

CRACKING THE CODE: AN EMPIRICAL EXPLORATION OF FACTORS DRIVING E-BANKING ADOPTION IN PAKISTAN

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Abstract

The modern global landscape places a profound emphasis on the economic development of nations, with the efficiency of their banking systems serving as a pivotal indicator. The vitality of an economy is intricately tied to the robustness of its banking sector, which plays an indispensable role in the intricate workings of a nation's economic machinery. This paper delves into the indispensable nature of banks in the contemporary economic framework, recognizing them as the cornerstone upon which the health and vitality of an economy rest.

As a barometer of economic development, the efficiency and effectiveness of a country's banking system are paramount. Beyond serving as repositories for financial assets, banks are instrumental in facilitating transactions, fostering investment, and lubricating the wheels of economic activity. The complexities inherent in the modern economic system necessitate the presence of a well-functioning and responsive banking infrastructure. This paper aims to explore the symbiotic relationship between a nation's economic health and the soundness of its banking system. It acknowledges that, in the absence of a robust banking sector, the intricate interplay of economic variables would falter. The banking system, with its multifaceted roles in capital allocation, risk management, and financial intermediation, emerges as a linchpin in the economic development narrative. The study delves into the multifaceted nature of the banking sector, addressing its pivotal roles in not only safeguarding financial assets but also in catalyzing economic growth. By understanding the intrinsic link between a vibrant banking system and economic prosperity, policymakers, economists, and financial institutions can collaboratively chart a course towards sustainable development.

Introduction

Background of E-banking Usage in Pakistan

In the modern world the economic development of a country can be judged by the efficiency of its banking system.

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An economy's health is dependent on the soundness of its banking system. The complexities of an economic system cannot work without bank.

Banking Sector

Banking system facilitates personal transactions such as deposit and remittances of money and although it creates no new wealth, it facilitates borrowing, lending and related activities which helps in the process of production, distribution, exchange and consumption of wealth. It also helps to accelerate the pace of economic development. The bank helps in the mobilization and allocation of the resources of a country. The banks also mobilize the savings of the people for investment purposes and since banks provide attractive interest on savings and fixed deposits, people are encouraged to save more. The formation of capital is crucial for the economic development of a country. Banks collect idle money from people and this money is then channeled individuals, businesses and government for productive investments which in turn raises the level of employment, income and standards of living. (Kathryn)

Literally Banking means the acceptance and protection of money owned by other individuals and entities, and further advancing out this money to earn a return. (Investor words)

Banking activities can be generally divided into the following types:

- Central Banking
- Retail Banking
- Commercial Banking
- Investment banking

(Risks and rewards backgrounds, 2012)

E-banking

Electronic banking is a term for the procedure by which a customer may complete banking transactions electronically without visiting a physical institution. Personal computer (PC) banking, phone banking, home banking, internet banking, remote electronic banking, online banking and virtual banking all denote one form or another of electronic banking. Internet or online banking and PC banking is used most frequently.

PC Banking denotes every banking business performed from the PC of a customer. This can be completed through online banking where banking transactions are directed inside a closed network or through Internet banking which allows the customer to complete transactions from any terminal in connection to Internet by Raphael (2001). At present online services are a part of an extra characteristic in the banking sector. E-banking or online banking permits clients to carry out monetary transactions through a protected portal. It also allows customers to complete all the banking associated activities such as past transactional information, transfer of money, withdrawals of cash and deposits etcetera with one click. Just by looking through the website of their bank, clientele can daily check the account balance. Thus, it delivers individuals the utility of time and place. (Nauman Zahid, 2010)

Banking sector in Pakistan

The banking sector in Pakistan has flourished a lot in the past few years. Today Pakistan has an impressive banking network in all over the country comprising of a State Bank, which is a federal entity and has a central role in the banking sector. State bank has a wide range of various private limited and national commercial and other banks that deal in specific areas such as agriculture, consumer finance and other financial institutions. For Pakistan it is essential to have a growing and dynamic banking sector for revenue generation. Banking sector constitutes the core of the financial sectors in Pakistan. (DOT)

In 2001-03, the sector of banking observed a remarkable growth and there was a 100% rise in deposits. 39 scheduled banks which include 11 foreign banks are operating in Pakistan.

The State Bank of Pakistan has set challenging capital adequacy benchmarks to promote a stable banking system which in turn created high competition. The only option left for the survival of the banks is to attract foreign investment and win profitable customers (scribed).

E-banking in Pakistan

E-Banking was initiated in the 1980's in Pakistan but it started to grow in 1990's. The leader in E-Banking technology and usage is Europe since beginning and it still hold that position. The city bank was one bank that familiarized familiarize E-Banking in Pakistan. Since 2003, numerous multinational and national banks are facilitating E-Banking amenities in Pakistan by Polatoglu (2001).

Today in Pakistan technology is bringing enormous changes for businesses. Technology has created many marketing opportunities such as online oriented businesses. In Pakistan, the trend of online banking is evolving. Online transactions save time and cost and increases efficiency which is the reason behind its wide acceptance. E-Banking system helps customers to have constant contact with their banks. There was an increase in the volume and value of overall E-Banking transactions in the country by 18.02 percent and 11.31 percent during the second quarter (Oct 2012 to Dec 2012) to reach Rs. 7.6 trillion and 79.45 million respectively as compared to the first quarter, conferring to the lately published report by State Bank of Pakistan.

Practice of E-Banking in Pakistan has witnessed a significant growth. A report published by State Bank of Pakistan back in 2008 reported a 32% increase. The users are mainly business entities and the masses. Pakistani people living abroad use EBanking as their first priority due to the great number of remittances sent every year to Pakistan. The massive use of internet mainly contributes to the massive increase in E-Banking. There has been a vast increase in the number of credit and debit card holders in Pakistan which shows us how people are adapting E-Banking. With all of its pros, it has its cons as well. Internet which is spreading rapidly across the country still is not available in remote areas. Pakistan's 70% of population puts up in rural areas which shows that E-Banking which works on the infrastructure of internet, a major chunk of population doesn't get to use it.

Other issues include trust, lack of on the go internet (3g, gprs) , lack of awareness and status quo of banking system order.

Objectives

This research study was exploratory in nature and is an attempt to recognize& investigate reasons impacting the usage of online banking in Pakistan. Furthermore, it investigates relationship of the key factors and measures the impact of these factors on the usage of online Banking in Pakistan.

Literature Review

Recent Literature Discussion

E-banking has been demarcated in several ways. As defined by Daniel (1999), E-banking refers to the delivery of banks' info and facilities through various delivery platforms like personal computers, mobiles, etc. that can be used with terminal devices. This information is sent by banks to customers According to Pikkarainen (2004) E-Banking can be defined as an *"internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments."* Except for instant cash withdrawal, E-banking provides clients accessibility to nearly any kind of transaction at the just a click. (DeYoung, 2001)

E-business is applied as part of many organizations business strategies.to respond to the competitive business environment. It is necessary for banks to provide E-banking for their customers with the growth of the internet. Commercial banking is understood as the mix of facilities that banks give to customers and SME's businesses via branches, the web, and alternative mediums. Banks establish their retail undertakings on 3 corresponding dimensions according to the definition: product, services and customers served. The basic retail activity of banks

is deposit taking in terms of services on the liability side while customer's credit and SMEs loans are the retail actions on the asset aspect Timothy Clark (2007).

The core attraction of retail banking appears to be the idea that its revenues are stable and so will offset volatility within the nonretail businesses at the bank level while at aggregate level, interest in retail banking varies in fairly foreseeable ways in which with the enactment of the banking that is nonretail and financial market activities remains the foremost common technique for leading banking transactions. However, the introduction of web technologies has modified the method personal monetary services are designed and delivered to customers Wang (2003). Consistent with the study of Shih (2004), E-banking may be a different sort of IS that uses the new and advanced tools of the net and computer network (World Wide Web) permitting customers in virtual space to conduct monetary activities.

Previously banking web sites were just used for informative purposes mainly containing product and service information. However, banks are now using the websites both for informational transactional purposes with the development of secure electronic transaction technologies. Conclusively, registered customers of banks can now accomplish common banking activities over the internet like transferring funds, paying bills, writing cheques, printing statements, setting up fixed deposits, purchasing investment related funds and enquiring about account balances. E-banking has developed into a "*one stop service and information unit*" as defined by Tan (2000), which assures great advantages to both banks and consumers. E-banking works the same way as traditional banking except that the transactions are conducted through internet on the web sites rather than on paper. It is significant for the long-term survival of banks in the world of electronic commerce.

E-banking facilities are being accessible to the clients in Pakistan since 2000 by all famous banks. A study revealed that out of 44 banks, 8 banks were giving online services to their clients in Pakistan. Due to the lack of provision of online banking services by majority banks, there is room for advancement for the online delivery channel in Pakistan. E-banking services facilitated in raising the client satisfaction and retention while at the same time reduced the operating costs to the banks (Polatoglu, 2001).

In many developed countries online banking is common but in most of the developing countries it is still at its initial stages. It is specifically accurate for countries like Pakistan that are still constructing their IT infrastructure. Although E-banking acceptance studies have been directed in many developed and Western countries, studies for a developing country such as Pakistan remain few.

Therefore, this study attempts to identify and investigate the factors that can affect the online banking usage in Pakistan.

As defined by Bandura (1977) self-efficacy is one's belief or judgment of what can be done with the skills possessed within a particular realm. It can be differentiated on three interrelated dimensions: generalizability, magnitude and strength. Generalizability shows the degree to which one's belief is limited in a particular domain or not Chan (2004). In the context of computers, these skills can be what users can do with such skills such as data analysis with software Compeau (1995). Thus, people with high generalizability are more confident in using different computer systems and software packages. The magnitude refers to the level of proficiency expected which means individuals with high self-efficacy magnitude perceive themselves competent enough to accomplish difficult tasks. The strength of self-efficacy is the confidence one has in his or her abilities to perform a task. Researchers Wang Y. S. (2003) identified that people with high strength of self-efficacy regarding computers are expected to be able to use computer systems more regularly because they feel comfortable about computers than those with low strength of self-efficacy.

Researcher Chan (2004) suggested self-efficacy is a formation through a regular and forceful weigh up, incorporation and assessment of difficult intellectual, verbal, and societal familiarities. Self-efficacy is a mediator

between environmental variables, outcome expectations and usage Compeau (1995). Various studies have identified a relationship between self-efficacy and the acceptance and adoption of technology. The author Venkatesh (1996) explained that when users do not have any information system related experience, their self-confidence in their skills to use computer skills will draft their decision about how easy or difficult a fresh system will be to use.

In the context of internet banking, self-efficacy is treated as one's confidence in having the skill and knowledge to carry out banking transactions through computer and internet. Author Luarn (2004) found that self-efficacy has a positive and significant impact on the behavioral purpose to use mobile banking. In order to enhance customer's self-efficacy, banks should arrange familiarity sessions for internet banking (Chan, 2004).

As Abdallah (2004) explains that the customer is first faced by user interface while using e-banking services. Customer comes from a different background therefore it's an important element. Users have to process information from the screen. Reading from a small mobile device is different therefore; the reading process has to be manipulated by choosing a suitable font to read. Besides all of this, there are images on the screen. In smaller mobile devices pictures have to be used carefully. As Kärkkäinen (2002) quoted that although with the advancement in technologies the screen size is not an issue anymore and all the new mobile devices come with an enough screen size for users to read information from it. as Klaassen (2007) examined that when a user visits a website for the very first time, the first response is emotive. The graphical interface can decide the adoption and usability of the system. Concerning the case of user interface Egger (2000) defined that when the user is accessing the website, it is necessary that he or she can access the useful information, the information which is needed and is available readily and is optimized. This would ensure users that they have full control over the information. As (Ivory, 2002) argued that an internet website or an infrastructure is a mixture of fonts, links, images and alignment. Structuring an interface caters different elements as claimed by Pikkarainen (2004) that the features of the interface of the bank sites are one of the major reasons effecting internet banking adoption. Images, graphics, usability, readiness and easiness would increase the efficient use of it. As argued by Yi-Shun Wang (2002) that despite all the energies put in to the development of improved and smooth internet banking, these systems have not been categorized under the consideration of customers and were not in use despite of their readiness and availability. However, this trend has been changing a lot lately and customers are aware of E-banking advantages finally.

As examined by Cai (2008) that in the recent years many researchers have found that users are aware of the pros of using online banking such as feasibility, excessive information, easy access, time and monetary savings and dependability all of which are essential for the approval of E-banking. In a study by Ankit (2011), he revealed that as much as adoption of internet banking is concerned, the factors such as security, trust and privacy have been stated as the most imperative ones for a consumer. It does not mean that the rest of the factors such as perceived usefulness and user acceptability are not as important.

The results of a study by Alda's-Manzano (2008) revealed that the user views of security risk play a significant role in constraining the adoption of internet banking and confirms the findings that have revealed that winning the trust of customers is the greatest challenge for internet banking sector. The issue of security is a challenge that needs to be dealt with

Researcher Poon (2008) studied ten different attributes influencing the use of online banking facilities. Security and privacy are the main foundations of disappointment that have significantly obstructed customer's satisfaction. In a study by Ankit (2011), revealed that as much as adoption of internet banking is concerned, security, trust and privacy apprehensions are stated as the most significant ones from the client's point of view. It does not mean that the rest of the factors such as perceived usefulness and user acceptability are not as important.

Trust is the strong reliance of e-banking users' in the banks' abilities and mechanisms. Usually Clients doubts the trust ability of e-banking regarding its privacy policies. Trust has prominent effect on user's readiness to participate in online transactions of money and sensitive personal information (Friedman, 2000).

A research conducted by Ahmad (2011) suggested that username and passwords given by the bank to the clients are vital, and then saving the login information and password on computers that are left unattended while the client is connected to the e-banking services are all trust factors which can affect the demand for e-banking services, Pins obtain by fraud may allow hackers to access to customers' account, don't mind registering before supplying information, Banks' reliability in correcting erroneous transactions, Trust the bank will compensate for losses due to security reasons, satisfying with the security system.

Some studies show that trust is a very important factor for e-banking users'. In a study by K (1999) it has come to our knowledge that lack of trust in clients regarding electronic mediums is a major reason attributed to the failure of e-banking in banks, but that was back in 1999 when internet was still a new thing and people were not sure about the privacy and security of their sensitive information.

The research carried out in recent years by Alda's-Manzano (2008) suggested that when you are dealing in a virtual world it is even more important to upsurge clients' trust because in such an environment there is an even greater risk of losing clients than in a conventional banking system and thus trust appears to be a very essential variable.

A study by Alsajjan (2006) suggests that as internet banking is not conventional banking and does not involve direct interaction with the bank, trust has an important and major role in e-banking and clients worry about getting engaged in harmful opportunistic activities. Several authors agree on the fact that trust plays a very important role in e-banking unlike bricks and mortar. This can also be true in today's world where hackers are intelligent and fraud is common. As there is social uncertainty and risk involved with everything trust remains a very important factor. Researcher Reichheld (2000) carried out research in which they argued that in the initial stages of building a relationship with customers in e-banking, trust is a very important factor to deliver as the customers are relatively inexperienced and trust creates credibility.

A study by Davis (2010) explained that perceived usefulness is a factor to which an individual believes that using a certain kind of structure will augment his or her enactment. It is a person's belief about the usefulness of something and it determines his/her willingness to use it to fulfill their purpose. The research conducted by Cai (2008) suggested that clients of E-banking are more prone to analyze rewards of the facilities (e.g., practicality, comfort, info) as compared to the client who are not using E-Banking and consider all the disadvantages of it. This suggests that the already existing users may have a better idea about the usefulness of E-banking unlike the people who don't use it and they might have reservations when it comes to making online transactions.

According to S (2005) perceived usefulness is the subjective likelihood that interacting with certain technologies would increase the efficiency about that the way a client completes his transactions or tasks. This suggests that people mostly believe that using technology may enhance their efficiency and save time. The fact that people never have to leave their home in order to make a financial transaction may be attractive to some.

Researcher EM (1983) believed that perceived usefulness is an aspect that explains the point to which the invention is considered not problematic to comprehend, absorb or put into function. User acceptability of E-banking may rely on the fact that how much they believe that internet banking can save their time, money and how secure and efficient it is. Ease of use remains an important factor here.

Gap Analysis

This section of the research report is going to identify the gap between the fields researched and those left unexplored. The review of literature suggests that most of the studies related to E-banking have been done in countries like Australia, Malaysia, Singapore Turkey vs. UK Saudi Arabia (Sathye, 1999). There is also a disproportionate gap between the growth of E-banking and the research conducted related to it. Technology was not chosen itself as the variable because e banking doesn't require top of the notch technology. E banking interfaces, web designs, usability and availability are although necessary for the customers' satisfaction but technology is not a real issue since it has developed a lot and rapidly. Pakistan's 70% of the population lives in rural areas and they have clearly no access to E-banking. The reasons behind it are illiteracy, less awareness and availability of resources for E-banking in remote areas. The usage of E-banking in remote areas is almost zero. CRM hasn't been considered because E-banking doesn't include direct representative to customer's communication. There is a communication medium like the interface and usefulness and how the customers see the E-banking infrastructure of the bank. However, when E-banking becomes a widely accepted element for the customers, they would get involved in the development of the infrastructure with useful feedback and manipulation of the structure according to their own needs. E-Banking independently in Pakistan doesn't affect customers' service quality perception because people usually don't opt for E-banking. However, with increasing trend in its acceptance the customers' service quality perception might be affect but again that would be in a very low number. Some customers switch banks even e banking is used because e banking is a service itself and it needed to be provided in an accurate manner to the customer. Other than that, customers' mind could change anytime due to several reasons like overall service quality of the bank representative's way of dealing, over all processing. This way a customer changes the bank even when E-banking is used because of other factors influencing it.

In Pakistan there hasn't been done much study on E-banking in Pakistan due to many reasons. First of all E-banking's awareness is being created and a lot of people are switching to e banking but it hasn't really become a useful and acceptable phenomena. A lot of people in Pakistan would still want to go for the conventional working with all the paper work. Most of the people don't know what e banking is and what it does therefore there is not enough study on E-banking in Pakistan. The study is limited and findings are difficult to get hence it makes it a difficult task.

Research Questions

What are the key factors affecting the E-banking usage in Pakistan?

- What is the magnitude of the relationship between the factors?
- How much is the impact of the factors on the usage of E-banking in Pakistan?

Theoretical Framework

Theory of Reasoned Action presented by Davis (1989) shows the foremost theoretical basis for attitude measurement and behavior proposition. According to him, the Theory of Reasoned Action corresponds to factors effecting knowingly intentional behaviors. This theory is based on the assumption that consumers' behavior is based on available information and they try to behave rationally. The Theory of Reasoned Action states that a person's performance of specific manners is made by his/her behavioral intention which is used to complete the behavior, and behavioral intention is formed together with an individual's attitude and subjective norm (Fishbein, 1975).

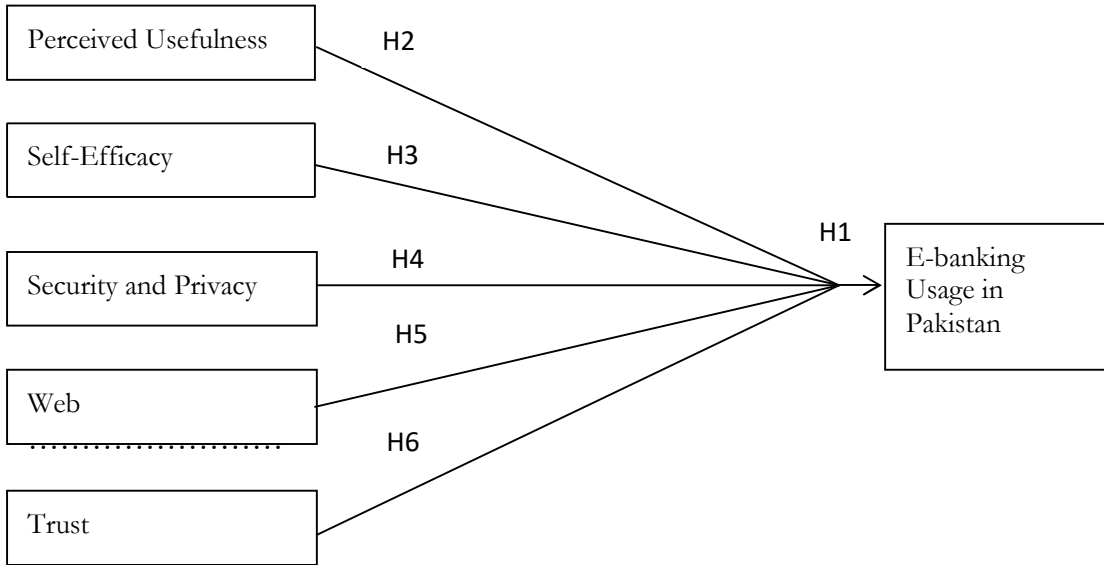
Later, alterations by researchers resulted in the Technology Acceptance Model by Davis (1989). Technology Acceptance Model helped in identifying the factors influencing a person to admit the technology and information systems. Technology Acceptance Model theorizes that users' intention and beliefs about the system determines

consumer approval of a new information system. Technology Acceptance Model has acknowledged the ease of use perceived by people and perceived usefulness as two key factors which affect the intentions of people to use technology (Davis F. B., 1989).

Perceived usefulness is the extent to which an individual have confidence in handling a specific system will improve his/her job performance, whereas perceived ease of use is defined as the degree to which a person have confidence that using a specific system will require no effort (Yi-Shun Wang Y.-M. W.-H.-I., 2003). Previous research on Technology Acceptance Model has identified that single differences are significant external variables. Empirical research has found that there is an important connection between individual differences and the acceptance of Information technology. Though, the diverse experimental results found in prior work propose that the processes through which specific differences effects Information Technology acceptance are not well understood. The intervening Technology Acceptance Model variables provide complete account of how separate differences affect the E-banking usage. Through several different variables such as age, level of education, gender, and computer self-efficacy may have a substantial influence on consumers' recognition of Internet banking via Technology Acceptance Model variables. Practitioners can only influence computer self-efficacy through promotion and training methods. Therefore, computer self-efficacy is picked as the single difference variable to influence the constructs of Technology Acceptance Model (Yi-Shun Wang Y.-M. W.-H.-I., 2003).

The study conducted by Jeyaraj (2006) is a comprehensive review of predictors of technology adoptions by organizations and individuals that were published between 1992 and 2003 and found that Technology Acceptance Model most widely used technology adoption model. Though, it does not cater for all the aspects so it is used as a base model and is extended by adding more variables. For example, Kamarulzaman (2007) on his study of internet shopping adoption drew upon Technology Acceptance Model and included personal and cognitive influence. A research study by Amin (2007) modified the original TAM by counting apparent credibility and the quantity of information on mobile credit card were additional to his study of mobile credit card usage intentions. Various extensions to the TAM were also conducted in the study of online banking such as those conducted by Pikkarainen T. P. (2004) also used TAM as a base and included various factors such as security and privacy, enjoyment and amount of information. Another theory related to internet banking in Theory of Planned Behavior. This theory refers to the perception of the presence of mandatory resources necessary to perform a particular behavior Azjen (1986).

Theory of Planned Behavior enlightened that a person's behavior is determined by behavioral intentions and they are a formed through ones' attitude towards the behavior, subjective standards and perceived behavior regulate the individual's view of the effortlessness with which the actions can be accomplished. The study would mainly concentrate on the factors perceive usefulness, security and privacy, web design and self-efficacy.



The conceptual framework was developed as a result of the theoretical framework.

Conceptual Framework

Sources: (Kent Eriksson K. K., 2004)(Alsajjan, 2006)(Klaassen, Randy, 2007)(Alain Yee-Loong Chong, 2010).

Variables

The independent variables are:

- Perceived usefulness
- Self-efficacy
- Security and Privacy
- Web Design
- Trust

The Dependent variable is the E-banking usage in Pakistan. The framework above shows that the independent variables are affecting the dependent variable. This research is based on finding the relationship between these variables and the magnitude of the strength of the relationship between Independent Variables and dependent variables.

Hypothesis

H₀: The factors have no effect on the usage of E-Banking in Pakistan

H₁: The factors have a positive effect usage of E-Banking in Pakistan

H₂ Perceived usefulness will *positively* impact usage of E-Banking in Pakistan

H₃ Privacy and Security will *positively* impact the usage of E-Banking in Pakistan

H₄ Web Design will *positively* affect the impact of E-Banking in Pakistan

H₅ Trust will *positively* affect the impact of E-Banking in Pakistan

H₆ Self-Efficacy will *positively* impact the usage of E-Banking in Pakistan

Research Methodology

Pakistan is a developing country where the use of E-banking system is not so popular due to various reasons. So we are going to examine what affects the usage of E-banking in Pakistan. From above literature, six factors are identified, which are Perceived usefulness, Self-efficacy, Web design, Security and privacy and Trust.

Nature of the Study

A descriptive as well as predictive study is undertaken to examine the factors affecting the usage of E-banking in Pakistan. This research is hypothesis causal study showing a cause-and-effect relationship between the variables. Data is collected regarding the usage of E-banking. The relationship predicted through factor identification and their strength direction and magnitude is measured.

Population

The population for this study is all customers of the banking industry in Pakistan.

Sample Frame

The same frame considered in this research is the banking consumers of Islamabad and Rawalpindi and specifically E-Banking users.

Sample size

The sample size is derived by formula below. Snow-ball sampling method is used to collect data. The formula below is used for the calculation of the sample size required for a multiple regression analysis is as follows as described by (Fidell L. S., 2001)

$$E = z_{\alpha/2} \cdot \frac{\sigma}{\sqrt{n}}$$

The formula above shows:

$z_{\alpha/2}$ is known as the critical value, the positive z value that is at the vertical boundary for the area of $\alpha/2$ in the right tail of the standard normal distribution.

σ is the population standard deviation

n is the sample size

The margin of error $E = 1$ and the standard deviation $\sigma = 6.95$. Using the formula for sample size, the calculation of n is as below:

$$n = \left[\frac{z_{\alpha/2} \sigma}{E} \right]^2 = \left[\frac{1.96 \cdot 6.95}{1} \right]^2 = [13.62]^2 = 185.55 = 186$$

The total questionnaires we floated were 210 and the response rate was 100 percent.

Instrument

To analyze what affects customer's use of E-banking, a questionnaire was developed and modified after extensive literature review and stake holders input. The process of developing the questionnaire was a step wise process as described below.

Instrument Development

The first step of the instrument development involves extensive research on the already developed questionnaires. Factors were identified through extensive literature review and these factors were then operationalized through the theoretical framework.

Face and Content Validity

The second step includes the face and content validity. It was done with the help of two academicians, Sir Usman Kemal and Sir Imran Kamar. This process also included two professionals and two consumers. One of the two

professionals Ahmed was the Personal Assistant of the Country Head of Silk Bank and the other professional is an employee at Bank Alfalah. In face validity they checked for the grammar, better understanding of the questionnaire and whether the instrument was user friendly or not. Content validity was based on the comments of the consultants which led to the modification of the instrument.

Pilot Study

The third step is based on the pilot study. The pilot study involves the Reliability analysis of the instrument. Reliability analysis is done on SPSS 17th edition after collecting data from ten respondents. The modified questionnaire is tested for reliability. Individual variables were tested for Cronbach’s Alpha and the result is tabulated below.

Table 1: Reliability Statistics (Instrument Validity)

Variable	Cronbach’s Alpha
E-Banking	0.841
Perceived usefulness	0.876
Security and Privacy	0.948
Web Design	0.939
Self-efficacy	0.911

Refer *Table 1*. The alpha for every variable was greater than 0.7 which made the instrument reliable.

Tools & Techniques

To analyze the data collected statistical methods are used. Descriptive and inferential statistics involving Correlation and Regression are focused on. Correlation will help us identify the strength of the relationship of the variables while regression will measure the magnitude of their relationship. Statistical Package for Social Sciences seventeenth edition was used to analyze data.

Result Findings

Reliability Statistics

Table 2: Reliability Statistics (All Data)

	N of Items	Cronbach's Alpha
E-Banking	5	0.872
Perceived Usefulness	5	0.873
Privacy and Security	5	0.861
Web Design	4	0.857
Trust	5	0.829
Self-Efficacy	6	0.873

Refer *Table 2*. This table shows the Cronbach's Alpha for the variables in the instrument. It identifies the reliability of the variables separately to conclude the overall validity of the instrument. The total number of items tested for reliability is 30 while the total number of variables tested is 6.

The dependent variable, E-Banking has 5 items tested for which the Cronbach's Alpha is 0.872 which means the variable is 87.2% reliable. The independent variable, Perceived usefulness was tested for 5 items which resulted

in a Cronbach's Alpha of 0.873 showing 87.3% reliability. The second independent variable Privacy and Security was tested for 5 items too. It had a Cronbach's Alpha of 0.861 meaning the variable is 86.1% reliable. The third independent variable is Web design which was tested for 4 items resulting in a Cronbach's Alpha of 0.857 leading to 85.7% reliability. The fourth independent variable is Trust which was tested for 5 items resulting in a Cronbach's Alpha of 0.829 meaning 82.9% reliability. The fifth and last independent variable considered is Self-Efficacy which was tested for 6 items and has a Cronbach's Alpha of 0.873 which means 87.3% reliability of the variable.

Demographics

Table 3: Gender of the Person

		Frequency	Percent
Valid	Male	139	66.2
	Female	71	33.8
	Total	210	100.0

Refer *Table 3*. Among the sample of 210 people, 139 are male and 71 are female. The overall percentage of the men is 66.2% and women are 33.8% as shown in the table below.

Table 4: Age of the Person

Valid	Frequency	Percent
18-25	43	20.5
26-30	51	24.3
34-40	52	24.8
41-50	38	18.1
51-60	20	9.5
61 above	6	2.9
Total	210	100.0

Refer *Table 4*. Among the sample of 210 people 43 are between the ages 18-25 which is 20.5%, 51 people are between the ages of 26-30 which is 24.3%, 52 people are between the ages of 34-40 which is 24.8%, 38 people are between the ages of 41-50 which is 18.1%, 20 people are between the ages of 51-60 which is 9.5% and 6 people are above 61 which is 2.9% of the total sample size.

Table 5: Qualification of the Person

Valid	Frequency	Percent
	1	.5
Undergraduate	31	14.8
Graduate	121	57.6
Post Graduate	56	26.7
5	1	.5
Total	210	100.0

Refer *Table 5*. The undergraduate among the sample of 210 people are 31 which is 14.8%. The number of graduate people are 121 which is 57.6% of the total sample size. The number of post graduate is 56 which are 26.7% of the total population.

Table 6: Income of the Person

Valid	Frequency	Percent
	1	.5
Below 20,000	41	19.5
20,000-50,000	84	40.0
51,000-100,000	55	26.2
Above 100,000	29	13.8
Total	210	100.0

Refer *Table 6*. Respondent's income below 20,000 in a sample of 210 is 41 which is 19.5%. 84 people have income between 20,000-50,000 which is 40.0%. 55 people have income between 51,000-100,000 which is 26.2% and 29 people have income above 100,000 which is 13.8% of the total sample size.

Table 7: Profession of the Person

		Frequency	Percent
Valid	Business	38	18.1
	Service	98	46.7
	Student	36	17.1
	Others	8	3.8
	5	30	14.3
	Total	210	100.0

Refer *Table 7*. Among the sample size of 210 the profession of 38 people is business which is 18.1% of the total sample size. Profession of 98 people is service which is 46.7%. 36 people are students which 17.1%. 8 marked others which is 3.8% **Descriptive Statistics**

Table 8: Descriptive Statistics

	N	Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Variance
E-Banking	210		1.00	5.00	3.9686	.750
Perceived usefulness	210		1.00	5.00	3.9800	.796
Privacy and security	210		1.40	5.00	3.6990	.745
Web design	210		1.00	5.00	3.7821	.765
Trust	210		1.20	5.00	3.7590	.633
Self-efficacy	210		1.17	5.00	3.7873	.651
Valid N (list wise)	210					

Refer *Table 8*. These are the results of analysis of the variables. The number of observations is the total of N and the number of missing values. The total number of respondents is 210 who were asked to fill the questionnaire. The table shows the descriptive statistics of the data. Likert scale was used to answer the questions.

The minimum statistic shows the minimum answer on likert scale given by the respondents. It is 1.00, 1.00, 1.40, 1.00, 1.20 and 1.17 for E-Banking, Perceived Usefulness, Privacy and Security, Web Design, Trust and Self-Efficacy respectively. The average minimum answer by the respondents is almost 1.13 on the likert scale. The maximum statistic shows the maximum answer on a likert scale given by the respondents. It is 5 for all the variables which was the maximum option on the likert scale.

The mean statistic identifies the answer of most of the respondents on average. The mean answer for E-banking is 3.9686, for Perceived Usefulness is 3.98, for Privacy and security is 3.699, for Web design is 3.7821, for Trust is 3.7590 and for Self-efficacy is 3.7873. The answer for all variables was almost near 3.5. This means that most of the answers were “Above Average” on the likert scale.

Standard deviation statistic measures the spread out of the data. Greater number in Standard Deviation means more wide spread data. The lowest standard deviation is for trust of 0.79571 and the highest standard deviation is for Perceived Usefulness of 0.89195. The standard deviation for E-Banking, Privacy and Security, Web Design and Self-Efficacy is 0.86614, 0.86312, 0.87453 and 0.80667 respectively. The standard deviation on average is manageable since it is near to “0” for all the variables.

The measure of variability is variance. The sum of squared distances of data value when mean is divided by the variance divisor is variance. Respective variances for E-Banking, Perceived Usefulness, Privacy and Security, Web Design, Trust and Self-Efficacy is 0.750, 0.796, 0.745, 0.765, 0.633 and 0.651.

Statistics of Association

Correlation Analysis

Table 9: Correlation Coefficient

Variables	R	Significance
Perceived Usefulness	.823	.000
Privacy and Security	.693	.000
Web Design	.675	.000
Trust	.732	.000
Self-Efficacy	.714	.000

Refer *Table 9*. This table shows the overall correlation of the independent variables on dependent variable. This highest and most significant correlation is between Perceived usefulness and E-banking usage in Pakistan. The lowest correlation is for Web Design with E-banking usage. The significance level shows that the model is fit for consideration.

Table 10: Correlation Matrix

		E-banking	Perceivedusefulness Privacyandsecurity Webdesign Trust	Selfefficacy
E-banking	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	210		

Perceivedusefulness	Pearson	.823**	1				
	Correlation						
	Sig. (2-tailed)	.000					
	N	210	210				
Privacyandsecurity	Pearson	.693**	.670**	1			
	Correlation						
	Sig. (2-tailed)	.000	.000				
	N	210	210	210			
Webdesign	Pearson	.675**	.691**	.586**	1		
	Correlation						
	Sig. (2-tailed)	.000	.000	.000			
	N	210	210	210	210		
Trust	Pearson	.732**	.687**	.738**	.620**	1	
	Correlation						
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	210	210	210	210	210	
Selfefficacy	Pearson	.714**	.749**	.687**	.763**	.748**	1
	Correlation						
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	210	210	210	210	210	210

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

Refer *Table 10*. Correlation determines the relation between two variables. The relation to be measured in this survey is of a dependent variable and independent variables. The independent variables are Perceived Usefulness, Privacy and Security, Web Design, Trust and Self-Efficacy. This research is measuring the impact of these independent variables of the dependent variable which is E-Banking usage in Pakistan.

The relationship between Perceived Usefulness and E-Banking usage is positive and significant. The value of correlation is 0.823 which is significant. Thus, EBanking usage has a strong and positive correlation with Perceived Usefulness. Changes in one variable will have a positive change in the other variable too.

Privacy and Security has a positive and signification relation with E-Banking usage. The value of correlation is 0.693 which is significant and a strong relationship but not as strong as the relationship of Perceived Usefulness with E-Banking usage.

Changes in one variable will have a positive change in the other variable too.

E-Banking usage has a positive relationship with Web Design which is significant relationship but it has the lowest correlation value of 0.675 as compared to other variables. Thus, there is strong and positive correlation of these two variables but not as strong as the other variables.

Trust has a significant and strong positive correlation with E-Banking usage of the value 0.732. Changes in Trust variable will lead to positive changes in the EBanking usage.

Self-Efficacy and E-Banking usage also has a significant, positive and strong correlation of the value of 0.714. Changes in one variable will lead to positive changes in other variable.

Inferential Statistics

Regression Analysis

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Sig F change
1	.862a	.743	.737	.000

Refer *Table 11*. The model summary table shows an R square of 0.743 that is 74.3 percent and adjusted R square of 0.737 that is 73.7 percent. This means that there is a probability of almost 73.7 percent that changes in the dependent variable are because of the independent variables and the rest 27 percent are because of unexplained factors.

Table 12: Anova

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	116.573	5	23.315	118.255	.000 ^a
	Residual	40.220	204	.197		
	Total	156.793	209			

a. Predictors: (Constant), Self-efficacy, Privacy and security, Web design,

Perceived usefulness, Trust

b. Dependent Variable: Ebanking

Refer *Table 12*. This table denotes the model fit of the research under study. Since the Significance is 0.000, this model is fit for consideration.

Table 13: Coef ficients

Model	B	Std. Error	Beta	t	Sig
1 (Constant)	.216	.163		1.328	.186
Perceived usefulness	.500	.057	.515	8.697	.000
Privacyandsecurity	.123	.057	.122	2.159	.032
Webdesign	.119	.057	.120	2.101	.037
Trust	.246	.067	.226	3.692	.000
Selfefficacy	-.017	.074	-.016	-.226	.821

Refer *Table 13*. The t-statistic value for perceived usefulness is 8.697 and the significance level is 0 along with a beta of 0.500 which means the H_0 is rejected and H_1 is accepted as mentioned by (Leona S. Aiken, 1991) , if the t-statistic value is greater than 2 or lesser than -2 and the significance level is lesser than 0.05, H_0 is rejected and H_1 is accepted. The more E-Banking is accessible, convenient and does not take too much time, the higher would be the rate of its usage. Thus, perceived usefulness has an effect on the usage of E-Banking in Pakistan.

The t-statistic value for privacy and security is 2.159 which is greater than 2, beta is 0.123 and the significance level is 0.032 which is less than 0.05. Thus, H_0 is rejected and H_1 is accepted which means privacy and security

has an impact on the EBanking usage in Pakistan. Lower misuse of personal information and fraud/monetary loss would lead to a higher usage of E-Banking.

The t-statistic value for web design is 2.101 which is greater than 2, beta is 0.119 and the significance level is 0.037 which is less than 0.05. Thus, H_0 is rejected and H_1 is accepted which means web design has an impact on the E-Banking usage in Pakistan. An easy to navigate web page with clear and understandable transaction and interaction will result in a higher E-Banking usage.

The t-statistic value for trust is 3.692 which is greater than 2, beta is 0.246 and the significance level is 0 which is lesser than 0.05. Thus, H_0 is rejected and H_1 is accepted which means web design has an impact on the E-Banking usage in Pakistan. Accurate processing of transactions and a high reliability of E-Banking will certainly increase the E-Banking usage.

The t-statistic value for Self-efficacy is -0.226 which is lesser than 2, beta is 0.17 and the significance level is 0.821 which is greater than 0.05. Thus, H_0 is accepted and H_1 is rejected which means self-efficacy does not have an effect on the E-Banking usage in Pakistan. The reason why this Hypothesis has been rejected might be because most of the respondents are graduate or post-graduate. Almost 15 percent of the respondents are undergraduate and 85 percent are graduate or post graduate. Since most of the people are a part of the higher level education and with the technology boom in Pakistan, most of the people know how to operate an E-Banking site. This might be a reason for the rejection of the hypothesis.

Result Discussions

Findings and Analysis

This study focused on the factors that affect E-Banking usage in Pakistan. The factors considered in this study are Perceived Usefulness, Privacy and Security, Trust, Web Design and Self-Efficacy. The model in this research is fit for consideration as reliability of the instrument and data was established. Most respondents answer was favorable as the mean answer is above 3 which is above average. The result found through correlation from this study was that Perceived usefulness, Trust and Selfefficacy has the strongest and most significant relationship with E-Banking usage. Privacy and Security and Web design has a strong and significant relationship with EBanking too.

According to the results, Perceived usefulness, privacy and security, trust and web design has an impact on E-Banking usage while Self-efficacy did not have an impact on E-Banking.

The degree to which one thinks that using a certain system will improve his/her performance is perceived usefulness. People use internet banking useful for their transactions which is the actual reason they use it. If internet banking is to be accepted by users, they should perceive it as useful way to carry out transactions as opposed to the conventional branch banking system. The result shows that perceived usefulness has an impact on E-Banking usage. Thus, most of the people in the sample representing Pakistan believe that using E-Banking will enhance their job performance and it will be useful for their banking transactions.

The results regarding Privacy and Security shows that the image of security risk has a major part in preventing internet banking acceptance and confirms a lot with the previous research findings. Lack of awareness about the fact that to secure online transactions most internet banks have combined common technologies, by which it can be understood that this is the reason customers stay away from internet banking. To have information regarding the Web is also a crucial factor in the task of making people aware

For most people trust plays a pivotal role on clients' eagerness to get involved in internet transactions and to provide sensitive information. In this study, trust is defined as the trust in the service provider by the customers regarding honesty, benevolence and competence. According to the results, Trust has an impact on the EBanking usage in Pakistan. People are encouraged to use E-Banking if trust exists else they would not take the risk of using

it if there is no trust between the bank and the customer. This shows about all facets of communication with existing or potential clients should be cautiously handled as trust in the provider is a functions of peoples' overall perception of capability, trustworthiness and altruism, and it comes into existence by , e.g. word-of-mouth or the clients' personal experiences. Transmission of expertise, portraying honesty, unbiased approach and shared values among the webpage and the user encourages trust cues.

Customer is initially faced by user interface while using e-banking services. Customer comes from a different background therefore it's an important element. Users have to process information from the screen. It is essential that the interface of banking web sites let clients to get the information they need easily.

An easy, visible and well understood user interface will definitely have a positive impact and the customer will be satisfied using E-Banking service while if the customer cannot really understand the whole process on the web site, this service will be a waste.

In the context of E-Banking, self-efficacy is treated as one's confidence in having the skill and knowledge to carry out banking transactions through computer and internet. The result showed a different finding by rejecting the hypothesis i.e. Self-Efficacy does not have an impact on the E-Banking usage. This means that bank's customers who are confident of their abilities to use Internet banking services are not going to adapt E-Banking services because of their confidence only. This result shows that customer's confidence does not have an impact on E-Banking usage. Most of the people in the sample are up to the age of 30 years and most of them are graduated which means that most of the people are confident about the operations of the computer and it is not the confidence part that would encourage or discourage them from using E-Banking but other factors are important.

The cultural background of a client is a feature that can affect the formation of a promising environment for creating and combining E-Banking transactions all over the world. Bias effect on the result could be due to the fact that the surveys were conducted only in Rawalpindi and Islamabad. Economic and Political situation could also influence trust perception in people, as the political condition in Karachi is very different from that of Islamabad. Considering a global case there is a difference of the political and economic conditions between first world and third world countries, resulting in different heights of initially trust and in the same way, initial risk insights.

Thus this study cannot generalize findings to the whole Pakistan or even globally.

H₀: The factors have no effect on the usage of E-Banking in Pakistan (Rejected)

H₁: The factors have a positive effect usage of E-Banking in Pakistan (Accepted)

H₂ Perceived usefulness will *positively* affect usage of E-Banking in Pakistan (Accepted)

H₃ Privacy and Security will *positively* affect the usage of E-Banking in Pakistan (Accepted)

H₄ Web Design will *positively* affect the usage of E-Banking in Pakistan (Accepted)

H₅ Trust will *positively* affect the usage of E-Banking in Pakistan (Accepted)

H₆ Self-Efficacy will *positively* affect the usage of E-Banking in Pakistan (Rejected)

Recommendations

The following steps can be taken on the basis of findings in order to improve E-banking; banks may monitor the navigational functions of website, offer an efficient customer complaint service, launch campaigns to emphasize on the advantages of E-banking and provide timely information to its customers. Improvements in these areas will enable banks to increase their customer base. In order to fulfill expectations in the above areas customers' needs full education of the service and equipment they use including the software education Organization should not only educate their customers but employees too.

The features of E-Banking and its benefits can be brought into light through campaigns by banks. Banks should provide services and features that are frequently used and limit the visit to bank branches. Once the consumers

are aware of the availability of E-Banking, they will weigh the advantages of E-Banking against its disadvantages. If the users perceive the advantages outweigh the disadvantages, they are more likely to use E-Banking. A study by Chau(2003) identified that personalization was found to have an important effect on perceived usefulness and they recommended banks to offer value added services apart from access to their current and historic transactions. Demonstrations via video presentations and hands-on training can be used to boost customers' confidence and improve their self-efficacy. This would also help show the user friendliness of E-Banking. E-banking system should be made more malleable and should cultivate communication within different bank branches too.

Contribution

Despite the limitations, this research and its findings form a useful contribution to the body of knowledge regarding the adoption and usage behavior of E-Banking in Pakistan. These research findings are in accordance with many research studies already conducted. Thus, it confers and substantiates with other studies. Perceived usefulness is considered to be a major factor for promoting client use. The perceived usefulness is vital because it defines whether the perceived ease of online bank use will lead to increased use of the internet bank (Kent Eriksson, 2004). The importance of including trust has been pointed out by Polatoglu (2001) in their qualitative study, and also by Kardaras (2001), who researched corporate customers.

This research also has proved the importance of Trust in E-Banking usage. According to this research privacy and security are the major sources of displeasure, which have significantly affected users' satisfaction also confirmed by the study of Poon (2008). Web design also has an impact on the E-Banking usage as identified by Gerrard (2003) that the ability of an invention to meet users' requirements using various aspects availability on the webpages are aspects of supreme importance in guaranteeing the success of E-Banking. In a study by Luarn (2004) self-efficacy was found to influence E-Banking usage directly or indirectly and this research is also confirmed by Podder (2005).

The model consists of an additional variable of self-efficacy which has not been researched in Pakistan before. This research under study has also combined different models to highlight the most important factors affecting E-Banking usage. There were few studies on E-Banking in Pakistan and this research validates previous results in a different context by investigating the factors that encourage or discourage the use of E-Banking in Pakistan.

Implications

Managerial Implications

The findings of this research hold practical implications for those banks and financial organizations providing E-Banking. On the basis of findings of the study, it is suggested that E-Banking web designers should design a secure website that provides clear information about the products and services to the online users, E-Banking sites should regularly monitor customer complaints and the internet banks should have efficient and effective feedback complaint management system.

The most important factors this study identified are perceived usefulness, privacy and security, trust and web design. Therefore, e-banking service providers should consider these dimensions and alter e-banking services accordingly. It will help to increase service quality of e-banking and enhance the level of customers' satisfaction in E-banking.

Academic Implications

There are few studies conducted on E-Banking usage in Pakistan before as already mentioned in the research. This research is trying to explain how significant factors such as perceived usefulness, privacy and security, trust and web design are important in identifying the usage of E-Banking in Pakistan. This research contribution to the theory is based on experimental data and information from the E-Banking users and service providers in Pakistan regarding the purpose of studies and the research questions. This research forms a theory in itself and shows the

final effect of all the factors on E-banking usage which has not been done before. Hence, this research and its methods and conclusions can be reference thinking to the studies of familiar topic in the future in Pakistan.

Limitations

There were few researches conducted on E-banking in Pakistan so the information on the subject certainly came from the research conducted in other countries. Thus, the study might represent national influences of different countries and not particularly common in Pakistan.

The results of this research suggest several factors affecting E-banking usage, caution needs to be taken before generalizing the findings to consumers in different countries.

Due to limited time and resources, information could not be collected from all over Pakistan so the findings cannot be generalized either.

Future Research Scope

In future, research can be done by selecting a larger sample size representing the whole Pakistan. This would help us better evaluate the factors which are more important and have significant impact on the usage of E-banking. An additional area of future research can be by duplicating the current research for another country and then show a comparative analysis of the two countries to show differences such a developed and developing country E-banking usage. Other than that physical features of the E-banking site and the qualities corresponding to it can also be further dug in too such as the attractiveness of the web site, ease in using the web site, speed of the internet, quality of internet, etc.

Conclusion

The purpose of the study was to achieve an understanding of customers' acceptance of E-Banking in twin cities of Pakistan under five variables. Structure established for the research anticipated that usage of E-banking is influenced by perceived usefulness, privacy and security, trust, web design and self-efficacy. Banks are providing E-banking facilities as they believe this service is likely to enhance their profits, which makes growing the acceptance rate a dominant issue. Banks should consider that web content info productivity plays an important part in influencing consumers' decisions to use a banking web site, directing to restricted financial services info and low financial services comparability as one of the reasons of unwillingness to participate in E-banking activities. So giving detailed and up-to-date info on the financial services offered online, links to other sections or web sites with supplementary information such as news or expert evaluations, or giving clients with simulants so that the costs of a financial product can be calculated when the consumer enter their preferences can lessen this type of risk.

This study argues that the banking industry with some understanding of the elements that will positively affect customer acceptance of E-Banking will help banks to be more efficient and successful in this industry. This study argues that the perceived usefulness, trust, privacy and security and web design can help in creating online banking adoption among Pakistani bank customers.

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