractiveness of bank building. Patronage factors related to convenience are given much importance then HRM, Financial concerns and Reliability. While Muslim regards security of their assets more important than HRM, Image, Technology, and Shari'ah Compliance. There are some similarities in between the findings of this study and findings of earlier studies. The convenient location as most important variable was resulted in the studies of Tan and Chua (1986), Blankson. C et al. (2007) and Riggall (1980). Particularly convenient location for most of the customers is desirable to avoid unnecessary time in finding and reaching the desired bank. It suggests that there is significance difference in selection criteria for Islamic bank as well as conventional banks.

**TABLE NO 4.8**

	Ranks(CONVENTIONAL BANKS)	Mean Rank		Ranks(Islamic BANKS)	Mean Ranks
1	SECURITY OF YOUR MONEY	16.06	1	SECURITY OF YOUR MONEY	14.23

2	AVAILABILITY OF ATM MACHINES	14.43	2	COMPETENCE OF STAFF	13.90
3	QUICK SERVICE	14.33	3	ONLINE BANKING FACILITY	13.89
4	FRIENDLY BEHAVIOUR OF STAFF	14.28	4	CONFIDENTIALITY OF INFORMATION	13.84
5	ONLINE BANKING FACILITY	14.18	5	QUICK SERVICE	13.78
6	CONFIDENTIALITY OF INFORMATION	14.16	6	REPUTATION OF ORGANIZATION	13.64
7	ACCESSIBILITY WITH PUBLIC TRANSPORT	13.91	7	SHARIAH COMPLIANCE	13.62
8	EASE OF ACCESS TO ACCOUNT INFO	13.88	8	TRUST WORTHINESS OF BANK SHARIAH BOARD	13.36
9	COMPETENCE OF STAFF	13.74	9	FRIENDLY BEHAVIOUR OF STAFF	13.36
10	HOURS OF OPERATION	13.57	10	STAFF KNOWLEDGE ABOUT ISLAMIC BANKING	13.33
11	REPUTATION OF ORGANIZATION	13.36	11	AVAILABILITY OF ATM MACHINES	13.17
12	CONVINIENT LOCATION	13.32	12	HOURS OF OPERATION	13.09
13	QUEUE SYSTM	13.00	13	ACCESSIBILITY WITH PUBLIC TRANSPORT	12.90
14	INTERBRANCH FACILITIES	12.73	14	EASE OF ACCESS TO ACCOUNT INFO	12.86
15	TRUST WORTHINESS OF BANK SHARIAH BOARD	12.62	15	RECCOMENDATION OF PARENTS	12.78
16	RECCOMENDATION OF PARENTS	12.33	16	BRANCH OUTLOOK	12.69
17	STAFF KNOWLEDGE ABOUT ISLAMIC BANKING	12.04	17	INTERBRANCH FACILITIES	12.37
18	VARIETY OF SERVICES OFFERED	11.99	18	VARIETY OF SERVICES OFFERED	12.36
19	LOW BANK CHARGES	11.99	19	AVAILABILITY OF PARKING	12.34
20	SHARIAH COMPLIANCE	11.86	20	CONVINIENT LOCATION	12.33
21	NO PENALTY FOR LATE PAYMENT	11.54	21	NO PENALTY FOR LATE PAYMENT	12.31
22	ATTRATIVENESS OF BANK BUILDING	11.53	22	NO COMMISSION CHARGED ON SERVICES	12.29
23	BRANCH OUTLOOK	11.52	23	LOW BANK CHARGES	12.28
24	NO COMMISSION CHARGED ON SERVICES	11.43	24	ATTRATIVENESS OF BANK BUILDING	12.25
25	AVAILABILITY OF PARKING	11.20	25	QUEUE SYSTM	12.02

**MODEL SPECIFICATION FOR DIFFERENCE OF MEANS:**

Main objective here is to test that average response by the conventional and Islamic bank customers are same or different. T-test is applied on the independent samples by using following formula:

$$t = \frac{\bar{X}_I - \bar{Y}_C}{\sqrt{\frac{\sigma_I^2}{n_I} + \frac{\sigma_C^2}{n_C}}}$$

Where  $\bar{X}$  is mean of Islamic bank customers,  $\bar{Y}$  is mean of conventional bank customers,  $\sigma_I^2$  is population variance of Islamic bank customers,  $\sigma_C^2$  is population Variance of conventional bank customers,  $n_I$  is sample size of Islamic bank customers,  $n_C$  is sample size of conventional bank customers.

When population variances are unknown and assumed to be equal then we use their sample variances  $S_I^2$  and  $S_C^2$  to compute a pooled variance estimator ( $S_p^2$ ) as

$$S_p^2 = \frac{(n_I - 1)S_I^2 + (n_C - 1)S_C^2}{(n_I + n_C - 2)}$$

And then use following formula to compute t-statistics

$$t = \frac{\bar{X}_I - \bar{Y}_C}{\sqrt{\frac{S_p^2}{n_I} + \frac{S_p^2}{n_C}}}$$

However, if population variances are unknown and not equal, then following modifications are required in computation of t-test, variances and the degrees of freedom as:

$$t = \frac{\bar{X}_I - \bar{Y}_C}{\sqrt{\frac{S_I^2}{n_I} + \frac{S_C^2}{n_C}}} \quad \text{With degree of freedom} = \frac{[\frac{S_I^2}{n_I} + \frac{S_C^2}{n_C}]^2}{\frac{S_I^2}{n_I} + \frac{S_C^2}{n_C}}$$

To check equality of variances we use F-test. In F test, null hypothesis of equal variances is tested against the alternative that they are not equal and F statistic is calculated as

$$F = \frac{S_I^2/df}{S_C^2/df}$$

If F statistic computed is greater than F critical we reject the null of equal variances.

**ANALYSIS OF RESULTS:**

First, we see the descriptive statistics for two groups. Looking at the column of mean it can be seen that mean for Islamic bank customers for different services is lower than that of conventional bank customers. It means that customers are more satisfied with the services of conventional banks as compare to Islamic banks.



Next we see the Levene's test for equality of variances. This tells that if we have met our second assumption (The two groups have approximately equal variances on the dependent variables). If the Levene's test is significant (The value lies in the critical region) the two variances are significantly different. If it is not significant the two variances are not significantly different i.e. the two variances are approximately equal. If Leven's test is not significant we have met our second assumption.

Looking at the results of analysis it can be seen that variables which are highlighted have significance lower than .05. So we can say that variances of these variables are significantly different and bottom line of the results is interpreted in highlighted variables in table below. By taking t values and degrees of freedom we can conclude that while using services of Islamic and conventional banking there are some services which have a significant effect on selection of bank. Convenient location, Availability if parking, Security of money. Attractiveness of bank building, Staff knowledge about Islamic banking, Shariah compliance, Recommendation of parents, Branch outlook , No commission charged on services, Variety of services offered and low bank charges are those services which effect the selection of Islamic bank rather conventional bank. While the other services do not have a significant effect on selection of b

RELATIONSHIP B/W SELECTION OF BANK AND VARIABLES:

TABLE NO 4.10

	OCCUPATION		EDUCATION		GENDER		TYPE OF BANK		ACCOUNT BALANCE	
	$\chi^2$	Sig.	$\chi^2$	Sig.	$\chi^2$	Sig.	$\chi^2$	Sig.	$\chi^2$	Sig.
CONVENIENT LOCATION	54.48	0	2.93	0.57	15.55	0	2.29	0.32	41.916	0
AVAILABILITY OF PARKING	62.06	0	1.81	0.77	16.59	0	0.02	0.99	14.276	0.001
ACCESSIBILITY WITH PUBLIC TRANSPORT	72.13	0	6.84	0.14	9.12	0	2.32	0.31	27.883	0
SECURITY OF YOUR MONEY	107.79	0	19.06	0	3.18	0.07	0.86	0.65	40.098	0
FRIENDLY BEHAVIOUR OF STAFF	75.25	0	10.94	0.03	7.18	0.01	2.42	0.3	33.268	0
EASE OF ACCESS TO	94.39	0	46.99	0	0.2	0.65	4.1	0.13	30.384	0

ACCOUNT INFO										
HOURS OF OPERATION	55.52	0	14.27	0.01	0.97	0.32	3.61	0.16	41.474	0
QUEUE SYSTME	59.5	0	18.24	0	1.38	0.24	1.49	0.47	14.048	0.001
AVAILABILITY OF ATM MACHINES	45.27	0	27.05	0	0.03	0.86	8.36	0.02	16.465	0
ONLINE BANKING FACILITY	28.35	0	1.78	0.78	3.69	0.05	13.94	0	30.844	0
QUICK SERVICE	61.08	0	7.74	0.1	3.19	0.07	4.04	0.13	22.603	0
ATTRACTIVE NESS OF BANK BUILDING	26.48	0	3.51	0.48	0.03	0.87	0.65	0.72	10.64	0.005
COMPETENCE OF STAFF	89.63	0	8.02	0.09	4.11	0.04	1.76	0.42	16.573	0
STAFF KNOWLEDGE ABOUT ISLAMIC	50.89	0	7.23	0.12	3.5	0.06	2.06	0.36	21.082	0
TRUST WORTHINESS OF BANK SHARIAH BOARD	80.8	0	18.35	0	0.69	0.41	10.89	0	33.088	0
SHARIAH COMPLIANCE	70.74	0	5	0.29	2.8	0.09	13.13	0	52.875	0
RECCOMENDATION OF PARENTS	20.05	0	0.48	0.98	0.85	0.36	3.65	0.16	14.476	0.001
BRANCH OUTLOOK	58.36	0	4.29	0.37	4.6	0.03	1.57	0.46	15.217	0
REPUTATION OF ORGANIZATION	68.76	0	5.91	0.21	1.11	0.29	0.17	0.92	28.17	0
NO COMMISSION CHARGED	31.6	0	4.18	0.38	0.05	0.82	2.6	0.27	16.867	0
NO PENALTY FOR LATE	22.96	0	4.94	0.29	0	0.99	2.56	0.28	24.502	0

PAYMENT										
CONFIDENTIALITY OF INFORMATION	68.88	0	16.79	0	0.95	0.33	2.53	0.28	38.268	0
INTERBRANCH FACILITIES	71.47	0	22.7	0	0.17	0.68	3.01	0.22	26.765	0
VARIETY OF SERVICES OFFERED	40.51	0	8.19	0.08	0.41	0.52	0.95	0.62	27.028	0
LOW BANK CHARGES	35.41	0	14.09	0.01	0.01	0.94	1.8	0.41	14.593	0.001

Other demographic variables of age, occupation, and account balance do not report much difference in variables in selection of bank as education. However in case of Gender responses differ significantly. The above table shows a collective picture of Islamic and conventional banking system in which customers prefer some services by their demographic characteristics. As we can see that educated people are more inclined towards variables as Convenient location, Availability of parking, Accessibility with public transport, Attractiveness of bank building, competence of staff, Staff knowledge about Islamic banking, Shari'ah compliance, Recommendation of parents, Branch outlook, Reputation of Organization, No Commission charged on services, No penalty for late payment and variety of services offered.

**CONCLUSION:**

In banking, industry of Pakistan competition is increasing day by day due to existence of Islamic and conventional banking for this reason current study has focused on determining those factors, which are important in selection of a bank. Being an Islamic state people are more interested in conventional banking system. We have tried to figure out those factors, which are motivating a customer towards conventional banking, and in this regard what should Islamic banks need to do to attract the larger share of customers in market.

The analysis of variables constitutes different aspects of customer selection criteria showing that there are five over riding dimensions for Islamic and five for conventional bank customers. Customers in Islamic banks consider security of money as an important factor in selecting an Islamic bank while customers of conventional banks regards convenience more important in selection of bank. In the same manner other four factors are derived which are discussed before in this study. These two factors are highly regarded by the both Islamic and conventional bank customers. Second important factor by Islamic bank customers was HRM while conventional bank customers are considered about reliability of bank and its services. From the ranking of the variables by Friedman analysis it was found that Islamic and conventional bank customers both regards security of their money as most important

so it is given highest rank i.e. 16.06 by Conventional bank customers while 14.23 by Islamic bank customers. Second important variable by conventional bank customers is Availability of ATM machines while Islamic bank customer prefers competence of staff as the second important. Looking at the least important factors we can find that conventional banks regards availability of parking while Queue system is least significant by Islamic bank customer So we can say that there is significant difference between the choice of Islamic and conventional bank customers regarding their services.

To ascertain which demographic characters like Occupation, Gender and Education play an important role in selecting each factor by applying Kruskal Wallis test on the data. While the Association between selection factors. The results suggested that the number of demographic characteristics such as education and Gender plays an important role in selection of some variables while Occupation do not play a significant role in selection of variables one reason for this could be contracts between banks and organization to use their banking services so as employees do not have any other choice in place of using services of that particular bank. Secondly there is a no significant impact of Account balance and selection variables while type of bank plays a significant role in selection of particular variable. There is a difference between the factors that define the perceived usefulness of specific services and demographic characteristics.

Two independent samples t-test was applied to check the mean difference of variables from both banking system and findings revealed that customers from the conventional banking system are more satisfied with their services as compare to Islamic bank customers.

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