Impact of E-trust and Technology Support on Intention to Use E-banking in Pakistan; Moderating Role of Perceived Usefulness

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Abstract

This study aimed to find out the relationship of factors that are prevailing in the mind of a common customer who is using a bank or any bank for his/her financial transaction. Research conducted to evaluate the common indicators that matter the most while someone intends to use E-banking. This study examined the respondent's results which were gathered and interpreted its results therein about intentions to use E-banking. The results come from a cross sectional study which was done at the convenience of the researcher. The results may not be generalized across the country as there results of the study may differ in other cities of Pakistan as there always exists difference of opinion and approach to adopt anything region wise. Study founded that bank customer either internal or external has difference of opinion in their apparent usage regarding E-banking. Trust factor is the most vital factor that is directly related to the adoption feature related to E-banking. Those customers who have wisdom about technology advancement adopt E-banking easily while rest have confusions and observations regarding trustworthiness of the electronic services as this type of banking does not satisfies them. While the other factor which is studied in the study is technology support which is also proved to be the significant factor which is affecting the adoption of E-banking. Consumers have that understanding that using the electronic banking software and applications are difficult and time taking whereas the situation in totally different from that. Customer of the bank is mostly unaware of the fact that using E-banking also depends upon their perceived usefulness. As when the customers will have the understanding regarding its importance there will be certain increase in the adoption of this type of banking. Perceived usefulness was used as a moderator in this study having moderate impact on the relationships of variables used in this paper. In Pakistani context as customers are more indulged towards having trust issue rather understanding the benefits and usefulness of the technology. This study has attempted to enhance the existing body of language in this sector of Pakistan which can help the financial institutions like banks enhance their services and consumers acceptability towards E-banking.

Keywords: E-trust • Technology support • Perceived usefulness • E-banking

Introduction

Information Technology (IT) has become an essential tool for different businesses including banks and other financial institutions to improve their business proficiency alongside service quality to attract new customers and to meet the customer's requirement in a real competitive environment. The technological inventions have been recognized to subsidies the bank with their distribution channels. Banks use information technology in electronic delivery channels, which are called electronic banking. With the evolution of electronic distribution channels, the financial industry has been hugely impacted by it in the near past. Each financial institution is now trying to improve its services to survive in such a competitive environment. Electronic banking is a facility provided to the general public in which they can perform all the banking transactions without physically visiting the bank. It is also recognized as Electronic Fund Transfer (EFT). The use of advanced electronic technology is alternate for checks and other paper transactions, which are happening, in traditional banking system for quite such a long time [1].

Electronic banking offers an extensive connection where any location in the world can be accessed universally using any device that is connected to the Internet. Bank customers are given an opportunity of easy access to perform their banking activities from any location [2]. These banking activities can be looking balance of an account, funds transfers between different accounts, either between different of a single user or to accounts of any other bank customer and also viewing transaction history of account(s). Stock market transactions are also being provided by some of the banks alongside other services like IPO investments, and the submission of standardized accounting payment files for bank transfers to other customers. E-banking is an irreplaceable, remarkable and

authoritative tool enhancing expansion, supportive growth, encouraging innovation and enhancing effectiveness. These days e-commerce is enabling banks to provide an economical and shortest way of substituting information and to vend or purchase different products and service by using the electronic banking technology. To maintain employee motivation to perform and work successfully, career advancement criteria and procedures should be reasonable and balanced [3].

Banking technology has advanced over years and this can be witnessed in Automated Teller Machine (ATM). Phone banking and internet banking. This has been inspired by different variations in service channels of technology. Many studies have been taken around the globe to highlight the issues of E-banking. The objective of this paper is to examine the issues related to adoption of E-banking in Pakistan. There has been very less research made so far regarding E-banking adoption in Pakistan. This research may help in understanding more deeply and highlighting of factors influencing the adoption E-banking in Pakistan, to understand the impact of these issues, to know about the different E-banking services offered by different banks in Pakistan. Outcome of this study help the banking sector to resolve these issues and to draw proper strategies for eliminating them and to provide an opportunity to find loop holes in the current security system and to give suggestion to improve it which may help in developing culture of E-banking [4].

Significance of research

E-banking services culture is in the developing mode in Pakistan and still on the development phase, mobile banking is one of the examples that banks are developing applications for customer usage. Electronic commerce is becoming a dominant trading channel. Developed countries are using E-commerce in their markets. In studying E-banking technology and its acceptance could help in achieve the Pakistani development goals.

This study will help different banks to understand the impact of different elements that has impacted the implementation of E-Banking in Pakistan and after addressing these factors the E-Banking culture can be promoted which can lead banks to reduce its human resource and infrastructure costs [5].

Problem statement

Different banks have inducted alternative delivery channels for providing services to their customer such as E-banking. Even after the provision of such facilities like E-banking customers are not adopting this facility and the customer preference to physically go to their branches remains on the higher sides in the banks. Banks are focusing to shift their customers to their E-banking services but even then, this part of the banking is not making any significant impact as expected and shown in previous studies. There are very limited researches being carried out to check the impact of the certain factors directly on the intention to use E-banking in Pakistani context [6].

Research objectives

To assess the relationship between factors that influencing intention to use E-banking in Pakistan.

- To assess the influence of E-trust on intention to use E-banking in Pakistan.
- To assess the influence of technology on intention to use E-banking in Pakistan.
- To examine the role of perceived usefulness on intention to use E-banking in Pakistan.

Concept of E-banking

E-banking means a system through which financial service providers, business, individuals and customers are able to access their accounts, do transactions and attain latest information from public or private networks on financial products and services, such as the internet. For example, using intelligent devices such as personal computer, Automated Teller Machines (ATMs) and Personal Digital Assistant (PDA), customers access e-banking services and do their transactions with less effort as compared to the branch based banking. The term e-banking can be explained in different way from different perspectives. Nonetheless, researchers across the world have made extensive efforts to provide a precise and all-inclusive concept of e-banking. The term "e-banking" refers to a method of banking through which customers are able to carry out their banking transactions electronically without visiting a bank branch. Among other benefits, e-banking saves time, customers need not to visit the bank branch and banks have the opportunity to enhance their customer base thereby experience improved profits. Basel committee released a report on banking supervision in 2003 which stated that E-banking should incorporate not only retail banking products and small value banking products services through electronic channels but also large value electronic payment and other wholesale banking services through the same channel. With respect to the field of banking and financial services, E-banking has been described as a product of E-commerce. According to, financial institutions, additionally to provide traditional banking products and services, can also facilitates a wider array of banking products and services that have been planned or tailored to shore up E-commerce. The most common and popular support services are ATM cards: Phone banking, mobile banking; call center: Branchless banking and internet banking [7].

Electronic banking gets a great popularity in the last few years. The components of this kind of banking like ATM machines, phone banking, credit cards, internet banking and debit cards have arisen as active delivery channels for outmoded banking in Pakistan. In Pakistan the E-banking take place in 1990's. Through electronic transaction ordinance 2002 the Government of Pakistan further promoted electronic banking in Pakistan.

Progression in electronic alternate delivery channels has formed immense variations in the financial industry in the past few years. The proportion of modification in technology, competition among players and consumer need is growing very speedily. The issue faced by European union regarding E-banking is the trust that people have for online banking where people feel hesitation while using internet for making their transactions. Computer handiness influences their perception on its usefulness, ease of use, attitude and intention to use E-banking technology. Afari-Kumahand Achampong argued that prior experience of technology influences the perceived usefulness. According to security and privacy has played a key role in acceptance of online banking, which has been

distinguished in many previous banking studies. The aptitude to control and manage the information about oneself de ines the privacy [8].

Declared customer information contains their personal intrinsic information such as name, telephone number, gender, temporary address, permanent address and their other private information. Banks can take advantage to develop detailed pictures of each customer by containing and using the personal information provided by the customers. These advancements can be the development of different marketing strategies for different types of customer as most of the prosperous irms progressively depend on the usage of full customer information in effective manner. Threat is de ining the security which produces circumstance, condition or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure and modi ication of data, denial of service and/or fraud, waste, and abuse. Privacy and security matters have been a vital effect also which lessens the consumers trust on adoption of technology. Privacy and security are substantial elements that weaken the consumers' con idence towards adoption of online banking. Further, it has been written in several other studies that the biggest encounter to the adoption of electronic banking will be engaging the trust of customers over different concerns such as security and privacy [9].

With reference to the earlier carried out stated studies, this research backs the idea that the clean application of the TAM does not have enough satisfactory contents to enlighten the adoption of internet banking. Certainly due to the available open internet technology set-up, the distance separating partners and the absence of human interactions, the signi icance of trust and trust-related perceptions is growing for internet banking. Trust is at the sentiment of all classes of relationships, it is an imperative substance in numerous transactional associations and by this the nature of many businesses can be determined. The role of technology trust and of internet trust as a speci ic form of technology trust in the context of online banking has also been recognized. In Malaysia, a study took place to investigate how aware consumers are of internet banking and the result should that the awareness amongst consumers was high. 75.1% of the research respondents were found in the study that had awareness of the offered internet banking services. However, the consumers who have had any internet experience are only 23% of the total. The factors which delayed the acceptance of internet banking, were accessibility, security of infrastructure, and complicated technology. Assimilating trust into the TAM, the outcome of trust on customers' acceptance of internet banking was investigated in study carried out in Korea. Trust has been emphasized and found as a substantial element in the use of internet banking, hypothesis of the study is therefore endorsed by the results of this study. In this study trust and also perceived usefulness, are highlights as the most important determinants [10].

Trust is observed as multidimensional block as per the recommendations in the earlier studies carried out. In the trust hypothesis, which con irms trust multidimensionality it has also been proposed that E-commerce consumers measure online retailers or vendors with characteristics like trust, but not in board rooms.

Concepts and definitions

Perceived usefulness: An application is accepted by the people principally by its functions and secondarily by convenience of performing its functions. A significant body of research provides empirical support to show that perceived usefulness and perceived ease of use play a critical role in predicting and determining the adoption and the use of new information technology, including the adoption of internet banking. As per the Technology Acceptance Model (TAM) by Davis, acceptance is controlled by how a system is going to be used which is then determined by its supposed usefulness and how easy it is to use. Although it has been investigated by different information systems researchers and they have incorporated the TAM and satisfied to its legitimacy in forecasting the individual's acceptance of different corporate information technologies, the TAM's significant perceptions do not completely translate the certain specific influences of technological and usage-context issues that may vary user acceptance [11].

Technology support: One of the main factors that influence adoption of E-banking is technology support. Since the technology applications like internet banking and E-commerce have now become more feasible and easily available it can be stated that technology support is now easily and readily available. Using internet services in common describes the infrastructure and infrastructure that is available for usage. Thus, the quality and services of internet infrastructure has direct consequence on performance switch of acceptance of internet banking. The experience of people is increased when people use computers and internet and by the regular use the efficiency of people is also increased, additionally people become well trained. Then, people will not face problems to adopt new technologies like E-banking. It is argued by the researchers that there exists an association between computer and internet usage and the adoption of E-banking technology. Several empirical studies prove that the computer and internet usage influences E-banking adoption [12].

E-trust: Dentitions and conceptualization of trust differ with disciplines. Trust has been viewed as personal trait by many psychologists, some of the sociologists consider it as a social construct where as some of the economists view it as an apparatus of economic choice. It has been defined in social psychology as perceptions about others' attributes and a related willingness to become vulnerable to others.

In this wisdom, customers seem to be lacking in trust in internet business and in return consumers may not use E-commerce. With the rising factor of trust, hesitation can be reduced by the people regarding the purposes, intentions and imaginable actions of others on whom they are depending, as well as to save effort and financial resources, since trust decreases legal indentures and monitoring and evaluation costs. The main hindrance that lye in penetration of E-channels for online transactions and web vendors is lack of trust. Moreover, few recent researches have highlighted that trust has a strong impact on users' attentiveness to involve in online transactions of money and sensitive personal information [13].

Illustration on literature in social psychology and marketing, which defines two dimensions of trust which are perceived credibility and benevolence. Added integrity as another third dimension of trust. These are the dimensions of trust most frequently mentioned in

marketing researches added a fourth dimension, which is the orientation to resolve problems. E-trust is composed of four dimensions: The perceived credibility, the benevolence, the perceived integrity and the orientation to resolve problems.

Credibility: Perceived credibility is the irst dimension of E-trust, which is the level to which it is being believed by a partner that the second or other partner(s) has the mandatory pro iciency and capability to accomplish the job reliably and effectively. Trust, then is one partner believes and show con idence on the other partner that the partner has the efficient expertise and knowledge to achieve the desired objective: Expectancy is that the partner statements or words are reliable and can be useful. Refer to the perceived credibility as the con idence in the electronic provider to have the correct tools to do his job effectively.

Benevolence: Benevolence is another dimension of trust. Benevolence is mutual bene iting relationship where parties involved considers others well-being and achievement. It translates the belief that the provider desires well to the other user despite its own stakes. So, the benevolence is the con idence that the electronic trading is anxious in user bene its. So, it is therefore meant by benevolence that consumers believe that their banks care them for and their best interests are considered.

Integrity: Perceived integrity is another dimension of E-trust. Integrity means that the other partner is acknowledging the trustworthiness and the admiration of abilities and requirements. The integrity is the faith in the merchant-mail (internet banking) that it is not adventuring with the feebleness and that it will keep its promise to keep the information and transactions secure and confidential. Integrity means that service providers (banks) are honest in their relations, to keep their promises, act morally and complete assurances to make online services harmless and protected.

Orientation to resolve problems: The fourth dimension of trust, the orientation to resolve problems, is the will of the supplier to resolve problems that may arise during and after the purchase, problems for which a commitment was not made.

The importance of trust rises with uncertainty especially in intangible situations such as online services. In fact, one of the most vital hindrances in adopting and accepting online trade is the absenteeism of trust E-banking. However, a high level of trust comforts partners to engage in innovative transactions.

Trust has been emphasized as the most important factor in acceptance of E-commerce. Argued that social dimensions that have been discussed in technology model should contain trust, especially when the associations comprise social risk and social uncertainty, as in internet banking. Phrased in his article that in internet banking adoption trust is the main critical driver which directly in luences the adoption of internet adoption.

Intention to use E-banking: Encourage people to utilise the internet for banking. It is continuously a matter of apprehension for the inancial services performance in terms of return on investments. The main hindrance which remains in the success and the development of banking self-service technologies is user acceptance, many studies have examined the consumers' resistant factors for adopting internet banking. Among these, relatively limited researches have been done so far in the business context.

Therefore, it would be fascinating to recognize certain effects that regulate acceptance of internet banking by business consumers. In academic research there is a mounting form in recent past being focused on investigative determinants associated with the acceptance of computer technology and its use.

Amongst the many other different proposed models so far, the TAM (Technology Acceptance Model) by seems to extensively acknowledge amongst researchers. According to the technology acceptance model, adoption performance is firm by the objective use of a specific system that is determined by its perceived usefulness.

Research gap

Banks are considered to be the back bone of Pakistan economy for the last decade which has expanded and grown aggressively in the recent past. Since the banking industry is growing and adopting new technologies for the betterment of customer services and for the sake of profit maximization, the impact of this adoption is very less on consumer's part such as adoption of electronic applications developed by the banks. Very few researches have been conducted research on E-banking in Pakistani context especially on adoption issues. Earlier studies have identified the issues of E-banking in Pakistan and no such significant study has been done to find the impact of particular issues on intention to use E-banking factor in Pakistan.

Substantiating evidence from literature

According to different researchers the issues faced by E-banking which are highlighted includes. The E-banking is affected a lot by the force of lack of peoples trust on it. Trust is the driving force which pushes someone in using the E-banking services. The other force which pulls the public against E-banking is security concern. The people are scared about their E-banking transaction security which leads to less usage of E-banking services. There exist a number of empirical studies concerning the impact of adoption of E-banking on the performance. Some scholars observed positive impact, some observed negative while other researchers have drawn mixed conclusions. In recent past years internet has been giving growing with many web-based applications as latest technique for retaining their customers and offers them with innovated services and products. Adjusting to this E-banking challenge will allow customers to satisfy all their working need with no human interaction. Online shopping and trading is also get promoted and increased by the use of E-banking (Figure 1).
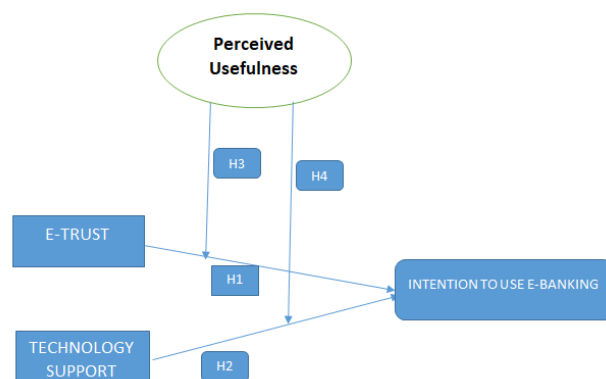
Figure 1. Proposed theoretical frame work.

Statement of hypotheses

H1: E-trust positively affects intention to use E-banking in Pakistan.

H2: Technology support positively affects intention to use E-banking in Pakistan.

H3: Perceived usefulness moderates the relationship between E-trust and intention to use E-banking such that when perceived usefulness towards E-trust is high it strengthens the relationship between E-trust and intention to use E-banking or vice versa.

H4: Perceived usefulness moderates the relationship between technology support and intention to use of E-banking such that when perceived usefulness towards technology support is high it strengthens the relationship between technology support and intention to use E-banking or vice versa.

Materials and Methods

This section covers the data sampling, unit of data collection, proposed data analysis technique and data collection procedure. Research is a careful critical analysis of fact finding pertaining to a specific subject or area. For that critical analysis a methodology is formed to help us to go about research and solve the identified problem through various steps. It helps us understanding not only the outcomes of the research design but also the process which helped us gets there. The method that we followed for our research was firstly to observe the problem area and carry out a preliminary research and literature survey. Then we defined our problem statement, purpose of study, objectives of study and formed the theoretical framework. Following that we formed our hypothesis and research design and collected the data required through questionnaires. Lastly, data analysis is carried out.

Study design

The study is explanatory in nature depending upon two independent variables (E-trust and technology support) one dependent variable (intention to use E-banking) and a moderator variable (perceived usefulness). Questionnaire is distributed amongst the bank employees and bank customers.

Research paradigm: Positivism is a research paradigm that is followed for this study under focus. As per the followers of positivism, the researcher follows a structured approach, along with reasonable deduction and accurate empirical interpretations. It further facilitates conformity with the causal relationship between variables that are usually effective and results can be generalized for prediction and forecasting. Hence, for the purpose of understanding the impact of E-trust and technology support along with a moderating effect of perceived usefulness towards intention to use E-banking in Pakistan there is a need to adopt an ontology based on objectivism with an epistemology that is based on facts and figures. The researcher prefers a phenomenon of axiology that is completely value-free and the results are beyond partiality; however, it cannot be value-bound. The chosen paradigm is justified by two main reasons, independence of the researcher and the suitability of the investigation of the organizational phenomenon.

Target population: Study is based on banking sector and questionnaires were distributed among employees and customers of banking sector having any knowledge about E-banking in Islamabad/ Rawalpindi.

Sampling: Sample size of research of the study is 210 and study is conducted on banking sector of Islamabad/Rawalpindi. Non-probability sampling technique was conducted while distributing questionnaire among employees of banks. Data was collected from employees of Habib bank limited working in Islamabad and Rawalpindi.

Instrumentation: Questionnaire was adopted as recognized. Likert scale were used for data collection, (strongly disagree, disagree, neutral, agree and strongly agree) to assess the results. Factor analysis was also performed to check the reliability and significance of the questionnaire.

Data analysis

Data analysis was carried out by using SPSS software, results are determined through correlation, regression and Cronbach alpha used for data analysis, Andrew F Hayes process was also used for moderation analysis.

Results and Discussion

Reliability analysis

Cronbach's alpha will generally increase as the inter correlations among test items increase and is thus known as an internal consistency estimate of reliability of test scores. Because inter correlations among test items are maximized when all items measure the same construct, Cronbach's alpha is widely believed to indirectly indicate the degree to which a set of items measures a single unidimensional latent construct. Cronbach value beyond (alpha=0.7) signifies acceptable reliability.

The Cronbach's alpha reliability coefficient of one dependent variable, one independent variable and one moderator variable were obtained and got different alpha result. Coefficient closer to alpha=1.0 indicated that reliabilities are better and less than alpha=0.6 are considered to be poor (Tables 1 and 2).

Reliability statistics (N=30)		
Name of variable	Cronbach's alpha	N
E-trust	0.939	6
Technology support	0.782	3
Perceived usefulness	0.925	4
Intention to use E-banking	0.929	4

Table 1. Reliability analysis for pilot test.

Gender				
Description	Frequency	Percent	Valid percentage	Cum percentage
Male	155	74	73.8	73.8
Female	55	26	26.2	100
Total	210	100	100	-
Age				
20-30	105	49.8	50	50
30-40	71	33.6	33.8	83.8
40-50	17	8.1	8.1	91.1
50-60	17	8.1	8.1	100
Total	210	100	100	-
Qualification				
Bachelors	67	31.8	31.9	31.9
Masters	94	44.5	44.8	76.7
MS/M.Phil.	48	22.7	22.9	99.5
PHD	1	0.5	-	100
Total	210	100	100	-
Status				
Permanent	164	77.7	78.1	78.1
Contractual	46	21.8	21.9	100
Total	210	100	100	-
Experience				
0 to 5	73	34.6	34.8	34.8
5 to 10	51	24.2	24.3	59
10 to 15	54	25.6	25.7	84.8
15 to 20	14	6.6	6.7	91.4
20 and above	18	8.5	8.6	100
Total	210	100	100	-

Table 2. Demographic statistics (N=210).

Table 2 presents the demographics of sample surveyed in terms of frequencies and percentage. Questionnaires were circulated in the form of hardcopy and among the respondents. Of the total questionnaires distributed among the respondents (n=350), only 235 were illed and returned to us. From those 235 received questionnaires, 25 were rejected since they had not been completely inished, while the remaining 210 questionnaires were all usable. Survey covered ive demographic dimensions gender, age, qualiication, job status and work experience.

Table 3 shows the descriptive statistics of the fore-mentioned tests, which includes minimum and maximum values, Mean values (M), Standard Deviation (SD), Skewness and Kurtosis sample data for four variables including E-trust (ET), Technology Support (TS), Perceived Usefulness (PU) and intention to use E-Banking (EB). The values for asymmetry is between -1 and +1 and kurtosis between -2 and +2 are considered acceptable in order to prove normal univariate distribution. The descriptive statistics for each of the variables are discussed below.

Variables	Min	Max	M	SD	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
ET	1	5	3.878	0.941	-0.64	-1.11
TS	1	5	4.071	0.905	-0.72	1.91
PU	1	5	4.075	0.852	-0.85	1.9
EB	1	5	4.12	0.812	-0.9	2

Table 3. Descriptive statistics (N=210).

Thus, all statistics were within the prescribed ranges mean values showed that most of the respondents think alike, standard deviations indicated that data was clustered around the mean and skewness and kurtosis values within the acceptable range indicating acceptability and normality of data for all the variables of research.

Correlation

Correlation basically shows association. How much variables independent and dependent are associated with each other and we have used Pearson correlation to find out our results. Correlation determines the strength and relationship between variables and the extent to which both the variables are associated with each other (Table 4).

Variables	ET	TS	PU	EB
ET IV 1	1			
TS IV 2	0.436**	1		
PU MOD	0.471**	0.811**	1	
EB DV	0.661**	0.759**	0.808**	1

**Correlation is significant at the 0.01 level (2-tailed).

Table 4. Correlations (N=210).

The correlation results shown in Table 4 describes the correlation between ET and TS as moderate and statistically significant (r=0.436; p<0.01), correlation between ET and PU as moderate and statistically significant (r=0.471; p<0.01), correlation between ET and EB as strong and statistically significant (r=0.661; p<0.01).

Table 4 indicates the correlation between TS and PU is very strong and statistically significant (r=0.811; p<0.01), correlation between TS and EB is strong and statistically significant (r=0.759; p<0.01). It is also described that correlation between PU and EB is very strong and statistically significant (r=0.808; p<0.01).

Factor analysis

If value of KMO is greater than 0.60 and value of Bartlett is significant at 5% than that means data is adequate. SPSS 20.0 was used to carry out the KMO and Bartlett test to check the sampling adequacy for measuring the variables. This was checked through KMO and Bartlett test that whether enough numbers of items were used to measure the construct. The high KMO values indicated that the items will form specific factors and the data sets are appropriate for the application of factor analysis (Table 5).

	ET	TS	PU	EB
KMO	0.897	0.747	0.791	0.837
Bartlett	0	0	0	0
Variance explained (%)	80.69	84.71	83.78	77.67

Table 5. KMO and Bartlett's test (N=210).

Table 5 shows significant results as values for Bartlett are less than 5% and stand at 0.000, whereas the results of KMO are grater the 6.00, which means factor analysis is successful and is meeting the all the parameters required for being significant.

Regression analysis

Independence of observations: For independence of observation, Durbin watson coefficient method was applied and the values found to be within the range (*i.e.,* between 1.5 and 2.5). It shows the observations were independent of each other and result was 1.829 and 1.953 for independent variables and dependent variables and for independent variables, dependent variables and moderating variable respectively which is ranging between 1.5 and 2.5, therefore the results for Durbin-Watson were found to be significant (Tables 6 and 7).

Model	R	Std. error of the estimate	Durbin-Watson
1	0.843a	0.43898	1.829

aPredictors: (Constant), ET, TS

Table 6. Durbin and Watson test (N=210).

| Model	R	Std. error of the estimate	Durbin-Watson
1	0.880a	0.3887	1.953

aPredictors: (Constant), ET, TS, PU

Table 7. Durbin and Watson test (N=210).

Normality: For normality of data distribution can be determined through kurtosis, skewness and normal P-P plot of data. By constructing the histogram of variables, it was determined that the data was normally distributed. The data were slightly negatively skewed and P-P plot showing values close to liner lines showing the normality of data (Figures 2-9).
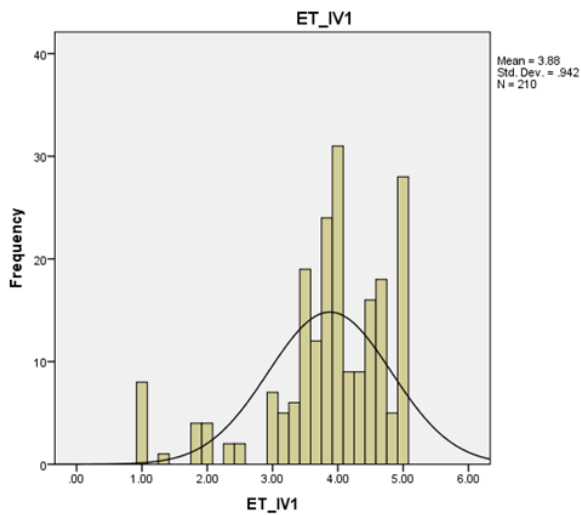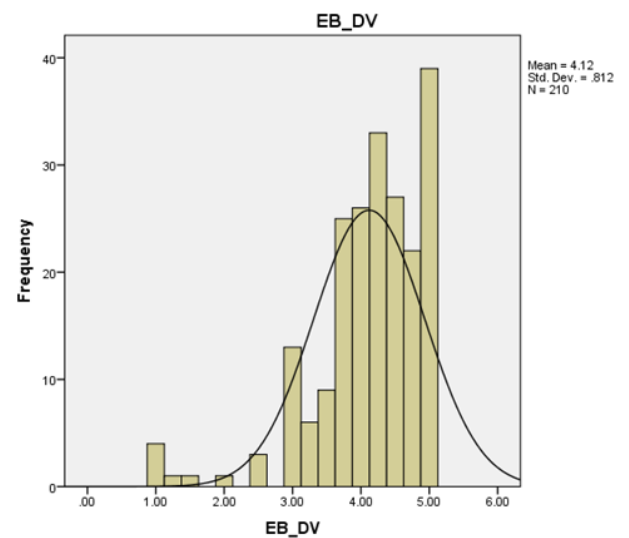

Figure 2. Showing normality curve of E-trust which is independent variable in this study. The curve is normal in nature.
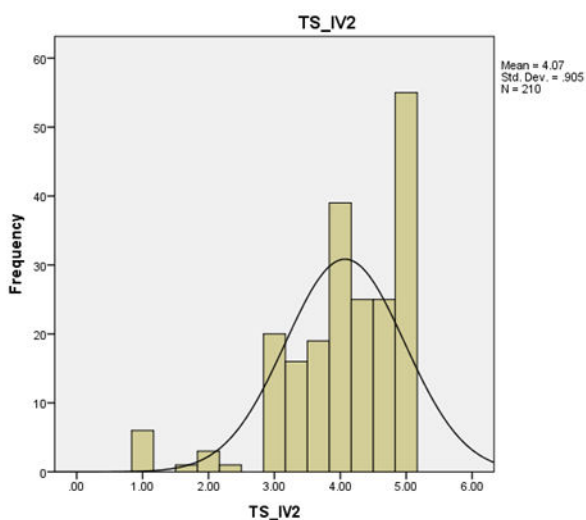
Figure 3. Showing the normality curve of technology support which is the second independent variable in this study.
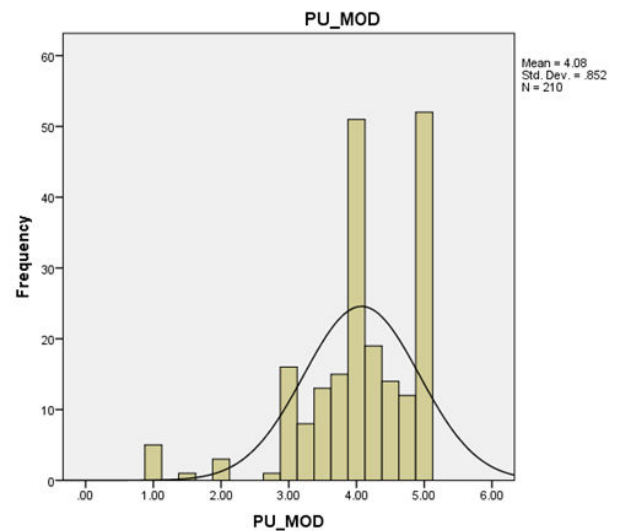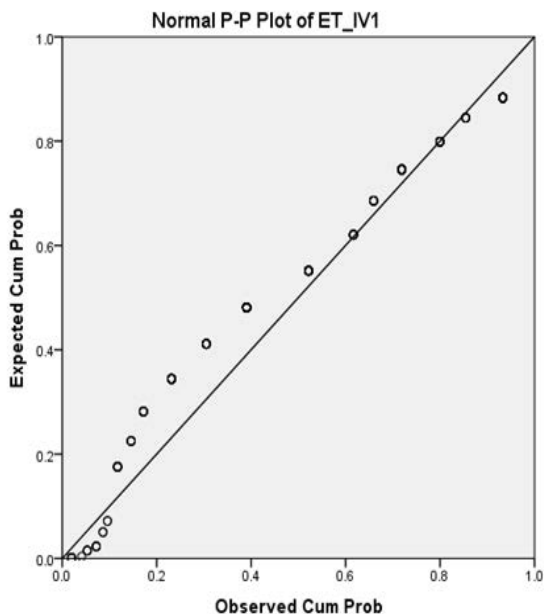

Figure 4. Shows the normality curve of perceived usefulness used as moderating variable in this research.
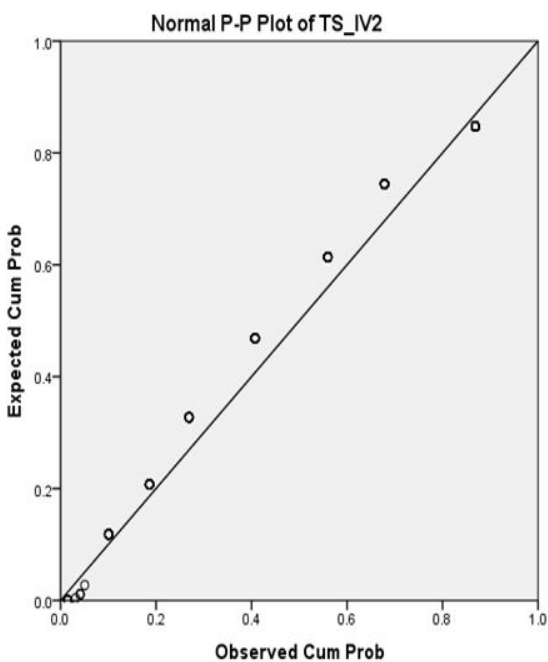

Figure 5. Shows the normality curve of Intention to use E-banking which is used as dependent variable in this study.
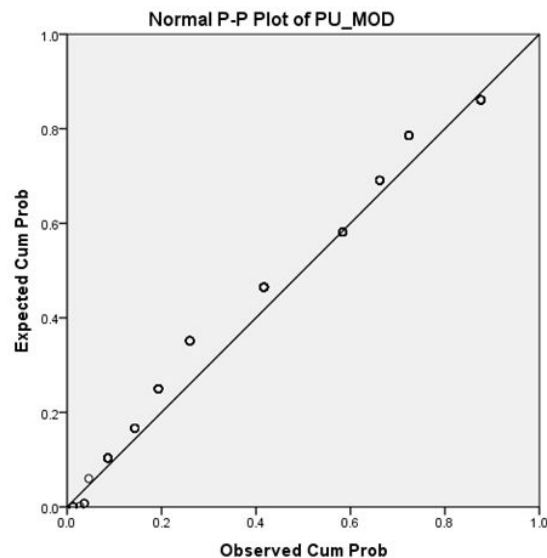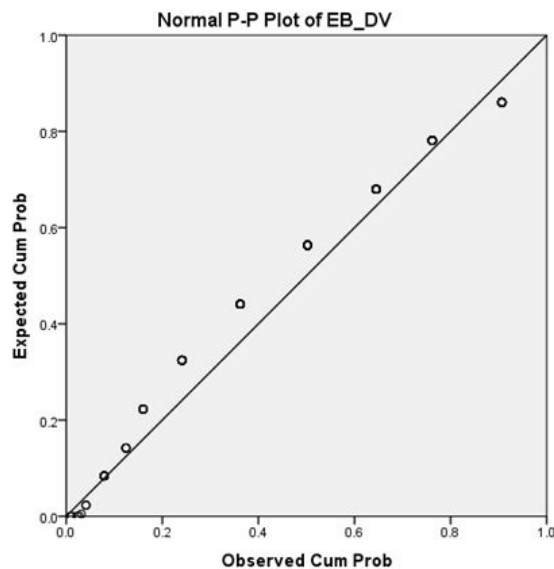
Figure 6. Shows the P-Plot of E-trust which is used as first independent variable in this research.

Figure 7. Shows the P-P plot of technology support which is used and second independent variable in this study.

Figure 8. Shows the P-P plot of perceived usefulness which is used as moderating variable in this research.

Figure 9. Shows the P-P plot of intention to use E-banking which is used as dependent variable in this research.

From above all P-P plots it can be seen that the data was normal and lying near or along the axis line and was not scattered.

Linearity: The most important condition for multivariate statistics is the presence of linearity in data. When the straight line exists in the relationship of variables, it is called the linearity. By generating the scatter plot for variables, we can see as shown in figures that the variables are positively linearly related with each other (Figures 10 and 11).
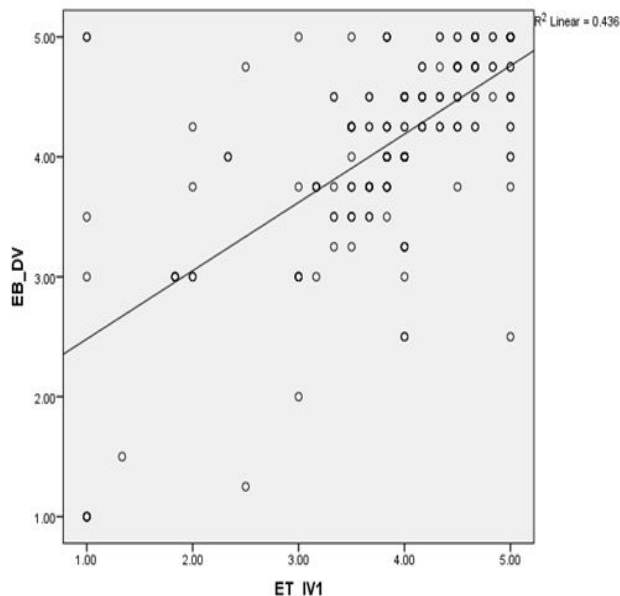
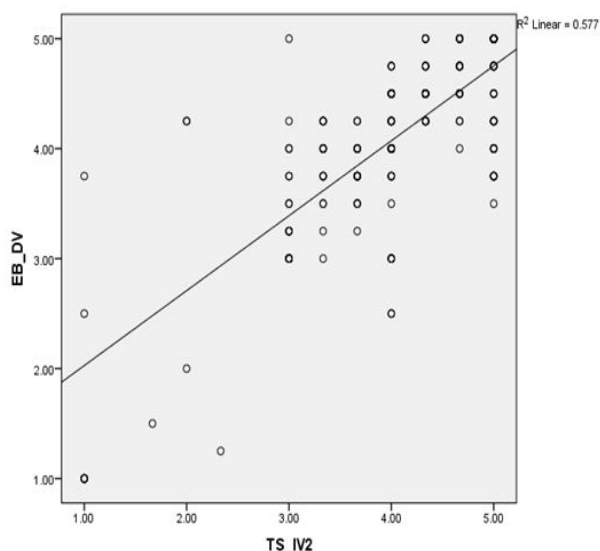**Figure 10.** The presence of linearity in data.

Figure 11. The presence of linearity in data.

Homoscedasticity: Homoscedasticity means that the variance of errors is the same across all levels of the independent variable. When the variance of errors differs at different values of the IV, heteroscedasticity is indicated. According to slight heteroscedasticity has little effect on significance tests; however, when heteroscedasticity is marked it can lead to serious distortion of findings and seriously weaken the analysis thus increasing the possibility of a type I error (Figures 12 and 13).
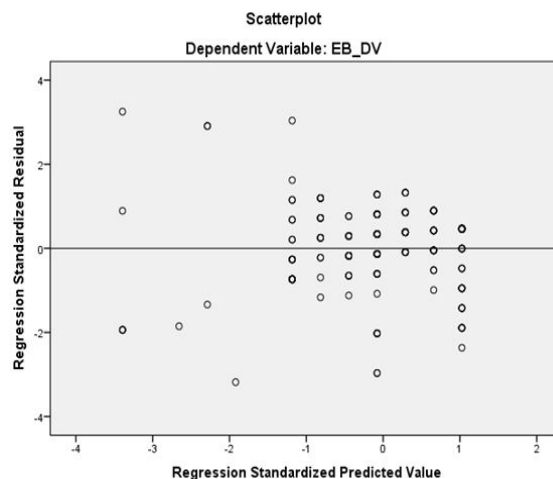

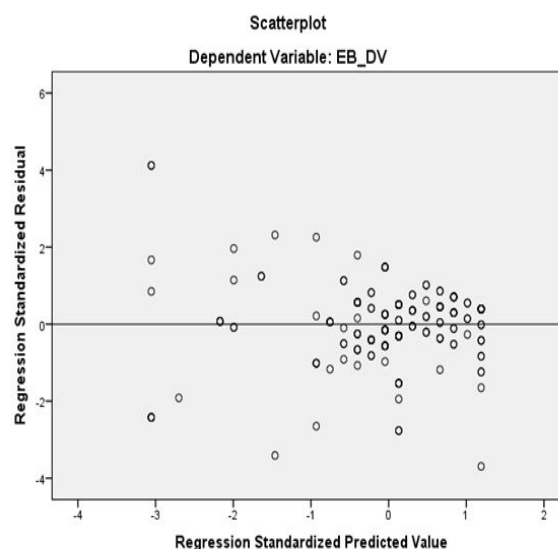**Figure 12.** Residuals were randomly scattered.

Figure 13. Residuals were randomly scattered.

As shown in Figures 12 and 13, residuals were randomly scattered around the 0 (the horizontal line) providing the relative even distribution which showed the homoscedasticity of the data. Therefore, all the four assumptions of regression were fulfilled so now linear regression analysis can be performed.

Hypotheses testing

The R-square tells the model fitness, the value for coefficient of determination was 0.436. It means independent variable (ET) explained this model by 43.6% which is good model fitness. Coefficient of determination also tells to what extent errors can be minimized by using this regression model. The value of F=161.023, p=0.000 showed the significance of overall model. This probability value of overall model also showed the significance and also that this model is appropriate to the entire population (Table 8).

Predictors	B	Std. error	Beta	t
ET	0.57	0.045	0.661	12.689
(Constant)	1.911	0.179	-	10.670

Table 8. Regression analysis: Model summary (H1).

Table 8 interprets the influence of independent variable on dependent variable; the value of correlation interprets very strong positive relationship of independent variable (ET) on dependent variable (EB).

The beta estimates the relationship between the independent variable and dependent variable and it shows that E-trust has significant effects on intention to use E-banking and it significantly enhances the EB. The value of b for ET=0.661, t=12.689, p<0.001 showed that if there will be one-unit change in E-trust than intention to use banking will be increased by 0.661 units. The constant value

1.911 represents that when E-trust becomes zero, the level of Intention to use E-banking would be that much. Therefore, Hypothesis 1 was accepted.

The R-square describes the model fitness; the value for coefficient of determination was 0.759. It means Independent Variable (TS) explained this model by 75% which is very healthy model fitness. Coefficient of determination also tells to what extent errors can be minimized by using this regression model. The value of F=283.278, p=0.000 showed the significance of overall model. This probability value of overall model also showed the significance and also that this model is applicable to the entire population (Table 9).

Predictors	B	Std. error	Beta	t
TS	0.681	0.04	0.759	16.831
(Constant)	1.346	0.169	-	7.972

Table 9. Regression analysis: Model summary (H2).

Table 9 interprets the influence of independent variable on dependent variable; the value of correlation interprets strong positive relationship of independent variable (TS) on dependent variable (EB). The beta estimates the relationship between the independent variable and dependent variable and it shows that technology support has significant effects on EB and it significantly enhances the EB. The value of b for TS is 0.751, t=16.831, p<0.001 showed that if there will be one-unit change in technology support than intention to use E-banking will be increased by 0.751 units. The constant value 1.346 depicts that when TS become zero, the level of

Intention to use E-banking would be that much. Therefore, Hypothesis 2 was accepted.

Moderation analysis

For moderation process, Andrew F Hayes is applied to test the moderation impact of perceived usefulness on the relationship of E-trust and intention to use E-banking and on the relationship of technology support and intention to use E-banking. Moderator can either positively or negatively moderate the existing relationships of variables. In this research perceived usefulness is used as moderator. Analysis of the moderation effect is shown in Table 10.

Model summary	R	R^2	F	Df1	Df2	P
Model	0.876	0.768	289.48	3	206	0
		Coeff (B)	T	LLC1	ULC1	P
Constant		4.149	126.8	4.084	4.213	0
PU		0.57	11.76	0.474	0.665	0
ET		0.282	5.222	0.175	0.388	0
INT_1		-0.776	-3.382	-0.123	-0.14	0

Outcome: EB (intention to use E-banking); ET (independent variable)=E-Trust; PU (moderator)=Perceived Usefulness; INT_1 (Interaction Term)=ET × PU

Table 10. Model summary, moderation summary (H3).

Table 10 showed the model summary and the overall goodness of fit of model F $(3,206)$=289.48, P<0.01, R^2=0.768, which showed that model is a good fit and effect size (R^2) showed that 76.8% of the variance in dependent variable was due to predictors. For predictor perceived usefulness b=0.570, t (206)=126.81, p=0.00, showed the

significance of the predictor on dependent variable intention to use E-banking. For predictor E-trust b=0.282, t (206)=5.422, p=0.00, showed significance of predictor. The coefficient value (b) of 0.282 indicates that for every one unit of increase in the value of E-trust, there would be increase of 0.282 units in value of intention to use E-banking.

For interaction term (ET × PU) b=-0.776, t (206)=-3.382, p=0.00, showed the significance of interaction but as there was no direct interpretation so next step was the conditional effect of X on Y at values of the moderator (Table 11).

PU	Effect	t-Statistics	P	LLC1	ULC1
-0.852	0.348	7.316	0	0.254	0.442
0	0.282	5.222	0	0.175	0.388
0.852	0.215	3.269	0.001	0.857	0.346

Table 11. Conditional effect of X on Y.

Basically, the values showed the slopes of E-trust (effect) predicting intention to use E-banking at each level (PU) of the moderator towards perceived usefulness.

Y=Constant+0.282 (ET)+(-0.771) (ET × PU)

For low PU, E-trust b=0.348, t (206)=7.316, p=0.000 for low perceived usefulness, there is significant relationship between E-trust and intention to use E-banking.

For average PU, E-trust b=0.282, t (206)=5.222, p=0.000 for average perceived usefulness, for each unit change in E-trust gives 0.282-unit change in intention to use E-banking.

For high PU, E-trust b=0.215, t (206)=3.269, p=0.000 for high perceived usefulness, for each unit change in E-trust gives 0.215-unit change in intention to use E-banking.

The above relation showed that when there is perceived usefulness there will be less relation between E-trust and intention to use E-banking and the more impact of perceived usefulness there will be more decrease in intention to use E-banking.

The below Figure 14 showed that perceived usefulness significantly and negatively moderates the relationship between E-trust and intention to use E-banking and when impact of perceived usefulness increases the relationship between E-trust and intention to use E-banking weakens and decreases. Therefore, we accepted hypotheses 3 (Table 12).
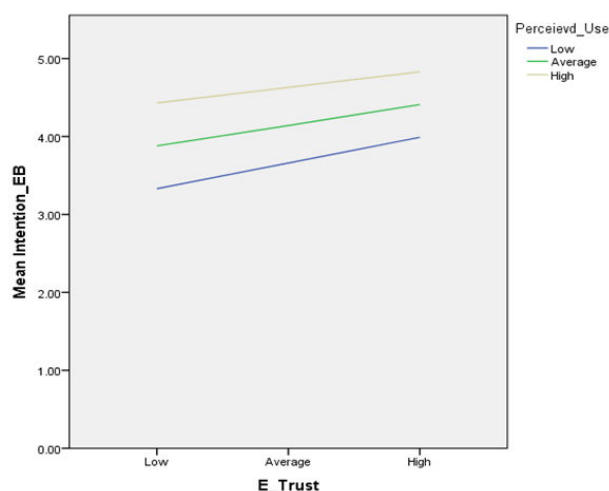
Figure 14. Showed that perceived usefulness.

Model Summary	R	R^2	F	Df1	Df2	P
Model	0.828	0.687	86.42	3	206	0
		Coeff (B)	T	LLC1	ULC1	P
Constant		4.141	115.83	4.071	4.212	0
PU		0.516	7.451	0.38	0.653	0
TS		0.249	3.39	0.104	0.394	0
INT_1		-0.391	-0.859	-0.112	0.442	0.39

Outcome: EB (intention to use E-banking); TS (independent variable)=Technology Support; PU (moderator)=Perceived Usefulness; INT_1 (Interaction Term)=TS × PU

Table12. Model summary, moderation summary (H4).

Table 12 showed the model summary and the overall goodness of fit of model F (3,206)=86.42, P<0.01, R^2=0.687, which showed that model is a good fit and effect size (R^2) showed that 68.7% of the variance in dependent variable was due to predictors.

For predictor perceived usefulness b=0.516, t (206)=7.41, p=0.00, showed the significance of the predictor on dependent variable intention to use E-banking.

For predictor technology support b=0.249, t (206)=5.422, p=0.00, showed significance of predictor. The coefficient value (b) of 0.249 indicates that for every one unit of increase in the value of technology support, there would be increase of 0.249 units in value of intention to use E-banking.

For interaction term (TS × PU) b=-0.391, t (206)=-0.859, p=0.39, showed the insignificance of interaction (Table 13).

| PU	Effect	t-statistics	P	LLC1	ULC1
-0.85	0.278	3.443	0	0.119	0.437
0	0.249	3.39	0	0.104	0.394
0.852	0.22	2.718	0.007	0.605	0.38

Table 13. Conditional effect of X on Y.

Basically, the values showed the slopes of technology support (effect) predicting intention to use E-banking at each level (PU) of the moderator towards perceived usefulness.

$$Y = constant + 0.249(TS) + (-0.391)(TS \times PU)$$

For low PU, technology support b=0.278, t (206)=3.443, p=0.000 for low perceived usefulness, there is significant relationship between technology support and intention to use E-banking.

For average PU, technology support b=0.249, t (206)=3.390, p=0.000 for average perceived usefulness, for each unit change in technology support gives 0.249-unit change in intention to use E-banking.

For high PU, E-trust b=0.220, t (206)=2.718, p=0.007 for high perceived usefulness, for each unit change in E-trust gives 0.220-unit change in Intention to use E-banking (Figure 15).
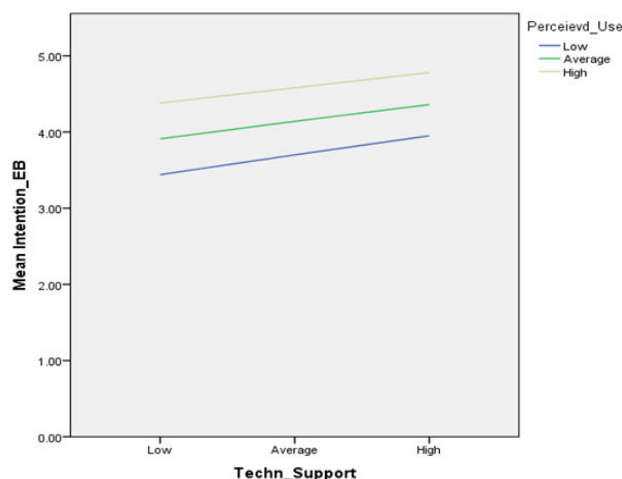
Figure 15. The relationship between technology support and intention.

The above Figure 15 showed that perceived usefulness significantly and negatively moderates the relationship between technology support and intention to use E-banking and when impact of perceived usefulness increases the relationship between technology support and intention to use E-banking decreases and weakens. However, based on the interaction value we reject the hypothesis as it is insignificant p>0.05. Therefore, we rejected hypotheses 4 (Table 14).

Hypotheses	Result
Hypothesis 1: E-trust positively effects on intention to use E-banking in Pakistan	Accepted
Hypothesis 2: Technology support positively effects on intention to use E-banking in Pakistan	Accepted
Hypothesis 3: Perceived usefulness moderates the relationship between E-trust and intention to use E-banking such that when perceived usefulness towards E-trust is high it strengthens the relationship between E-trust and intention to use E-banking or vice versa	Accepted
Hypothesis 4: Perceived usefulness moderates the relationship between technology support and intention to use of E-banking such that when perceived usefulness towards technology support is high it strengthens the relationship between technology support and intention to use E-banking or vice versa	Rejected

Table 14. Hypotheses testing.

Results analysis

Results of the study showed that E-trust and technology support has direct impact on intention to use E-banking in Pakistan, supported by the correlation analysis which showed positive correlation between the variables of the study (H1 and H2).

Demographic and descriptive analysis was also carried out in the study alongside regression analysis. All the four assumptions of regression were tested in the study to deeply examine the contents of the study.

H1 stated that E-trust is positively correlated with intention to use banking that interpreted in this study that consumers of E-banking have that E-trust factor which influences the adoption of E-banking in Pakistan.

H2 stated that technology support is also positively correlated with intention to use E-banking that also interpreted in this study that consumers have that technology support factor which is influencing intention to use E-banking in Pakistan banking industry.

Moderation analysis was also carried in the study using Andrew F Hayes in SPSS 20.0. Perceived usefulness was used as a moderator in the research proved to be a moderator having negative effect on the relationship of E-trust and intention to use E-banking in Pakistani context. Whereas the relationship other than the moderator effect proved to be more positive and significant in Pakistan as per hypothesis 1. Hypothesis 3 showed a negative impact of moderator on the relationship between E-trust and intention to use E-banking which stated that perceived usefulness is decreasing the existing relationship between E-trust and intention to use E-banking. As the on the lower effect the effect of perceived usefulness was on the higher and it reduces the effect on the average interaction and when the interaction effect of perceived usefulness it further decreases or weakens the relationship between E-trust and intention to use E-banking. If the effect would have been reverse that as the moderation interaction of perceived usefulness increases the relation between both independent variable and dependent variables increases in that circumstances the moderating role of perceived usefulness would have had a positive effect on the existing relationship. But in this research it is having negative effect and decreasing the existing relationship with significant values therefore it is stated that hypothesis 3 is accepted.

H4 however showed that perceived usefulness has negatively moderated the existing relationship of technology support and intention to use E-banking but due to its insignificance in Pakistani context it is rejected. Therefore, it states the perceived usefulness does not have any significant value when it is moderated in the relationship of technology support and intention to use e banking in Pakistan. It also interpreted that consumers of Pakistani banking industry are more inclined toward technology support when it comes to the intention of using E-banking Pakistan rather having perceived usefulness of the technology. However the complete analysis of the hypothesis 4 was carried out using moderation analysis summary and graphs to deeply understand the results interpretation. Perceived usefulness has become insignificant when moderation interaction was carried out with the existing relationship of technology support and intention to use E-banking.

It is therefore can be concluded from the results analysis that in Pakistani banking industry the effect of perceived usefulness is less or insignificant as discussed in results. As per State Bank of Pakistan in their press release in June 2016 stated that there is significant improvement in people adopting digital banking. As

consumers have started trusting on electronic transactions where they do not have to go to bank physically. Being a developing country Pakistan has faced a lot of challenges in recent past which has negatively moderated the advancement and flourishment of economy. But as soon as their advancement in technology general public have started consuming internet and digital applications for multi purposes which also includes electronic banking. Since people have started E-commerce in Pakistan the trend of online banking has increased, but there is a need to be understood by consumers that this e banking innovation is for them and by using this they can be on the beneficial side as well. By using E-banking a consumer can save its time and cost most importantly and on the other hand it can be useful for the banks as well as by these increasing trend consumers physical walk in will decrease in the banks which can help banks reducing their administrative cost.

Conclusion

Considering the study, previous literature and analysis of results we can draw certain conclusions and recommendations. In order to conclude the discussion first we have to take a look at the propositions and their outcomes. To answer the research questions different hypothesis were created and after that tried to see if any relationship exists between variables.

This research studied the integration of E-trust and technology support to the Pakistan banking industry by observing its impact on the intention to use E-banking in Pakistan. Research was carried out after a comprehensive literature review and it was pointed out that E-trust and technology support are the two-main factor that is affecting intention to use E-banking, where perceived usefulness was chosen to act as moderator in the study. Trust is the basic factor that influences any one to adopt or to drop any change higher the trust higher the adoption level will be and vice versa. Technology is also one of the reasons in this globalization which attracts someone's attraction to adopt anything affiliated with technology. More feasible and supportive the applications and software are, more usage and acceptance is accepted. If the technology support is not the priority then people's intention towards adoption of technology will decrease and vice versa.

The outcomes of this research have implications for developing user friendly E-banking systems in Pakistan. Considering the resources that have been invested so far in this field organizations trusts that consumers will adopt such innovations. To achieve the goals in this segment banking industry in Pakistan has to make sure that they are working in reminding their customers that E-banking is their perceived need and have to enhance the thoughts of their customers that this segment of banking is trustable and supported by latest technology. Without giving customers proper awareness that using E-banking is their perceived usefulness and they don't need to come to branch every time they have to conduct any transaction, this may not advance at an acceptable pace.

Recommendation

This research paper can be used as a reference in future to further investigate this sector by substituting variables if required. This study is conducted in the responses of 210 respondents from

Islamabad/Rawalpindi whereas other cities and banks can be used in future researches to enhance the scope of the objective of this study. Future researchers can work on bank's role, attitude, customer awareness, marketing strategy and on the financial impact on customer and bank part as variables to extend the study in Pakistani banking industry.

Future researchers can include different banks in the study which will elaborate each bank's performance and market standing as every bank has different interfaces for their different products. Some banks procedures are tough whereas some are very easy to use therefor it will also help banks to understand their issues and acceptance level by the consumers in the market.

Banks also must do efforts to educate their customers to understand the benefits and advantages of E-banking in order to make it more successful. As this is a 24/7 banking facility available to the customers which is very beneficial and useful.

Limitations

The results could be more reliable if problem of limited time and resources might not have restrained the researcher. The second limitation is that, only targeting at one bank *i.e.,* for HBL of one area of Pakistan only, so the generalizability of the results is low as the sample size is taken very small. In this study, only two independent variables were studied. There is another limitation to access people and organizations. Herewith, access has been denied many times otherwise, this research would have described situation in more perfect way. Many individuals were contacted to seek their time get the questionnaires filled. Cultural bias is important element, which is another big limitation for current research study. Each individual record his response as per his mental grooming. Hence, this limitation is unavoidable and author needs to take it as constant.

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