

How Attitude Toward Online Banking Services Affects Its Use in Bangladesh?

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Abstract: *It has been yet to identify the factors affecting attitude and use of online banking in Bangladesh. This study identifies how attitude affects the use online banking. Adopting the influencing factors from previous studies (Karjaluoto et al., 2002) this study identified whether perceived risk, security and privacy affects attitude toward online banking. Likert 5 point scale structured questionnaire has been used. The research method was quantitative and causal one as it tried to find a cause and affect relationships between the variables. Convenience samples have chosen and it included 264 customers of private commercial banks which were analyzed by using SmartPLS-SEM. Result revealed that prior technological experience, prior computer and banking experience, reference group influence, perceived risk and security and privacy have a significant impact on attitude towards online banking in the extended part of the model attitude and use of online banking found to be related to each other.*

Keywords: attitude toward online banking, use of online banking service, perceived risk, prior computer experience, personal banking experience, prior technological experience, reference group influence, security and privacy.

INTRODUCTION

Online banking has frequently referred to "electronic banking" as the most significant online medium used for banking transactions in these days (Karjaluoto et al., 2002). Over the last twenty years one of the most profitable e-commerce applications was online banking services (Yaghoubi and Bahmani, 2010). Hence doing banking transactions in cyberspace is getting more importance compared to the physical location of a bank due to continuous developments in electronic banking trends. To transact banking activities in other businesses such as private and government agencies, banking has adopted internet-based systems. Bill payment, electronic checking, tracking of expenditures and credit cards, monitoring transaction history, transferring money between bank accounts, investment tracking, analyzing securities, etc. are continuously integrating banking services using internet (Karjaluoto et al., 2002). Therefore, it became necessary to know, how electronic banking has redefined banking operations due to increased penetration of electronic banking around the world. It has also been revealed from the previous study that adoption of electronic banking has positively and significantly improved the returns on equity (ROE) of banks (Abaenewe et al., 2013). Hence it became a matter of time for all public and private commercial banks to operationalize their banking activities electronically to gain competitive advantage to gain profitability and smooth service. In terms of behavioral aspects of the consumers using online banking services, many scholars focused on the consumers attitudes and intentions towards using the market space for banking. It was found that

attitude towards switching to online banking had a positive effect on the behavior intention (Lee et al., 2011).

There have been a lot of studies conducted on the attitude, intention and usage online banking services (Sainy et al., 2023; Hailat et al., 2023; Mohamad et al., 2023; Ly et al., 2022; Singh et al., 2020; Safari et al., 2020; Prastiawan et al., 2021; Jegatheesparan et al., 2020; Salem et al., 2019; Tait et al., 2019; Rajendran et al., 2017; Damghanian et al., 2016; Bashir et al., 2014; Pikkarainen et al., 2004; Karjaluoto et al., 2002). Salem et al. (2019) found that online banking services depend on a number of factors including privacy and propensity to the adoption of technology. In a study based on Iranian customers, the relationship between perceived security and acceptance of online banking has been assessed with the mediating effect of perceived risk. Results found that perceived security and trust had a significantly positive impact on the acceptance of online banking. But perceived risk had a negative impact on trust and on the acceptance of online banking (Damghanian et al., 2016). Here the question arises, if perceived risk show a different relationship in a different county where security and privacy concern remains. The study by Karjaluoto et al. (2002) explored a number of factors affecting attitude toward online banking services. Prior experience of using computer technology has a significant impact on attitude and behavior toward online banking.

It has been found that security and privacy concerns became a big issue among competing banks. Moreover, customer prefers to adopt and use online banking where easy interface and security are integrated into the system (Ojeniyi et al., 2015). The study by Pikkarainen et al. (2004) adopted a variable addressing security and privacy issues of online banking which might affect the online-banking acceptance. According to (Featherman & Pavlou, 2003) users may be reluctant to use internet banking because of a perceived risk. Potential dangers of internet banking such as system attacks, information interchange, inadequate verification, unauthorized access to the account etc. can happen. Thus, based on the previous studies Damghanian et al. (2016) concluded perceived risk may be used to address economic or financial risks as well as other associated risks (Featherman & Pavlou, 2003; Andrade, 2000; Forsythe and Shi, 2003; Lim, 2003; Crespo et al., 2009). A study (Al Amin et al., 2021) done in Bangladesh revealed that usage benefits, shopping benefits, and psychological factors etc. has a positive influence on attitude toward mobile banking usage of customers'.

No single studies (Sainy et al., 2023; Hailat et al., 2023; Mohamad et al., 2023; Ly et al., 2022; Al Amin et al., 2021; Singh et al., 2020; Shrestha et al., 2020; Jegatheesparan et al., 2020; Safari et al., 2020; Salem et al., 2019; Tait et al., 2019; Rajendran et al., 2017; Damghanian et al., 2016; Bashir et al., 2014; Pikkarainen et al., 2004; Karjaluoto et al., 2002) have been found addressing personal banking experience, reference group influence, perceived risk, security and privacy issues along with the consumers' technological preparedness to identify how these variables all together effect the attitude and usage of online banking services. As it was found in the previous study that perceived risk has a negative impact on acceptance of online banking (Damghanian et al., 2016), it is needed to assess when banks take proper measures for security and privacy issues, does perceived risk have a positive impact on attitude, intention and use toward online banking as found in previous studies (Sainy et al., 2023; Safari et al., 2020; Shrestha et al., 2020; Bashir et al., 2014). Again, no previous study has been done on online banking in Bangladesh where the above variables have been considered altogether. Again how security and privacy measures affect the attitude toward online banking of Bangladehsi consumer and whether perceived risk plays a significant impact on attitude of online banking, need to be analyzed. As previously a negative relation has been found (Damghanian et al., 2016) between perceived risk and acceptance of online banking, this study address whether perceived risk might have a different influence on attitude and use of online banking, when a different consumer group is undertaken in a different country where consumers have security and privacy concerns as well.

This study identifies the impact of several variables on consumer attitudes toward online banking service in Bangladesh. It also included consumer's security and privacy concern into account to find how it affects the consumer attitude toward online banking. Furthermore, this study focused on perceived risk and how it affects the attitude and use of online banking in Bangladesh. The purpose of the study is to identify the attitude toward online banking influencing its use. Along with other factors used in previous study (Karjaluoto et al., 2002), this study contributes by identifying the impact of

security and privacy (Pikkarainen et al., 2004) on attitude toward online banking. It also investigates whether perceived risk positively or negatively (Damghanian et al., 2016) affect the attitude toward online banking services.

LITERATURE REVIEW

Theoretical Underpinning:

The foundation for this given research model has been taken from Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980) and the Technology Acceptance Model (TAM) (Davis et al., 1989). The TAM is developed based on TRA relating the use of information systems (Zhang et al., 2018). Davis (1989) developed it to predict the dominant factors influencing consumers' behavioral attitude and intentions toward the use of any new technology. TRA provide the foundation for the consumer behaviour based on attitude and reference group influence and TAM justifies how consumer behaviour are based on perceived usefulness and perceived ease of use. According to Assael (1981), attitude forms through a continuous learning process based on reference group influence, past experience and personality. Consumer behaviour was found to accept new information technology such as online banking practices (Zmud, 1879; Nelson, 1990; Jarvenpaa and Todd, 1997; Safari et al., 2020). A number of studies has been adopted the Technology Acceptance Model (TAM) and extended it by adding more variables to assess the attitude, intention, adoption or use of online banking services (Sainy et al., 2023; Hailat et al., 2023; Mohamad et al., 2023; Ly et al., 2022; Prastiawan et al., 2021; Singh et al., 2020; Jegatheesparan et al., 2020; Shrestha et al., 2020; Safari et al., 2020; Tait et al., 2019; Bashir et al., 2014). Several other literatures have been supporting that the prior experience of computer technology has an impact on consumer attitude and beliefs (Arndt et al., 1985; Delone, 1988; Levin and Gordon, 1985; Igbaria et al., 1995). In addition personal experience can also affects the behaviour (Ajzen and Fishbein, 1975; Peter and Olson, 1990). According to consumer behaviour literatures reference group has a significant impact on consumer behavior (Ajzen and Fishbein, 1975; Kotler et al., 1999). Finally attitude and behaviour are expected to be related to each other as per Ajzen and Fishbein (1975). Based on these theoretical foundations and after referring to numerous studies done based on attitude and behaviour of online banking Karjaluoto et al. (2002) has done factor analysis and concluded that prior computer experience, prior technological experience, personal banking experience and reference group influence has a significant impact on attitude and use of internet banking. In 2004, Pikkarainen et al. has included security and privacy in a study following technology acceptance model (TAM) (Davis et al., 1989; Mathieson, 1991; Venkatesh et al., 1996) as it was found that consumers are considering security concern before using online banking service. Jegatheesparan et al. (2020) also found security has a significant influence on usage of online banking. Though there has been a change of accepting online banking as safe channel after a study reports no such security issues in Finland (Sathye, 1999; Hamlet and Strube, 2000; Howcroft et al., 2002). It has been observed that perceived risk has a negative impact on acceptance of online banking (Damghanian et al., 2016). In empirical researches it was evident that perceived risk decreases consumers' attitude toward online purchases (Martin and Camarero, 2009; Chang and Chen, 2008). Therefore, based on the theoretical background of technology acceptance model (TAM) and its extended version with added variables, this research has been undertaken to achieve the above mentioned research objectives as relationships between variables can be established with appropriate references.

Attitude and Use of Online Banking

According to the theories related to attitude, a person is more likely to purchase or utilize a particular item or service if they have a positive attitude toward it. Karjaluoto et al. (2002) has done a factor analysis on attitude toward online banking and referred that online banking is considered as "faster, cheaper and easier". It also provides a "good, consistent and standard of service". The perception about internet banking always refers a high-quality of service (DeLone, 1988; Igbaria et al., 1995). The idea that internet banking is quicker than traditional delivery methods is referred to as "faster". Using internet banking is more affordable than using other distribution methods. The idea of internet banking is simpler and easier to use than other payment methods (Celik, 2008; Lee 2009). Hence these four items (faster, cheaper, easier and service) taken to measure attitude toward online banking in this study. Again, consumer opinions regarding online banking have been proven to be influenced by past computer experience and new technology exposure (DeLone, 1988; Safari et al., 2020; Igbaria et al., 1995). According to Assael (1981) attitudes change over time as a result of a learning process

influenced by reference group influences, prior technological experience, prior computer experience, and personal banking experience. According to studies on consumer attitudes and online banking adoption, behavior toward various banking technologies and individual acceptance of new technologies, might an effect on customer's attitude, intention and adoption of online banking (Sainy et al., 2023; Hailat et al., 2023; Mohamad et al., 2023; Ly et al., 2022; Prastiawan et al., 2021; Singh et al., 2020; Jegatheesparan et al., 2020; Shrestha et al., 2020; Safari et al., 2020; Tait et al., 2019; Rajendran et al., 2017; Igbaria et al., 1995; DeLone, 1988). Hence four of these variables (prior computer experience, prior technological experience, personal banking experience and reference group influence) were used to measure the factor analysis which affect the attitude toward internet banking in his study (Karjaluoto et al., 2002). Here attitude toward internet banking service has found affecting use (behaviour) of internet banking as well (Karjaluoto et al., 2002; Bashir et al., 2014). Here the relationship between attitude toward online banking and use of online banking (behaviour toward online banking) are clearly found from the above discussion of literatures. Now, to measure the variable of online banking use Salem et al. (2019) adapted the variable of “the use of online banking services” from Mouakket (2009). The items include the following statements “I strongly recommend the use of online banking services”, “I will increase my use of online banking services”, and “I save time and effort by using online banking services”. The study results also suggested that a number of variables including the propensity of technology adoption and customers’ concern for privacy etc. have a significant impact on the use of online banking services. This finding also supports the other literatures that relate technology, security, privacy and risk of online banking. According to (Ajzen and Fishbein, 1980; Tan and Teo, 2000; Polatoglu and Ekin, 2001) actions toward an item are predicted to influence the overall behaviour toward that object. Au and Enderwick (2000) clarified that the most direct explanation for customers' banking behavior is their attitude toward online banking. Therefore it became evident that attitude toward online banking can lead to behaviour though use of online banking services.

H₁: Attitude toward online banking (ATOB) has a significant effect on use of online banking service (UOBS)

Prior Technological Experience

Trocchia and Janda (2000) claim that consumers' adoption rates of the internet are correlated with their prior experiences with the technologies, which is consistent with the traditional attitude theories of Fishbein and Ajzen (1975, p. 14). Technological characteristics (Danyali, 2018; Ghobakhloo et al., 2012; Davis, 1989); socioeconomics-related traits (Chiu et al., 2017) as well as facilitating conditions (Venkatesh et al., 2003) are all linked to the likelihood of adopting new technologies. According to (Fishbein and Ajzen, 1975), a person will have more favorable views about an object when they have pleasant experiences with it in the past. Therefore, a person's attitude will be more positive based on the positive beliefs they hold. Customers' tendency for adopting new technology has been recognized as one of the most significant elements influencing how frequently they use online banking services. According to several authors (Loukis and Kyriakou, 2015; Ratchford and Barnhart, 2012; Estrella-Ramon et al., 2016) it has been characterized as the consumers' individual predisposition, which is mostly attributable to the value and belief system they adhere to. Customers' decisions in favor of self-service technology are influenced by this predisposition in a quantifiable way (Magotra et al., 2015). Consumers' opinions regarding technologically linked systems and information technology have been proven to be influenced by prior technological experience (DeLone, 1988; Igbaria et al., 1995). This theory was expanded by Au et al. (2000) that a consumer's understanding of new technologies and their implications improves as consumer gain technological expertise. As a result, a consumer's knowledge with technologies in general makes it easier for the consumer to see the potential additional value that a technology adds. According to (Au and Enderwick, 2000), a customer will have a better knowledge of new technologies they become experienced. The extra value added through new technical advancements therefore understood by the customer with a deeper grasp of technology. In the factor analysis done by Karjaluoto et al. (2002) where heavy loading were found on five different factors such as “ATMs, automates in general, electric IDs, teletext and improvement” which has been adopted in this research to measure the variable “Prior Technological Experience”. While prior experience with technology refers to consumers’ experiences of using of various technologies like ATMs, automates in general, electric IDs, and teletext, etc. are related to the use of PCs, the Internet, and e-mail. It has been found that attitudes and acceptance towards new information system have a

critical impact on users' adoption of information system (Davis, 1989; Venkatesh and Davis, 1996; Succi and Walter, 1999). Hence the prior experience of technology influences the consumer attitude and usage toward internet banking.

H₂: Prior Technological Experience (PTE) has a significant effect on attitude toward online banking (ATOB).

Prior Computer Experience

It has been established that past computer experience affects consumers' perceptions about the automated systems (DeLone, 1988; Igbaria et al., 1995). Consumer views and attitudes concerning associated computerized systems are influenced by prior computer experience (Arndt et al., 1985; DeLone, 1988). Karjaluoto et al. (2002) stated that prior technological experience relates consumer experience of ATMs, automates in general, electric IDs, which is related to the prior computers experience such as experience of using PCs, the Internet, and e-mail etc. Au et al. (2000) observed that a consumer's basic familiarity with computers makes it simpler to understand the new features of computerized system. Several studies (Arndt et al., 1985; Delone, 1988; Levin and Gordon, 1985; Igbaria et al., 1995) suggested that prior technological experience underlying attitude formation also require prior computer experience. Karjaluoto et al. (2002) did factor analysis and found heavy loading on five different factors Internet, E-mail Computer, E-payment and Mobility" which has been adopted in this research to measure the variable "Prior Computer Experience". Therefore, prior experience to computerized technology fosters the attitude toward online banking.

H₃: Prior Computer Experience (PCE) has a significant effect on attitude toward online banking (ATOB).

Personal Banking Experience

According to the research on consumer behavior, a person's opinions and attitudes are mostly formed as a result of their own experiences with a particular commodity. Personal banking experience includes the intention to change user habits of banking activities. It also includes the degree of consumer satisfaction with the online medium of banking. The personal banking experience has a variety of effects on attitudes and behavior. Customers who are dissatisfied with physical banking are more likely to switch to electronic channels. Electronic channel provides the consumer ease of use. Consumers using internet banking are happier with their experience now compared to their previous branch banking (Karjaluoto et al., 2002). In Finland, client unhappiness with branch banks has been found as one of the key factors underpinning the fast spread of electronic delivery channels. Because of excessive queuing and poor customer service the consumer shifts from branch banking to electronic channel (Karjaluoto, 2002). Electronic channel can speed up the process where personal experience is said to influence behavior often (e.g., Fishbein and Ajzen, 1975, p. 10; Peter and Olson, 1990, p. 141). In general, personal experiences with a particular item are the main source of beliefs and attitudes (Fishbein and Ajzen, 1975). Only pleased consumers make Internet banking their go-to method for paying bills (Fishbein and Ajzen, 1975). Hence they enjoy freedom while using internet banking. Roboff and Charles (1998) found consumers are aware of the online banking security, they assume banks works on security to safeguard the consumer. So, consumer must feel themselves secured while using online banking experience. In conclusion, pleased customers are more likely to utilize Internet banking for receiving financial services since they have more favorable thoughts and attitudes. In order to ensure client happiness, banks must provide a satisfying banking experience (Foreman, 2000). In a factor analysis done by Karjaluoto et al. (2002) found heavy factor loading on four items including ease of use, speed, security and freedom. This research has adopted these items to explain "personal banking experience". As satisfied customers have a positive beliefs and attitude toward online banking and they are more likely to use online banking services.

H₄: Personal Banking Experience (PBE) has a significant effect on attitude toward online banking (ATOB).

Reference Group Influence

Consumer behavior literature also suggests that reference groups, such as a social reference group, may impact on consumer behavior (Fishbein, 1967; Fishbein and Ajzen, 1975). Two competing influences have been identified on the relationship between subjective norm and behavior: conformity and dissension (Snyder and Fromkin, 1977;

Baumeister, 1982; Guerin, 1986; Simonson and Nowlis, 2000). Conformity is the result of people trying to conform to a subjective norm, thereby avoiding criticism and rejection. Dissension is a metric of a consumer's independence from the subjective norm and a sign of strong autonomy and self-respect. As a result, a dissident customer is an individual who is different from the others (Snyder, 1992).

The role of subjective norms in consumer behavior has been scientifically supported from a variety of perspectives. According to research by Bagozzi (2000), the subjective norm is a significant predictor of consumer behavior when it is evaluated in light of social variables. Conversely, (Taylor, 1991) contends that most individuals make an effort to associate themselves with others that support their own identities. A customer's use of banking services may be influenced by a number of reference groups, including like friends and family and even the bank's staff. This indicates the importance of groups and bank personnel as reference group to the internet banking use. Based on behavioral references, it is evident that reference groups and bank personnel do have an impact on the adoption of internet banking. While a particular reference group may initiate internet banking use, the continued use of online banking depends other factors as well such as customers' perceptions of technology. Hence as an individual every personnel can conform to the subjective norms relating internet banking usage after experiencing internet banking services (Karjaluoto et al., 2002). However, strong referents from family sources are perceived to have a very strong influence online banking adoption (Snyder and Fromkin, 1977; Baumeister, 1982; Guerin, 1986; Simonson and Nowlis, 2000). Therefore based on the behavioral theories Karjaluoto et al. (2002) came up with certain factors affecting the reference group influences. The study exhibits high loadings for three variables (Bank's personnel, Referents example, Group behaviour) which relate the surrounding subjective norms identified from consumer reactions. To add with it, a study done by (Prastiawan et al., 2021) proven the relation of social influence on attitude and use of mobile banking based on digital technology. Hailat et al. (2023) also supported the same findings based on a study on conventional Islamic banks located in Jordan. A positive and significant influence of peers' influence on attitude and intention to use digital banking in Malaysia has been found by Mohamad et al. (2023). Rajendran et al. (2017) also considered social influence on behavioral intention and use of online banking services. Ly et al. (2022) studied the influence of subjective norms on attitude and intention toward internet banking services. Referring to these studies it can be concluded that reference group influence might have a significant impact on attitude toward online banking.

H₅: Reference Group Influence (RGI) has a significant effect on attitude toward online banking (ATOB).

Security and Privacy

Numerous researches (Westin and Maurici, 1998; Cranor et al., 1999) have found that privacy concerns are significant roadblocks to use internet services. A number of researches (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) have underlined the significance of security and privacy to the acceptance of online banking. To be more specific, Sathye (1999) discovered that privacy and security was a major barrier to the acceptance of online banking in Australia. Jegatheesparan et al. (2020) found security issues having a significant impact on online banking usage. Singh et al. (2020) studied perceived security significantly influencing behavioral intention to use mobile banking. Hence consumers' concerns about security and privacy are growing as the number of goods and services available online expands quickly. In general, many customers are reluctant to reveal sensitive information, such as credit card information, over the phone or the Internet (Hoffman and Novak, 1998). Consumers are increasingly worried regarding password integrity, privacy, data encryption, hacking, and the safety of personal information as a result of the use of electronic banking (DeLone, 1988; Igbaria et al., 1995). They are concerned about the collection and recording of user data without their knowledge (DePallo, 2000). Hence people want to have a transparent system to know about their actions and its consequences. Therefore, users are unwilling to acknowledge that they do not fully control their own behavior while using technology. They want to control their own behavior and understand the reasons behind both their own and other people's actions towards using automated system (Baronas and Louis, 1988). Users want to be in charge of what information is gathered, how it is used, for how long it is kept on file, and how it is processed (Kobsa, 2001; Kobsa,

2002). Roboff and Charles (1998) discovered consumers are aware of the security dangers of online banking and assume banks are more concerned about privacy as they work to safeguard the consumer. Even though customers had high levels of confidence in banks, they had little confidence in technology (Howcroft et al., 2002). By addressing all these issues in Pikkarainen et al. (2004) has included security and privacy in his study to extend the technology acceptance model (TAM) like other authors (Davis et al., 1989; Mathieson, 1991; Davis and Venkatesh, 1996) where it was found that consumers are considering security concern before using online banking service. In this study a variable addressing security and privacy issues of online banking was adopted from Pikkarainen et al. (2004). Five statements has been adopted to define the variable "security and privacy" which include "I trust in the technology an online bank is using", "I trust in the ability of an online bank to protect my privacy", "I trust in an online bank as a bank", "Using an online bank is financially secure", "I am not worried about the security of an online bank". Like Pikkarainen et al. (2004) it can be concluded that security and privacy might affects the attitude and use of online banking services.

H₆: Security and privacy (SAP) has a significant effect on attitude toward online banking (ATOB).

Perceived Risk

Theories on perceived risk have been utilized to explain consumer behavior since the 1990s. Various studies have examined how perceived risk affects a customer's traditional decision (Lin et al., 2009). A number of researchers have found that perceived risk has a significant positive impact on attitude and intention toward online banking services (Sainy et al., 2023; Safari et al., 2020; Shrestha et al., 2020; Bashir et al., 2014). In earlier studies, factors related to perceived risk have been taken into account, including financial risk (Andrade 2000; Forsythe and Shi 2003), performance risk (Lim 2003; Crespo et al. 2009), social risk (Lim 2003; Crespo et al. 2009), physical danger, mental risk, and time risk. Three factors are used in this study to determine perceived risks: monetary risk, performance risk, and social risk. In banking transactions, financial risk is crucial. For instance, the transfer of funds between accounts via mobile payments may raise worries about the security of financial data, such as account numbers and passwords, raising the possibility of financial loss (Yang et al. 2015). According to Lee (2009), financial risk is the likelihood that financial losses would result through mishandled transactions or account abuse. The general anxiety surrounding using credit cards on the Internet is tied to perceived financial risk. Customers who use credit cards run the danger of having the risk of fraudulent payments in their account. An additional hurdle to do online transactions is when customers need to provide their credit card information on websites (He 2009). Performance risk denotes the possibility that the purchased items may not live up to consumer expectations, which could harm the business's image for high-quality products (Hong 2015). The risk brought on by transaction failure in an online banking website is also considered as performance risk. Customers are always concerned about the possibility of unfavorable damages occurring when they are engaged in online transactions and the service system fails or the internet is interrupted (Kuisma et al. 2007). It is possible that using Internet banking makes people's friends, family, and coworkers unhappy and that they may think it is offensive. Additionally, a social participant could alter his or her perspective on internet banking (Lee 2009). Risk plays a big part in consumer behavior and greatly contributes to the description of information seeking and purchasing decisions. According to experimental studies (Martin and Camarero 2009), customers are less likely to purchase products online when they perceive a higher level of risk. Consumers' perception of risk is happening when consumers expect unfavorable outcomes from future online purchases (Chang and Chen 2008). Customers may examine shopping messages or significant findings relevant to making a poor or wise selection in the purchasing area, which is unreliable (Chen and Barnes, 2007). It is evident from the above references that perceived risk has a direct and detrimental impact on people's trust in online banking. It has been found in the past that perceived risk have direct and adverse impact on customer's perception of value and purchase intention (Forsythe and Shi 2003). Damghanian et al. (2016) undertaken perceived risk based on a number of studies (Featherman & Pavlou, 2003; Andrade, 2000; Forsythe and Shi, 2003; Lim, 2003; Crespo et al., 2009) and concluded after analyzing the research findings that perceived risk has a negative impact on online baking acceptance. Three items were adopted from Damghanian et al. (2016) for measuring the variable of perceived risk based on previous studies. The items are financial risk (Andrade 2000; Forsythe and Shi 2003), performance risk (Lim 2003; Crespo et al. 2009), and social risk (Lim 2003; Crespo et al. 2009). Since several studies proved a positive impact of perceived risk on attitude and use of

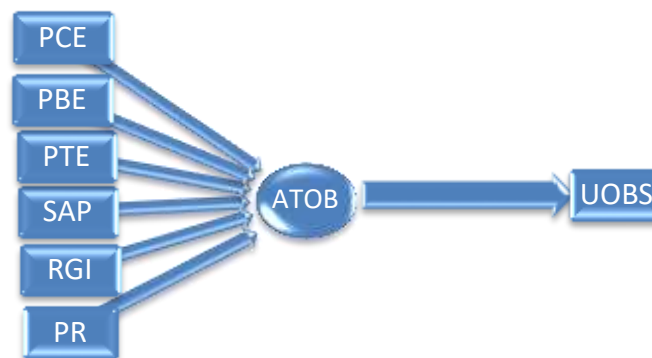
online banking, Damghanian et al. (2016) found a negative impact on attitude and use of online banking services. Hence this study created the scope of identifying the right type of relationship between perceived risk and attitude and use of online banking practices. Therefore this study adopted the variable perceived risk from Damghanian et al. (2016) to identify its impact on attitude and use of online banking practices. The following hypothesis can be developed based on the above reviews.

H₇: Perceived risk (PR) has a significant effect on use of online banking service (UOBS).

The Proposed Model

To formulate the conceptual framework depicted in Figure 1, independent variables (Prior Computer Experience, Personal Banking Experience, Prior Technological Experience, Security and Privacy, Perceived Risk, Reference Group Influence) and dependent variables (Attitude towards Online Banking, Use of Online Banking Service) has been taken. In this model in the first part, all the independent variables contribute in developing the consumer attitude toward online banking. In the later part, attitude toward online banking found to be influencing the use of online banking service. It is important to note that the research by (Wu et al., 2015; Arvidsson, 2014; Hsieh, 2015; Tung et al., 2014 and Yang et al., 2015) served as excellent sources of data for this investigation. According to Ajzen and Fishbein (1980), the use of online banking is positively influenced by attitude toward online banking (ATOB) which was also investigated by Karjaluoto et al. (2002). Prior technological experience (PTE) influences attitudes in a favorable way as per Fisher (2000). Levin and Gordon (1989) found Prior Computer Experience (PCE) has a favorable effect on attitude. According to Foreman (2000), personal banking experiences (PBE) have a favorable effect on attitudes. Taylor (1991) found reference group influence has a favorable effect on attitude. All these variables (PCE, PBE, PTE and RGI), also undertaken by Karjaluoto et al. (2002) in his factor analysis and proven as influencing factors to form attitude toward online banking. Regarding the variable security and privacy, a number of research has been supported its influence on attitude and behaviour toward online banking which has been covered in the literature review section of this paper. Though, DePallo (2000) and Pikkarainen et al. (2004) has proven the influence of security and privacy on attitude and use of online banking service in the respective researches. The variable perceived risk (Forsythe and Shi, 2003) has been adopted from the research done by Damghanian et al., (2016) and found a significant negative impact on online banking adoption. Others (Sainy et al., 2023; Safari et al., 2020; Shrestha et al., 2020; Bashir et al., 2014) also found that perceived risk has a significant positive impact on attitude and intention toward online banking services. The components of this model have been hypothesized as per the formative direction of the relationships indicated in the proposed model as follows:

Figure 1: Proposed Model



METHODOLOGY

This study has followed deductive approach. Primary data was collected from the customer of different banks. A survey questionnaire was developed using multiple items to conduct the quantitative analysis as a multi-item survey increases the reliability of collected data and helps to conclude with a thorough conclusions (Robinson, 2018). A rigorous survey of 300 respondents using online banking has been selected from different private commercial banks in Dhaka and Chittagong, the former one is the capital city and later one is known as the business capital of the Bangladesh. Likert 5 point scale has been used to formulate the questionnaire where responses were “Strongly Disagree, Disagree, Neutral, Strongly Agree and Agree”. A "Google forms" was created to do online surveys. The questionnaire was made available in various social media platforms including Facebook, Instagram, and WhatsApp. There were in total of eight constructs adapted which included a sum of 31 items (statements) as responses. The five variables were adopted from Karjaluoto et al., (2002) (prior computer experience, personal banking experience, prior technological experience, reference group influence, and attitude toward online banking). Rests of the variables (Security and privacy, perceived risk, and use of online banking services) were adopted from Pikkarainen et al. (2004), Damghanian et al. (2016), and Salem et al. (2019). Convenience sampling techniques were used. Among the samples 264 responses were found usable. SPSS 20 used for data entry. Since the proposed model suggested a formative relationship as per previous researches, this research used PLS-SEM for analysis. In the table 1, the variables and items were taken from the following papers:

Table 1: Sources of Variables

Constructs	Short Form of Variables	Sources
Prior Computer Experience	PCE	(Karjaluoto et al., 2002)
Personal Banking Experience	PBE	(Karjaluoto et al., 2002)
Prior Technological Experience	PTE	(Karjaluoto et al., 2002)
Security and Privacy	SAP	(Pikkarainen et al., 2004)
Reference Group Influence	RGI	(Karjaluoto et al., 2002)
Perceived Risk	PR	(Damghanian et al., 2016)
Attitude Towards Online Banking	ATOB	(Karjaluoto et al., 2002)
Use of Online Banking Service	UOBS	(Salem et al., 2019)

FINDINGS

Demographic Details:

In this paper, we gathered information from 264 respondents. Majority was found male (62.5) and rest were female. 54.9% of the sample of respondents was under the age of 34, which was the most common compared to the sample population fell between the ages of 35 and 49 (28%), the second-largest age cohort. Only a minor proportion of respondents were between the ages of 50 and 64. Remaining two old age groups comprised of 14.4% and 3% respectively. More respondents were employed (42%) than the unemployed (25%) proportion. Other occupation includes students (22.7%) and retirees (10.2%). About 49% of the sample, had incomes below 30 thousand whereas the other twenty percent of our fell into the income group of 30-60 years of age. Respondents reported a salary between 60,000 and 90,000 (14.8%). Rest of individuals is with incomes exceeding 90,000 (16.3%).

Assessment of Measurement Model

According to Hamid et al. (2017) composite reliability and Cronbach alpha values are accepted when it is from 0.60 to 0.70.

In agreement with Nunnally (1978), the value of Cronbach's alpha should be 0.70 or above. Chin (1998) suggested that the value of Cronbach's alpha 0.6 is acceptable. Taber (2018) prescribed a sets of ranges for the value of Cronbach's alpha where values between "0.45–0.98" is labeled as acceptable, values within 0.58 to 0.97 is written as satisfactory and from 0.4 to 0.55 is not satisfactory. Since the lowest Cronbach's alpha value is 0.525, which is more than 0.45, and all the Cronbach's alpha value of the constructs in this study are in the acceptable range as per Taber (2018). From the Table 2, in the assessment of measurement model, we can see all the CR values are above the threshold.

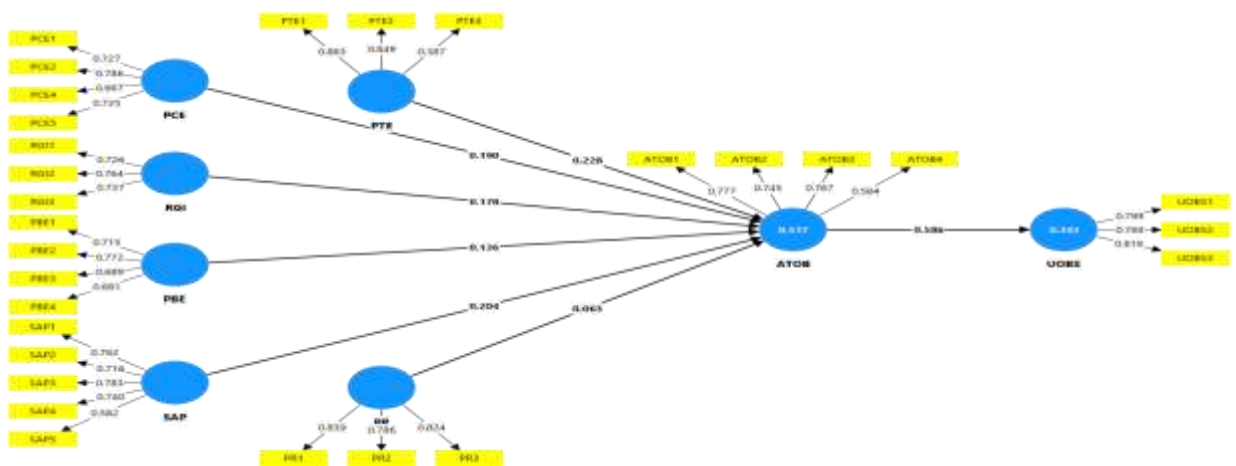


Figure 2: Measurement Model

Table 2: Assessment of Measurement Model

Variables	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
ATOB	0.693	0.812	0.522
PBE	0.682	0.807	0.511
PCE	0.708	0.82	0.533
PR	0.753	0.857	0.667
PTE	0.525	0.761	0.539
RGI	0.593	0.786	0.551
SAP	0.769	0.842	0.519
UOBS	0.725	0.844	0.644

Average Variance Extracted (AVE) was used to evaluate the convergent validity based on Hair et al. (2019) and Fornell and Larcker (1981) criteria. Moreover, all the variables have satisfactory AVE values; it indicates that the reliability and validity of the constructs has been achieved. As Hair et al., (2018) opined that an acceptable AVE is 0.50 or higher. This indicates that at least 50 percent of the variance of the construct explained by its items. So, here in this table convergent

validity is achieved. Again as argued by Hair et al. (2019), convergent validity is obtained when the factor loading of all the items is higher than 0.5.

Table 3: Outer Loadings

	ATOB	PBE	PCE	PR	PTE	RGI	SAP	UOBS
ATOB1	0.777							
ATOB2	0.745							
ATOB3	0.767							
ATOB4	0.584							
PBE1		0.715						
PBE2		0.772						
PBE3		0.689						
PBE4		0.681						
PCE1			0.727					
PCE2			0.786					
PCE4			0.667					
PCE5			0.735					
PR1				0.839				
PR2				0.786				
PR3				0.824				
PTE1					0.863			
PTE2					0.849			
PTE3					0.387			
RGI1						0.726		
RGI2						0.764		
RGI3						0.737		
SAP1							0.762	
SAP2							0.716	
SAP3							0.783	
SAP4							0.740	
SAP5							0.582	
UOBS1								0.799
UOBS2								0.788
UOBS3								0.819

According to the rule of thumb proposed by Vinzi et al., (2010), outer loading should be 0.5 and above. From the above table we can see that all the outer loadings are more than 0.5 except the value for PTE3 which is 0.387. As the AVE of the PTE variable is 0.539 and VIF values of all item of this variable (PTE1, PTE2, PTE3) is less than 3 (Hair et al., 2018), it satisfy the internal reliability. Again, Hulland (1999) reported four papers where two of them (Johansson and Yip, 1994; Fornell et al. 1981) retained item loading less than 0.4 (low-reliability items). According to him such items can create weak relationship between constructs, so other values based on such items should be carefully reviewed. As per Hair et al., (2018) “an acceptable AVE is 0.50 or higher indicating that the construct explains at least 50 percent of the variance

of its items". Therefore, despite having a low-reliability loading (0.387 which is approximately nearer to 0.4), the PTE variable explained at least 50% (AVE value 0.539) of the variance of its items. So, the PTE variables have been retained.

Table 4: HTMT Criterion

Variables	ATOB	PBE	PCE	PR	PTE	RGI	SAP	UOBS
ATOB								
PBE	0.786							
PCE	0.785	0.727						
PR	0.500	0.369	0.512					
PTE	0.865	0.795	0.769	0.620				
RGI	0.723	0.555	0.657	0.519	0.604			
SAP	0.684	0.719	0.600	0.265	0.479	0.520		
UOBS	0.807	0.626	0.597	0.489	0.748	0.696	0.683	

According to Hair et al. (2018) HTMT value above 0.90 would suggest that there is no discriminant validity in the variables. All the values in the above table is less than 0.9, therefore discriminant validity has been achieved.

Table 5: Fornell-Larcker Criterion

Variables	ATOB	PBE	PCE	PR	PTE	RGI	SAP	UOBS
ATOB	0.723							
PBE	0.538	0.715						
PCE	0.565	0.515	0.730					
PR	0.379	0.281	0.382	0.817				
PTE	0.544	0.499	0.499	0.439	0.734			
RGI	0.478	0.359	0.43	0.352	0.335	0.742		
SAP	0.512	0.536	0.449	0.212	0.326	0.351	0.720	
UOBS	0.586	0.449	0.427	0.368	0.455	0.459	0.527	0.803

The Fornell-Larcker criterion compares the square root of the AVE values with the latent variable correlations. According to this Criterion, discriminant validity is established if the Square root of AVE for a particular construct is greater than its correlation with all other constructs. From the above table we can see that the square roots of AVE values are greater than the highest correlation with any other construct (Hair et al., 2014), so the discriminant validity has been established here.

Table 6: Cross Loadings

Variables	ATOB	PBE	PCE	PR	PTE	RGI	SAP	UOBS
ATOB1	0.777	0.393	0.493	0.365	0.55	0.446	0.313	0.514
ATOB2	0.745	0.399	0.416	0.233	0.38	0.347	0.392	0.393
ATOB3	0.767	0.384	0.426	0.293	0.34	0.342	0.469	0.453
ATOB4	0.584	0.395	0.262	0.172	0.255	0.207	0.312	0.3
PBE1	0.42	0.715	0.448	0.265	0.422	0.354	0.427	0.403
PBE2	0.415	0.772	0.381	0.238	0.445	0.24	0.42	0.358
PBE3	0.312	0.689	0.335	0.169	0.217	0.209	0.347	0.252
PBE4	0.375	0.681	0.297	0.116	0.305	0.21	0.328	0.248
PCE1	0.406	0.348	0.727	0.242	0.35	0.289	0.326	0.309
PCE2	0.437	0.473	0.786	0.319	0.391	0.323	0.352	0.281
PCE4	0.342	0.286	0.667	0.215	0.302	0.268	0.322	0.306
PCE5	0.454	0.381	0.735	0.326	0.403	0.367	0.314	0.353
PR1	0.344	0.292	0.376	0.839	0.479	0.335	0.146	0.346
PR2	0.243	0.132	0.288	0.786	0.267	0.262	0.136	0.245
PR3	0.326	0.238	0.265	0.824	0.303	0.259	0.231	0.298
PTE1	0.456	0.45	0.479	0.431	0.863	0.304	0.291	0.363
PTE2	0.463	0.4	0.409	0.401	0.849	0.247	0.26	0.374
PTE3	0.232	0.2	0.13	0.012	0.387	0.176	0.138	0.259
RGI1	0.334	0.304	0.27	0.225	0.223	0.726	0.213	0.333
RGI2	0.381	0.307	0.336	0.297	0.289	0.764	0.285	0.373
RGI3	0.348	0.188	0.35	0.258	0.231	0.737	0.281	0.313
SAP1	0.424	0.471	0.356	0.224	0.296	0.236	0.762	0.424
SAP2	0.307	0.356	0.309	0.156	0.243	0.303	0.716	0.371
SAP3	0.443	0.406	0.334	0.195	0.277	0.233	0.783	0.435
SAP4	0.382	0.39	0.373	0.137	0.226	0.313	0.74	0.393
SAP5	0.227	0.27	0.218	-0.021	0.069	0.188	0.582	0.224
UOBS1	0.486	0.38	0.361	0.34	0.338	0.36	0.495	0.799
UOBS2	0.413	0.346	0.334	0.28	0.347	0.358	0.374	0.788
UOBS3	0.503	0.353	0.334	0.267	0.407	0.386	0.394	0.819

The cross-loadings are the first approach to assess the discriminant validity of the indicators. Specifically, an indicator's outer loading on the associated construct should be greater than any of its cross-loadings (i.e., its correlation) on other constructs (Hair et al., 2019). Along with Chin's (1998) criterion, the outer loadings of a construct should be greater than the cross-loadings (i.e., all of its loadings on other constructs). Specifically, the square root of each construct's AVE should be greater than its highest correlation with any other construct. These criteria are met as outer loadings of all the constructs are heavily loaded compared to the cross loadings as depicted in the above table.

Assessment of Structural Model

By doing PLS bootstrapping we get the statistical T-values. The results we get from SmartPLS 4.0 all p-values are calculated at 5% level of significance, as prescribed for the social science studies (Bickel, 2012). According to the frequentist framework to test statistical significance by PLS-SEM, “if a P value is below a certain threshold then the corresponding hypothesis is assumed to be supported. The threshold is usually 0.05, used in conjunction with a one-tailed linear test of a directional hypothesis” (Kock, 2014).

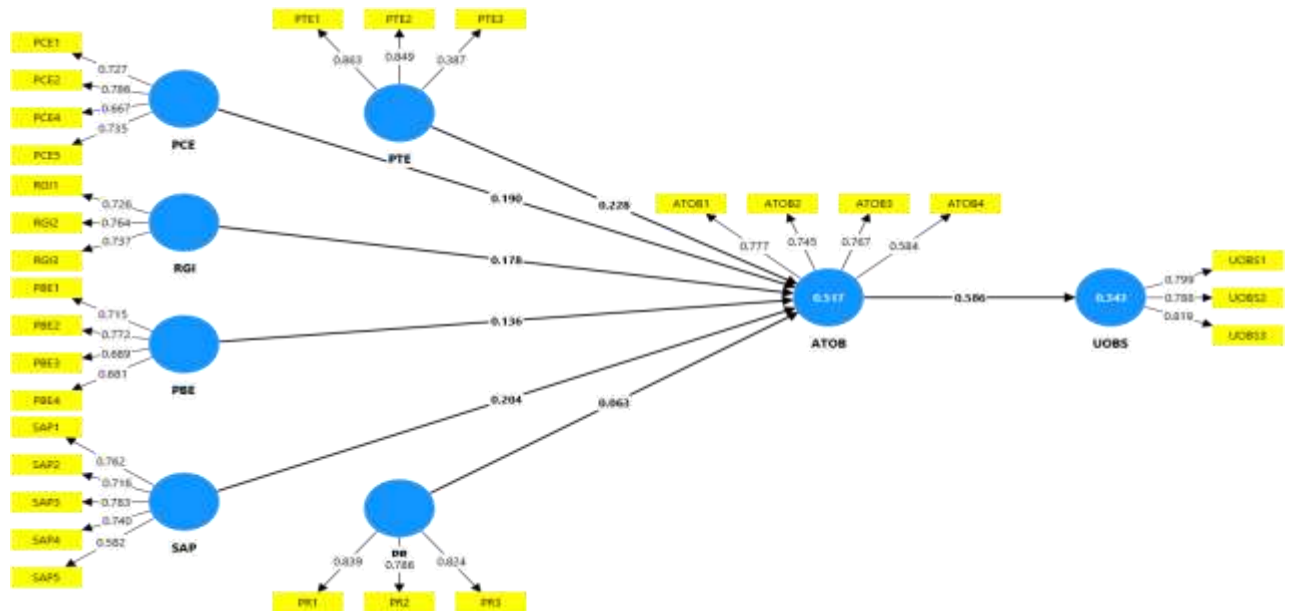


Figure 3: Structural Model

Table 7: Path Co-efficient

Hypothesis	H. Path	Path Coefficient	Standard deviation	T statistics	P values	Decision
H ₁	ATOB → UOBS	0.586	0.049	11.988	0.000	Supported
H ₂	PBE → ATOB	0.136	0.06	2.244	0.025	Supported
H ₃	PCE → ATOB	0.190	0.077	2.475	0.013	Supported
H ₄	PR → ATOB	0.063	0.049	1.303	0.193	Not Supported
H ₅	PTE → ATOB	0.228	0.071	3.213	0.001	Supported
H ₆	RGI → ATOB	0.178	0.064	2.782	0.005	Supported
H ₇	SAP → ATOB	0.204	0.068	2.997	0.003	Supported

From the structural model it was observed that Attitude towards online banking (ATOB) have positive impact on use of online service (UOBS), where ($t = 11.988$; $p = 0.000$) and the first hypothesis (ATOB→UOBS) was supported.

Similarly the other H. paths have P values less than 0.5; therefore all the hypotheses are also supported except perceived risk (PR) which has a value greater than 0.05 (0.193). Hence, hypothesis (PR→ ATOB) was not supported.

To analyze the coefficient of determination (r^2), we need to carefully observe the values whether exogenous construct have a significant impact on its dependent endogenous latent construct. “ R^2 , is the most crucial criterion to employ for all internal latent constructs while evaluating the structural path model” as per Karim and Habib (2000) based on Hair et al. (2014).

Table 8: Coefficient of Determination, Effect Size and Predictive Relevance

Endogenous Constructs	Exogenous Constructs	R^2	f^2	Q^2
PBE	ATOB	0.517	0.021	0.472
PCE			0.043	
PR			0.006	
PTE			0.066	
RGI			0.048	
SAP			0.057	
ATOB	UOBS	0.343	0.522	0.349

As per Cohen (1988), R^2 indicates the total variance resulting from exogenous factors which can be taken into account by its endogenous variable. According to Falk & Miller (1992) R^2 which has a minimum value of 0.10 is acceptable. As recommended by Chin (1998), R^2 values of this study are suitable because it is based on PLS-SEM. Therefore as per the values of the above table 8, R^2 values are more than 10% and found within the acceptable range. Here, UOBS (Use of online banking service) is 34.3 % defined by attitude toward online banking (ATOB). Attitude toward online banking is 51.7% defined by all the predictors (PCE, PBE, PTE, RGI, PR and SAP) taken as independent variables. According to Cohen (1988) and Chin (1998), (R^2) recommended the quality of structural model in three levels and is deemed substantial if it is between 26% and 67%. A value of 51.7% and 34.3%, in the table 8 revealed as substantial in terms of structural model quality.

Again, as per Karim and Habib (2000) based on the reference Cohen (1988), when f^2 value is below 0.02, there is no impact size. Since the value from 0.02 to 0.14 is considered a small effect size, value between 0.15 and 0.34 is refers to a medium effect size, and value 0.35 or above is taken as a significant effect size. From the above table 8, we see the variable UOBS has a significant effect. All the variables have low to medium effect on ATOB except PR which has no impact (0.006) on ATOB.

By doing the blindfolding, we get the output from PLS to analyze the cross validated redundancy. This basically explains the quality and capacity of the model to predict the endogenous variables (Karim and Habib, 2000). Also, blindfolding evaluates if the model has any predictive relevance (Q^2). The value of Q^2 assess whether the endogenous latent construct is greater than 0, then it have predictive relevance (Hair et al., 2019). If the value is greater than 0, it reflects good estimates of parameters and indicates quality of a model that is, how values surround the model. In this study the Q^2 value of 0.472 and 0.349 for ATOB and UOBS, which is greater than 0, indicating a greater bond between exogenous and endogenous constructs with the presence of a strong predictive relevance.

DISCUSSION

From the table 7 and 8 it has been indicated that attitude is dependent on use of online banking services which was indicated by first hypothesis (H_1 : ATOB \rightarrow UOBS). These means Attitude towards online banking (ATOB) have positive impact on use of online banking service (UOBS). Moreover, Prior Computer Experience (PCE), Personal Banking Experience (PBE), Prior Technological Experience (PTE), Security and Privacy (SAP), and Reference Group Influence (RGI) have a significant impact on attitude toward online banking which is indicated by fourth, fifth, sixth, seventh and eighth hypotheses (H_2 : PCE \rightarrow ATOB; H_3 : PBE \rightarrow ATOB; H_5 : PTE \rightarrow ATOB; H_6 : SAP \rightarrow ATOB; H_7 : RGI \rightarrow ATOB). Only Perceived Risk (PR) does not have a significant impact on attitude toward online banking (ATOB).

Implication to Research and Practice:

These findings indicate that customer must have a prior experience of computer knowledge and prior experience of personal banking activities. Consumers must already be familiar to technological tools to operate. They must be technologically oriented to use the online platforms of doing online transactions. Since H_4 (PR \rightarrow ATOB) was not supported; it was found that perceived risk does not have a significant effect on consumer attitude toward using online banking. Hence, it is becoming evident that customer does not perceive a certain level of risk while having a positive attitude toward online banking. They are concern about security and privacy issues and they basically get the inspiration of doing online banking transactions from their reference groups who have previous experience on online banking. Therefore, all these factors (which supported the undertaken hypotheses) influence them to have a positive attitude toward online banking transactions.

This research suggests that banks need to offer knowledge to their customers about the security and privacy of transactions to increase the trust of using the web system. Banks can take necessary initiatives to make consumer technology oriented by encouraging them to do personal banking activities by using computer. They can work on creating their reference group base to have a significant influence on the attitude of online banking users. They can also work on security and privacy issues to ensure the consumer by making them feel that they are secured while doing online transactions. Finally, banks must work on developing a positive attitude of online banking users to ensure a significant use of online banking.

When perceived risk is taken into account along with security and privacy as consumer did not perceive any risk while having a positive attitude toward online banking transactions. This study also demonstrates that attitude of online banking consumers of Bangladesh does not perceive risk when they are properly oriented toward the online banking transaction based on prior experience and when proper security and privacy measures are taken for the smooth operation of online banking transactions.

CONCLUSION AND RECOMMENDATIONS

After analyzing the findings it is found that all the independent variables such as prior computer experience (PCE), personal banking experience (PBE), prior technological experience (PTE), reference group influence (RGI) and security and privacy (SAP) have a significant effect on attitude towards online banking (ATOB). Only Perceived Risk (PR) does not have a significant effect on attitude toward online banking (ATOB). In the extended part of the model attitude had a significant impact on online banking use. Since the findings in the previous research show that all the factors (PCE, PBE, PTE and RGI) had no effect on attitude towards online banking (Karjaluoto et al., 2002), in this study all the variables (PCE, PBE, PTE, RGI and SAP) were found to have a significant impact on consumer attitude toward online banking. Here security and privacy (Pikkarainen et al., 2004) has been added with the other variables taken from the study of Karjaluoto et al. (2002) and is found to had an impact on attitude toward online banking. Moreover, attitude and usage of online banking were found related to each other and customer perceived risk had no impact on attitude toward online banking.

Future Research

First the survey assumed that the respondents have the same level of internet skills, familiarity with banks and banking transactions. They have been exposed to or have knowledge of the existence of e-banking alternatives. For these responses in particular, it was difficult to ensure the true validity of the responses or the identity of the respondent. Most respondents were young and don't represent all age groups. On the other hand the system credibility disturb both the current and potential customers who intended to use internet banking services, because of the risk that their personal information might fall into wrong hands or may lose their money during the transaction process. In this research, respondents have been taken from Dhaka and Chittagong. Therefore, the study only included two major cities and generalized the findings for online banking practices prevailing in the whole country. Using judgmental sampling techniques for the entire survey might provide more insights in this study. Since the cross-sectional data (a few months) has been included in this study, it might provide a bigger picture if a survey had been done collecting data from the whole country throughout the entire year. A further research to be undertaken to overcome these limitations can give a bigger picture of a finding based on rigorous survey covering all the banks in Bangladesh. The future researcher can take perceived risk and trust as a mediating factor to see whether use of online banking services can be mediated by these variables. If a consumer has a positive attitude toward online banking services he may not use the services after perceiving risk or may be simply because of lack of trust on online banking services.

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