

FACTORS AFFECTING INTERNET BANKING USAGE: A CASE STUDY OF PROFESSIONAL GRADUATES OF PAKISTAN.

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ABSTRACT

This study examines the determinants which attract the customers to adopt internet banking in Pakistan. We took a sample of 257 respondents randomly and collected data through a structured questionnaire. We used Partial Least Squares (PLS) method to analyze the data. Our selected variables were: Perceived Usefulness (PU), Information on online Banking (IOB), Perceived Risk (PR), Security and Privacy (SP). Our empirical results demonstrate more impact to expand the expectation of customers to adopt internet banking services while this study proves that customers can be more loyal if they feel convenience in adopting the services. We suggest that bank ought to create awareness about the benefits of cost-efficient internet banking.

Keywords: E-banking, Internet Banking (IB), TAM, PLS analysis.

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1.INTRODUCTION

The Banking sector is crucial to modern trade and commerce providing them with a major source of finance. Since the 1980s, banking sector has played a significant role in worldwide economy and has been influenced by numerous external and internal in different countries (Gentle, 1993). Internet banking means implies a bank's services via the Internet. Internet banking does not exist without any assistance but rather as a piece of electronic banking. The drift in the utilization of Internet banking in developing countries has demonstrated fast development when contrasted to the developed countries (Sukkar and Hasan, 2005).

Researchers use the terms Internet banking and online banking reciprocally. Internet banking is “another sort of information system that uses emerging techniques such as the Internet and the World Wide Web, and has changed how customers perform various financial activities in computer-generated universe” (Shih & Fang, 2006, p. 62). Internet banking is an indication of both product and process-related innovation (DeYoung, Lang, & Nolle, 2007). The Internet being one of the ecommerce (online business) tools is adopted by the banking industry and hence changing customary retail banking into Internet banking while assuming a basic part in enhancing to manage the banking industry (Michailidis *et al.*, 2011). Recent evidence recommends that an internet-based consumers banking approach might be successful with more productive, quickly, reliable and committed consumers contrasted with conventional banking consumers to follow just in time.

There are three sorts of Internet banking; informational, communicative and transactional. Informational type alludes to a bank website that produces just only information about products and services on a stand-alone (solitary) server. Communicative type or simple transactional website alludes to a bank website

empowering a few communications amongst customers and banks through email, inquiry about accounts, filling applications or static file update. At long last, transactional types or advanced transactional websites allude to bank websites permitting clients to perform different operations or transactions (exchanges) electronically.

The Internet Banking makes more progressed and rationalized for the present and future eras, however very perplexing in light of the fact that Consumer's use of Internet banking requires acknowledgment of the innovation and it includes the changing of behavioral pattern as well. Besides, a few consumers' incapability to comprehend the internet technology and complex nature of financial services adds to the multifaceted nature of Internet Banking. Consumers' understanding of factors greatly contribute to the acknowledgment level of the intention of internet banking usage.

In this line, the present research goes for giving an understanding into the behavioral intentions and beliefs with respect to internet banking. The Technology Acceptance Model (TAM) (Davis et al, 1989) provided the framework to the investigation of both the customers' intentions to adopt internet banking and their determinant factors. TAM is a broadly recognized instrument for investigating the adoption of Information Systems by their target user communities, is being continuously applied, modified or combined with different models in a wide range of settings and sorts of Information Systems since its first appearance in literature more than 30 years ago.

2.LITERATURE REVIEW

Both academic and practical perspectives require comprehension and evaluation of customers' intention to use IB services. We have chosen TAM as the standard model for this review being a well-tested model concerning users' acceptance of technology and has been utilized by various researchers to anticipate

users' intention to acknowledge or adopt an assortment of technologies and computer systems (Davis et al., 1989; Mathieson, 1991; Davis and Venkatesh, 1996; Gefen and Straub, 2000; Al-Gahtani, 2001). TAM is based on the theory of reasoned action (TRA) (Fishbein and Ajzen, 1977; Ajzen and Fishbein, 1980), which is concerned with the determinants of consciously intended behaviours (Ajzen and Fishbein, 1980; Davis et al., 1989). TAM's ability to clarify attitude toward utilizing an information system is demonstrated better than other model's (TRA and TPB) (Mathieson, 1991).

Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh et al., 2003) is stand out amongst the latest work in such manner. This theory examined eight different models and coordinated the components of those models into a single, unified model that is more prescient than any of the individual models alone. UTAUT considered and integrated the theory of reasoned action (TRA), the technology acceptance model (TAM), the motivational model (MM), the theory of planned behavior (TPB), a model that consolidated the technology acceptance model and the theory of planned behavior (C-TAM-TPB), the model of PC utilization (MPCU), the innovation diffusion theory (IDT), and the social cognitive theory (SCT).

Singh and Malhotra (2007) made an attempt to find components influencing a bank's decision to adopt internet banking in India. Liao and Wong (2007) empirically significant contemplations connected with the internet-enabled e-banking systems and deliberately measured the determinants of customer interactions with e-banking services. Kautish (2008) described the paradigm shift of banking sector from conventional banking to online banking.

3.CONCEPTUAL MODEL AND HYPOTHESIS

The conceptual model of this study is given below: -

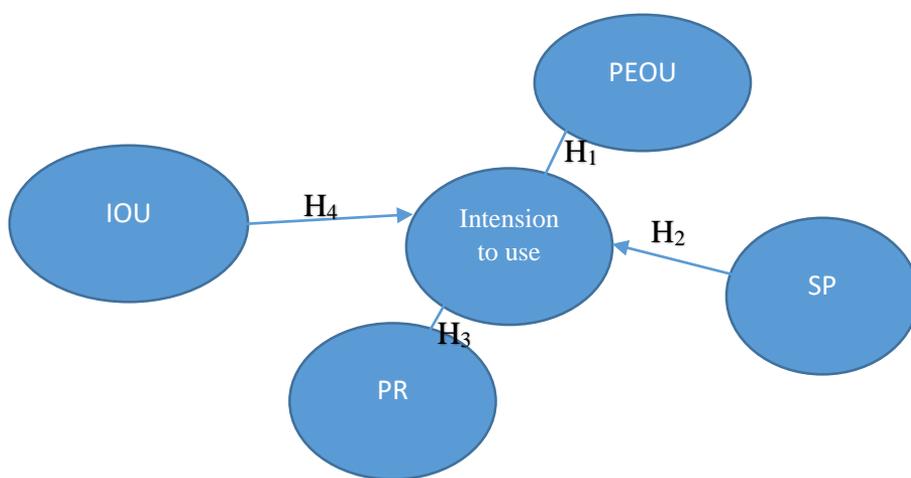


Fig.1. Internet Banking Construct

3.1 Perceived Ease of Use (PEOU)

Perceived ease of use is characterized as “the degree to which the prospective user anticipates the target system to be free of effort” (Davis *et al.*, 1989, p. 985), and the attitude toward using the technology is positively affected by it. Past research by and large affirmed that PEOU can influence computer usage directly (Davis, 1986; 1989). PEOU, being another major determinant of attitude toward use in the TAM model. It has an inverse relationship with the perceived multifaceted nature of use of the technology, it affects perceived usefulness. In the internet banking, ease of use implies the capacity of the internet bank website to be used simply including high web-site navigability,

well-organized and understandable contents (Rangsan, 2013). Yoon (2010) asserted that PEOU has acquired great significance in the realm of IB because of its solid relations with different dimensions concerned with Internet banking adoption such as individual experience and perceived usefulness. Because of these relations, PEOU has its importance due to the influence on the adoption and development of Internet banking (Rawashdeh, 2015). Azad et al. (2013) found that electronic banking among Iranian banks is impacted by innovation acceptance, internet development, and fast internet services, methods for use, information knowledge, and design.

H1: PEOU has positive effect/impact on intention to use.

3.2 Security and Privacy (SP)

Both Security and Privacy are critical in the development of trust in IB. Both factors by ensuring the security of customers' privacy add to their comfort and progressively confidence in the bank. The essential attentiveness toward both the internet banking customers and the banking industry are privacy and security of IB transactions and personal information confidentiality. Aladwani (2001) study of online banking, potential customers ranked internet security and customer's privacy as the most imperative future difficulties that banks are confronting.

The significance of security and privacy to the acceptance of online banking has been noted in many banking studies (Roboff and Charles, 1998; Sathye, 1999; Hamlet and Strube, 2000; Tan and Teo, 2000; Polatoglu and Ekin, 2001; Black *et al.*, 2002; Giglio, 2002; Howcroft *et al.*, 2002). Roboff and Charles (1998) found that individuals have a frail comprehension of online banking security risks in spite of their awareness of the risks and their reliance on their bank about privacy issues.

To be more precise, privacy and security were observed to be critical impediments to the adoption of online banking in Australia (Sathye, 1999).

According to many studies (Westin and Maurici,1998; Cranor *et al.*, 1999) privacy issues have demonstrated essential hindrances to the utilization of online services. Many studies discussed the promotion and optimum use of security and privacy. Consumers' concern about security and privacy issues has increased by the quick development rate of online products and services. Research indicated that security and privacy are major antecedents of intention to use a website (Yousafzai *et al.*, 2009; Abu-Shanab & Abu-Baker, 2011). This attitude demonstrates that Internet banking systems ought to provide security mechanisms, decreasing the risk of user-related information leaks leading to fraud (Ameme, 2015).

H2: Security and Privacy (SP) has a positive impact/effect on intension to use.

3.3 Perceived risk(PR)

It is defined as “customer’s considered the potential uncertain negative consequences of purchasing the product or service” (Kim *et al.*, 2008, P. 546), which impacts the user trusting behavior. They found that perceived risk have a significant influence on individuals’ intention toward the acceptance of Internet banking services (Claessens, Dem, De Cock, Preneel and Vandewalle, 2002; Hutchinson and Warren, 2003; Jin and Fei-Cheng, 2005; Bauer and Hein,2006; Rotchanakitumnuai and Speece, 2007; Durkin, Jennings, Mulholland, and Worthington 2008; Calisir and Gumussoy, 2008; Luo, Li, Zhang, and Shim, 2010; Reis, Gülseçen and Bayrakdar, 2011).PR has significantly influenced the adoption of online banking and accepted to be the real future issue in such manner. Bauer defined risk in term of doubt and cost linked with consumer actions. Perceived risk increase with uncertainty and size of negative magnitude.

According to the Hdi-Peng et al., the degree in which consumer perceived risk and customer own ability to confront the hazard that effect on the purchasing strategies. Since perceived risk showed up in the technology adoption process, the situation makes feelings of uncertainty and anxiety (Featherman & Pavlou, 2003; Abu-Shanab & Ghaleb 2012; Kim et al., 2008). Other studies have considered perceived risk as the consumer's expectations of suffering loss in quest of a desired outcome. The perceived risk about internet banking use can be considered to involve the customers' concerns about the system's safety in information and money transmission and the system trustworthiness in taking care customer information and managing customer's financial assets (Lee et al., 2005).

H3: Perceived risk (PR) has a positive on intension to use.

3.4 Information on Online Banking (IOB)

The essential element that consumers consider before adopting is the amount of information they have about internet banking. While the use of IB services is genuinely new experience excessively numerous individuals, low familiarity with IB is a noteworthy obstruction in adoption of internet banking. According to **Sathye (1999)** low attention of online banking is a noteworthy hindrance in the adoption of online banking. In an empirical study of Australian consumers, **Sathye (1999)** found that the consumers were uninformed of the potential outcomes, favorable circumstances/burdens required with online banking. According to the Shih and Fang, through online banking, banks can use resources in inventively and in addition imaginatively all together encourage their customers to carry out transaction in near space. Moreover, Gerson expressed that emergence of IT-based technologies encourages managing banking sector to fulfill needs of the customers. The amount of information consumers has about online banking has been recognized as a main consideration affecting the adoption.

H4: Information on Online Banking has a positive on intension to use.

3.5 Intention to Use (INT)

It alludes to customers' intention to use, as opposed to their actual use of, IB services. The TAM model demonstrate that customer's perceptions of the degree to which internet banking is easy to use, impacts s both perception of usefulness and customer's intentions to use it. The customer's intention to utilize internet banking can be clarified by the perception of PEOU of internet banking (Agarwal and Prasad, 1999; Venkatesh, 1999, 2000; Venkatesh and Davis, 1996, 2000). Individuals who feel perfect with another innovation are in a superior position to assess the usefulness of the new technology and are required to think that it is more simple to utilize.

4. RESEARCH METHODOLOGY

An empirical study was led to test the relationship between the constructs and a questionnaire created for this reason. The research directed a survey to gather the information which is described below.

4.1. Instrument development:

The research has five constructs: Perceived Ease of Use, Information on Online Banking, Perceived Risk and Security and Privacy. To quantify the constructs a questionnaire was developed. The research used a five point Likert-scale from 1, strongly disagree to 5, strongly agree. Online banking constructs incorporate four dimensions: Perceived Ease of Use, Information on Online Banking, Perceived Risk and Security and Privacy. The dependent variable of this research is intention to use. Intention to use measures the user's willingness to take part in online system of banking.

4.2. Data collection

The data was collected through a survey conducted in the Pakistan in 2016. We focused students, basically in the Multan as they are utilizing online banking sites. Prior to the main survey, a pilot study with 15 students was utilized to ensure the questions and wordings were unmistakably comprehended by respondents. In all out 500 students were identified from various sources for the main survey. The questionnaire was by paper and in an electronic version to augment the number of participants. The questionnaire, which was sent by email, asked for individuals to take an interest in the survey. For this research we focused on student in university classroom and also posted ads in Facebook, requesting that companions share the questionnaire. 500 questionnaires were disseminated in two universities in Multan. A sum of 300 responses were received. Some of the questionnaires were dropped as they were inadequate. The total valid respondents included 47 males and 53 females. The response range was from 21 to 37 years, with 47% of eighteen to twenty-two years and 53% of twenty-three to forty-five years. The research used a total of 257 questionnaires in the analysis.

4.3. Analytical techniques

The present study applies Structural Equation Modelling (SEM). SEM has many advantages over other methods (Gefen, Rigdon, & Straub, 2011; Ringle, Sarstedt, & Straub, 2012). SEM is likewise great as far in terms of path and factor analysis, especially when we are looking for reliability and validity of a research outcome from various points This is accessible through this approach. The research picked Partial Least Squares (PLS) technique to test the hypotheses. PLS at the same time assesses the validity and reliability of constructs (McLure Wasko & Faraj, 2005). PLS has preferences contrasted with different techniques such as LISREL. Sample size is an imperative issue in SEM and PLS and these methods can deal with a small sample size (Chin, 1998; Ringle et al., 2012). Moreover, PLS

is useful for exploratory research (Chin, 1998; Gefen & Straub, 2004). This method is likewise reasonable for testing a new model and theory as it can be useful for confirmatory and exploratory research (Gefen et al., 2011). The authors have used the re-sampling method of Smart PLS for significance testing. In the present study the bootstrapping of 200 re-samples and 250 cases for each specimen was done so as to assess the path significance. The estimate of bootstrap gives the basis for confidence intervals allowing an estimation of factor stability (Ringle et al., 2012).

4.4. Measurement Tools:

4.4.1. Reliability

Reliability in a survey is the soundness of the measures it utilizes (Sapsford, 2006). Each survey constructs have distinctive items which assess internal consistency (McLure Wasko & Faraj, 2005; Straub, Boudreau, & Gefen, 2004). There are diverse methods accessible to test the internal consistency. In PLS it is prudent to compute the composite reliability, where the accepted value ought to exceed 0.70 as per Cronbach's Alpha (McLure Wasko & Faraj, 2005). The consequences of the composite reliability as shown in Table 1 indicates an acceptable rate and demonstrates the research has an internal consistency. To measure reliability, we also tested internal consistency, which can be calculated by Cronbach's alpha, as seen in Table 1. All constructs have a value more than 0.70, an acceptable value for this test. Additionally, to enhance the reliability of the test, the authors amended the questionnaire after the pilot study, as the check for reliability of the research depends on piloting of the instrument and question wording (Bell, 2010). These two sorts of reliability tests ensure the accuracy of data collected through survey.

4.4.2. Validity:

To have a high content validity, we conducted an in-depth review of literature in the area of internet/online banking. The literature source for each

construct, which has been utilized in the literature review, is shown in Table 1. Discernibly, constructs drew their items from various approved sources, which enhanced the validity of this research concerning to the measurement of the constructs. Construct validity can be checked by discriminant and convergent validity (Chin, Gopal, & Salisbury, 1997). The results of convergent test are shown in Table 1, where AVE in all constructs is more than 0.3 showing that this research accomplished the set criteria. Further assessment was made to test the validity of the research, discriminant validity, to gage the degree to which a given construct of the research model is not the same as others (McLure Wasko & Faraj, 2005). As it is shown in Table 1, all AVEs are greater and show discriminant validity. Another approach to assess discriminant and convergent validity of the research is by examining the factor loadings of each indicator (McLure Wasko & Faraj, 2005). Table 1 shows the factor loadings for each construct and affirms that the observed indicators have enough convergent and discriminant validity. This shows signs of improvement results from PLS. The overall results and scale have been checked to ensure the dropped items do not influence the model.

Table 1 Sources of construct, reliability and validity.

Codes	Scales	Factor Loading	CR	AVE	Cronbach's Alpha
	Perceived Ease of Use		0.837	0.378	0.784
PEOU1	Internet banking services provides helpful guidance in performing the task.	0.713			
PEOU2	The transactional of Internet banking is easy to use.	0.708			

PEOU3	Interaction with internet banking is clear and understandable	0.509			
PEOU4	I find it easy to recover the error encountered while using the Internet banking services.	0.548			
PEOU5	Internet banking facilitates me to complete my banking activities quickly.	0.696			
PEOU6	Using Internet Banking for doing banking transactions much easier.	0.726			
PEOU7	Internet banking allows me to manage my finance efficiently.	0.677			
PEOU8	Internet banking helps to increase customer's productivity.	0.486			
PEOU9	The services of Internet banking enhance the	0.607			

	Customers effectiveness on the job.				
	Information on Online Banking		0.795	0.565	0.612
I0B1	Internet banking provides believable/ reliable information.	0.780			
I0B2	Internet banking provides real time information. Internet banking provides relevant information.	0.782			
I0B3	Internet banking provides information at the right level of details.	0.69			
	Perceived Risk		0.804	0.452	0.697
PR1	The risk of credit card fraud for internet transactions and payment is low for customer.	0.632			
PR2	I would feel free to submit my financial information Online because of low risk.	0.641			
PR3	By using the Internet banking services, it	0.710			

	protects Customer information privacy.				
PR4	There is a low probability to face the problem while making the internet transaction online.	0.642			
PR5	All operations through internet banking are guaranteed.	0.729			
	Security & Privacy		0.812	0.591	0.654
SP1	Authorized username and password are important for securing the data.	0.777			
SP2	I trust that transaction through internet banking is private and secure.	0.807			
SP3	I am satisfied with the security system.	0.720			
	Intension to use		0.823	0.609	0.679
IU1	I intend to use the internet banking it on a regular basis for achieving the future results.	0.783			

IU2	I intend to increase the usage of internet banking in the future.	0.789			
IU3	I intend to robustly recommend others to use internet banking services.	0.768			

4.5. Structural model:

The estimation results about Smart PLS software are appeared in Figure 2. According to the results, every path among constructs are positive and significant at the 0.01 level with the exception of security & privacy that has the p-value of 0.10. The model validity is assessed by adjusted R square value and the structural paths (Chwelos, Benbasat, & Dexter, 2001). The results of the adjusted R square show that very nearly 88.5% of the variance in the intention to use was represented by, information on online banking, perceived risk, perceived ease of use, security & privacy. Consequently, the result of R square demonstrates a satisfactory level of explanation. Likewise, directed effects of security & privacy, information on online banking, perceived risk, perceived ease of use are analyzed. The research empirically tested internet banking constructs throughout the survey. To do this, the research performed boot-strapping to test the statistical significance of construct path coefficient by method of t-tests. The path coefficient and t-value has been shown in Fig. 2. The bootstrapping of 257 re-samples and 499 cases for every sample indicate independent variable has a significant effect on intention to use. H1 is supported. The impact of PEOU is also strongly supported. Hence, H2 is partially supported due to p-value because p-value of Privacy and Security is low when contrasted with other independent variables. Perceived risk is completely supported and also has positive affect on

intention to use which supports H3. H4 is also supported because Information on Online Banking has a positive impact on intension to use. PEOU has highest beta value of 70.5% among the independent variables, followed by information on online banking that has a beta value of 29.4%. Perceived risk has a beta of 15.4%. Security & Privacy has the lowest beta among all the independent variables that is 2.4% and also has the greater p-value (i.e. 0.10).

5. FINDINGS AND RESULTS

Technology acceptance model (TAM) has been produced keeping in mind the end goal to concentrate consumer's intension to use. The aftereffect of this study demonstrates that consumers are progressively utilizing the internet banking now a day. The individuals utilize online banking constructs and the model underscored the acceptance of online banking so that the worldview change of transferring non online banking consumers towards online banking consumers. Individuals are by and large quickly pulled in towards internet. The online banking drive esteem for both businesses and consumers. Businesses are upbeat seeing consumers give information on internet. The online banking constructs are expedited by this TAM. Empirical tests significantly support the declaration that online banking constructs will expand the consumer's intension to use online banking. Actually, the online banking construct have established internet business to banking sector by these points of interest. Generally speaking, this research shows that online banking constructs will probably draw in individuals and influence consumers' intension to use.

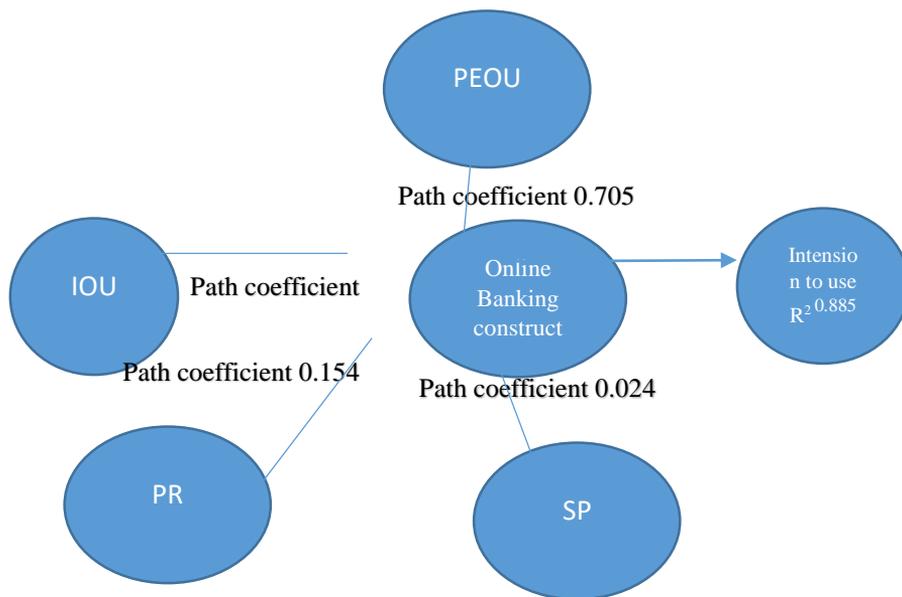


Fig.2. Result of PLS Analysis (Proved Model).

6. CONCLUSIONS

The findings of the research demonstrate that internet banking constructs are measured by Perceived Ease of Use, Information on Online Banking, Perceived Risk and Security and Privacy. The results of empirical testing, utilizing PLS-SEM, show the immediate and huge impact of internet banking construct on intention to use. The findings additionally indicate internet banking construct positively effects on intention to use, consistent with numerous other TAM studies. At long last, the positive and significant effect of internet banking construct on intension to use is another valuable result of our research. These findings give a few highlights into the study of internet banking. The main contribution of this research is that when empirically tested, internet banking constructs demonstrated the influence of adoption of technology on consumer behaviour. The outcomes further demonstrate that internet banking constructs

give open doors for co-creation, support, sharing data and joint effort between online clients, accordingly producing an esteem and value. These activities additionally have positive influence on customers' intention to use. The findings propose that it is vital to give Perceived Ease of Use, Information on Online Banking, Perceived Risk and Security and Privacy to consumers by framing internet banking. This improves the open doors for promoting internet banking strategies that will reduce the cost of both banks and consumers.

In this empirical research study, we investigate to estimate the principle affecting elements which impact the bank Customer to embrace Internet Banking (IB) benefits in Pakistan Outline Questionnaire investigate the correct discernment. A PLS analysis result demonstrates that all variables display positive relationship on the intention. In addition, banks ought to outline their web sites as compelling conveyance channels and offer data highlighting banking services. It is basic to give an all-around composed and easy to understand site to pull in potential adopters' attention. While Perceived eased of usefulness (PEOU) and Information of Internet Banking (IOB), Perceived Risk (PR) and Security and Privacy (SP) indicates more critical effect to expand the intention to use of customers. According to our results, the customer's intention is the same as convenience.

Keeping in view the above discussion, we suggest that the banking sector should instantly focus in this area to start the e-banking /internet banking/online banking and reduce operational cost to hold more potential clients. It is suggested that government should enhance the accessibility of free ICT and internet training courses should be launched in educational institutions.

7. PRACTICAL CONTRIBUTION

The present research highlights the part of internet banking constructs and how they shape internet banking and increment the level of security & privacy

and intention to use. The practical contribution of this research is that the outcomes underscore the significance of internet banking in internet business time. As demonstrated in the studies of (Yubo and Jinhong, 2005), it is imperative for firms to make an arrangement for security & privacy effectively as it significantly effects on consumer's intension. The results give some practical instructions to banking with respect to how internet banking commerce can be utilized as security & privacy building mechanisms to impact consumer conduct and intention to use. Regarding theoretical implication, this research proposes another model given the new ideas in internet banking. This research develops the literature of internet banking by presenting internet banking constructs through an empirical study. This study shows how constructs can impact on intention of customers to use internet banking.

8.LIMITATIONS OF STUDY AND FUTURE RESEARCH

The research is not without restrictions. One of the research constraints is that the study utilized a five-point Likert-scale. The future research ought to test the scales utilizing a seven-point Likert-scale toward show signs of improvement results It might be legitimate to complete comparative research utilizing LISREL, as the majority of the develops have been tried in past reviews. We can broaden sample size to make the results more effective.

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