



FACTORS INFLUENCING THE ADOPTION OF INTERNET BANKING SERVICES: EVIDENCE FROM SELECTED PRIVATE BANKS IN KARIMNAGAR

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ABSTRACT

Banking business rely on efficient and rapid access to information, internet banking offers ease of access, mobility, secure transactions and on the go banking options. Internet banking eliminates runs to the bank and to make financial transactions and provide convenient banking opportunities. The purpose of this study was to investigate which factors affect the customer adoption of Internet banking in Karimnagar. A conceptual frame work was developed based on factors in TAM, culture and perceived risk. Data was collected using questionnaire distributed to a sample of 300 customers of three selected banks namely ICICI Bank, HDFC Bank, and Axis Bank. The collected data was analyzed using SPSS version 20.0 for descriptive analysis and the inferential analysis was done using structural equation modeling. The findings of the study showed that perceived usefulness, perceived ease of use, attitude, perceived risk, and culture have a significant effect on intention to adopt Internet banking. In addition attitude is negatively and significantly related to perceived risk and positively and significantly related to perceived ease of use and perceived usefulness. Finally it is recommended to banks to improve their security policies, to make Internet banking more useful and useable, to concentrate on making their website user friendly, and government should also improve ICT infrastructure.

Key words: *Internet banking, TAM, Culture, Perceived Risk, and Theory of Planned Behavior (TPB).*

Background of the Study

The payment mechanism involved to facilitate the exchange has gone through different improvements of which Internet banking (online banking) service is the significant. Technological developments, particularly in the area of telecommunications and information technology, revolutionize the banking industry. The definition of Internet banking varies amongst researchers partially because Internet banking refers to several types of services through which a bank customer can request information and carry out most retail banking services via computer. (Daniel,1999; Sathye, 1999). Pikkarainen, et al (2004) defines Internet banking as an "internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments". Many studies have made the attempt to define Internet banking in the different literature but in this study the researcher refers to Internet banking as conventional banking services that banks use the internet technologies to render services to their customers without the presence of physical interactions between the customer and bank employees.

Banking has always been highly information sensitive activity that relies heavily on information technology (IT) to acquire process, and deliver the information to all relevant users. Not only IT is critical in the processing information, it provides a way for the banks to differentiate their products and services (Sara, 2008). Continuous technology development, particularly information technology revolution, of the last two decades of the 20th century has forced the banks to embrace Internet banking as a strategy for their sustainable growth in an expanded competitive environment. Internet banking has made the financial transactions easier for the participants and has introduced wide range of financial products and services. Internet has changed the operations of many businesses, and has been becoming a powerful channel for business marketing and communication (Munyok & Eva, 2011). The emerging trend of Internet banking raises important issues in the area of consumers' banking behaviors and choices. For example, technology around the world is changing the ways how home buyers and consumers borrow money. In the past, people who wanted to obtain mortgage loans or personal loans have to go to the bank in person. Today, they can get many services from their home. Internet banking has become profitable distribution channel of the banks because it can help banks save cost and make their relation with customers easier. Moreover, Internet banking is a latest technology in the country which needs a lot of effort and resources to be easily adopted by customers. Hence, in order to help banks improve Internet banking adoption by their

customers, it is necessary to examine factors that influence customers' intention to adopt Internet banking service channels. So the main purpose of this study is to examine the factors affecting customers' intention to adopt this service. This study tried to answer the following research questions;

1. What are the factors affecting the adoption of Internet banking services by individuals for banking transaction?
2. What is the relationship between the factors that drive the adoption and acceptance of the services?
3. Which factors have strong relationship with the adoption of Internet banking services?
4. What are the solutions for banks to improve the acceptance of Internet banking services?

Objectives of the Study

The research aimed investigating the factors affecting the adoption of Internet banking services in Karimnagar town. Specifically the main objectives of this study were;

1. investigate the factors affecting the adoption of Internet banking services by individuals for banking transaction.
2. establish the relationships between the factors that drive the adoption and acceptance of the services.
3. Determine the factors that have strong relationship with the adoption of Internet banking services.
4. Propose solutions for banks which will improve the acceptance of Internet banking

Research Hypothesis: Based on the Objectives and related literature review the researcher developed following hypothesis to test

H1: Perceived usefulness has a positive effect on consumers' intention towards the use of Internet banking services

H2: Perceived usefulness has a positive effect on consumers' attitude towards the use of Internet banking services.

H3: Perceived ease of use has a positive effect on consumers' attitude towards the use of Internet banking services.

H4: Perceived ease of use has a positive effect on consumers' perceived usefulness towards the use of Internet banking services.

H5: Attitude has a positive effect on consumers' intention towards the use of Internet banking services.

H6: Culture has a positive effect on consumers' perceived usefulness towards the use of Internet banking services.

H7: Culture has a positive effect on consumers' perceived ease of use towards the use of Internet banking services.

H8: Perceived risk has a negative effect on consumers' attitudes towards the use of electronic banking services.

Literature Review

Electronic banking technologies have led banks and financial institutions to improve effectiveness of distribution channels through reducing the transaction cost and increasing the speed of service. Electronic banking is the application of information technology which helps to facilitate the information and services over public standards based networks. There are different forms of electronic banking like; Internet banking, mobile banking, and telephone banking. Sometimes there are misunderstanding between electronic banking and Internet banking. But it has to be clear that, E-banking is the wider part and Internet banking is the specific area under the E-banking services.

Internet banking is defined as a banking service that allows customers to access and perform financial transactions on their bank account from their computers with an Internet connection to the bank website. The evolution of Internet banking from e-commerce has altered the nature of personal-customer relationships and the offering of products and services in the banking industry. Pikkarainen et al. (2004) defines Internet banking as an "internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments". Internet banking gives customers access to almost any type of banking transaction at the click of a mouse, except withdrawals. When first introduced, Internet banking was used mainly as information presentation medium in which banks marketed their products and services on their website. With the development of technology and secured electronic transaction technologies, however more banks have come forward to use Internet banking as transactional and informational medium. Internet banking is beneficial for

both the provider and the customer. It can currently be considered as the cheapest distribution channel for standardized bank operations, such as account services or transfer of funds (Polasik & Wisniewski, 2009). Such services also save time and money of the banks with an added benefit of minimizing the likelihood of committing errors by bank tellers. Internet banking offer services regardless of geography and time and banks thus provide services to the customers for at their convenience (Padachi et al., 2007).

According to Lu (2010), banking is a borderless service no longer bound to time and geography. Customers have relatively easy access to their accounts, 24 hours per day, and seven days a week globally. Sara (2008) argues that traditional banks will benefit from this technology and they will be able to care for their customers in a more efficient, more productive and even more fun way. Internet banking adoption has gained special attention in academic studies during the past years so as to investigate factors of adoption. Two important theories used by researchers in the study of individual's adoption of Internet banking are Technology Acceptance Model (TAM), and Theory of Planned Behavior (TBP).

Technology Acceptance Model

The Technology Acceptance Model (TAM), introduced by Davis (1986), is an adaptation of the Theory of Reasoned Action (TRA) specifically modified for modeling user acceptance of information technology (IT) (Davis1986). Davis(1986) stated that the main goal of TAM is to explain the determinants of IT acceptance across a broad range of information technologies and user populations. Moreover, Davis (1986) suggested that acceptance of IT can be determined by two primary constructs: perceived usefulness and perceived ease of use of the technology. When predicting the acceptance of information technologies, TAM suggests the following factors are important: external variables; beliefs about information technology (perceived usefulness and perceived ease of use), attitudes, behavioral intention, and finally, actual IT use. Davis (1986) suggested that using an information system is directly determined by the behavioral intention to use it, which is in turn influenced by the users' attitudes toward using the system and the perceived usefulness of the system. Attitude and perceived usefulness are also affected by the perceived ease of use. According to TAM, greater perceived usefulness and the perceived ease of use of an information system will positively influence the attitude toward this system. The attitude, in turn leads to a greater intention to use the system, which positively affects one's actual use of the system. According

to Davis et al. (1986), even though external variables do not have a direct influence on attitudes and behavioral intention to use, TAM underlies the bridging role of beliefs and attitudes between external variables and behavioral intention.

Perceived Usefulness

According to Davis (1986), perceived usefulness can be defined as “the degree to which an individual believes subjectively that using a particular IT would enhance his or her job performance”. In other words, the individual believes that the use of the IT would yield positive benefits for task performance associated with his/her job. Perceived usefulness suggests a user believes that using a particular IT will be beneficial. For the user to hold such a belief several conditions must be met. First, the user must have prior experience with the particular problem suggesting at least some understanding of the nature of the problem, even if the problem is not yet understood sufficiently to derive a solution. Generally, the user must also have experience with information technologies. This experience gives the user a basis for evaluating the capabilities of information technologies and how and in what circumstances they may be useful. In the formation of initial opinions, the user will not have much hands-on experience, but may know of the capabilities of information technologies through the media like television and newspaper) or other communication channels like friends(Jihyune, 2003).

Perceived Ease of Use

Perceived ease of use reflects “the degree to which an individual believes that using a particular IT would be free of effort, both physical and mental”. Davis (1986) argued that all others things being equal, IT perceived to be easier to use than another is more likely to be accepted by the individual. Perceived ease of use has both a direct effect and an indirect effect on attitude toward using. Perceived ease of use is determined, at least in part, by prior experience in the use of IT as well as by the amount of training received by the user. Previous experience and training increase an individual’s ability to use IT. For example, if an individual feels self-confident from prior experience with a particular IT, the individual will have a positive attitude toward the IT. This is the direct effect of perceived ease of use on attitudes. Davis (1986) also suggests a relationship between perceived ease of use and perceived usefulness. An increase in perceived ease of use may contribute to improved performance. The constructs, perceived usefulness and perceived ease of use, have been extensively investigated by researchers. These

studies generally confirmed that perceived usefulness and perceived ease of use are important factors in affecting IT use.

Attitude

According to Schiffman and Kanuk (1997) attitude is “a learned predisposition to behave in a consistently favorable or unfavorable way with respect to a given object”. For example, in the case of attitude toward computers, the given object is a computer. Moreover, attitudes can be learned through purchasing behavior, direct experience with the product, information acquired from others, and exposure to mass media advertising. In addition, attitudes are relatively consistent with the associated consumer behavior (Jihyune , 2003). In the context of TAM, Davis (1986) defined attitude as “an individual’s degree of evaluative affect toward the usage behavior.” Attitude toward using is jointly determined by the two beliefs (perceived usefulness and ease of use).

Theory of Planned Behavior (TPB) The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), which is widely used in social psychology and marketing studies to explain the determinants of intended behaviors. Both the TRA and TPB suggest that behavior is directly influenced by behavioral intention. But TPB model adds “perceived behavioral control” to the Theory of Reasoned Action.

Beliefs and Attitudes

TPB postulates that attitude toward the behavior refers to the degree to which people have a positive or negative feeling toward the behavior. Fishbein et al. (1975) suggested that attitudes are determined by the beliefs people have about the object of the attitude and beliefs are formed by the characteristics of the attitude object. Ajzen (1991) also stated that individuals’ positive or negative attitudes depend on desirable or undesirable expected outcomes or results that are associated with an object. For example, people have a positive attitude toward online financial services when they believe that online financial services are a convenient technology for dealing with financial activities.

Subjective Norm

Subjective norms are influenced by the normative beliefs that refer to the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991). Normative belief might be related to the influence of opinion among social groups such as family and friends. In TPB model subjective norm has a positive relationship with intention to adopt Internet banking services and it is negatively related to perceived risk. Attitude has a positive relation with subjective norm.

Perceived Behavioral Control

According to Ajzen (1991), perceived behavioral control reflects beliefs regarding access to the resources needed to perform a behavior. There are two components affecting perceived behavioral control. The first element is ‘facilitating conditions’ which reflect the availability of resources needed to perform a behavior. This might include access to the time, money, skills and other specialized resources required to perform a behavior. The second element is ‘self-efficacy’. It is an individual’s self-confidence in his/her ability to perform a behavior. Taylor and Todd (1995) suggest that resources (i.e., time, money) and the individuals’ “self-efficacy” are important elements affecting behavioral intention and actual technology use.

According to Ajzen (1991) when individuals believe that they have more resources, they believe they have fewer obstacles and perceive greater control over the behavior, while people lacking requisite resources and confidence perceive little control over the behavior thereby reducing intentions to perform the behavior.

Culture

There is no generally accepted definition for culture. Hofstede (1997) defines culture as the collective programming of the mind which distinguishes the member of one human group from another. Shore and Venkatachalam (1996) stated that culture reflects individual core values and beliefs. These values and beliefs are formed through childhood and reinforced all through their life. Hofstede (1997) in his study he classified culture into following six dimensions. In other words, culture can be only used meaningfully by comparison. The proposed model consists of the following dimensions

1. Power Distance Index (PDI): This dimension expresses the degree to which the less powerful members of a society accept and expect that power is distributed unequally. The

fundamental issue here is how a society handles inequalities among people. People in societies exhibiting a large degree of Power Distance accept a hierarchical order in which everybody has a place and which needs no further justification. In societies with low Power Distance, people strive to equalize the distribution of power and demand justification for inequalities of power.

2. Individualism versus Collectivism (IDV) : The high side of this dimension, called individualism, can be defined as a preference for a loosely-knit social framework in which individuals are expected to take care of only themselves and their immediate families. Its opposite, collectivism, represents a preference for a tightly-knit framework in society in which individuals can expect their relatives or members of a particular in-group to look after them in exchange for unquestioning loyalty. A society's position on this dimension is reflected in whether people's self-image is defined in terms of "I" or "we."
3. Masculinity versus Femininity (MAS) : The Masculinity side of this dimension represents a preference in society for achievement, heroism, assertiveness and material rewards for success. Society at large is more competitive. Its opposite, femininity, stands for a preference for cooperation, modesty, caring for the weak and quality of life. Society at large is more consensus-oriented. In the business context Masculinity versus Femininity is sometimes also related to as "tough versus tender" cultures.
4. Uncertainty Avoidance Index (UAI): The Uncertainty Avoidance dimension expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. The fundamental issue here is how a society deals with the fact that the future can never be known: should we try to control the future or just let it happen? Countries exhibiting strong UAI maintain rigid codes of belief and behavior and are intolerant of unorthodox behavior and ideas. Weak UAI societies maintain a more relaxed attitude in which practice counts more than principles.
5. Long Term Orientation versus Short Term Normative Orientation (LTO) : Every society has to maintain some links with its own past while dealing with the challenges of the present and the future. Societies prioritize these two existential goals differently. Societies who score low on this dimension, for example, prefer to maintain time-honored traditions and norms while viewing societal change with suspicion. Those with a culture which scores high, on the other hand, take a more pragmatic approach: they encourage thrift and efforts in modern education as a way to prepare for the future.

6. Indulgence versus Restraint (IND) : Indulgence stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of needs and regulates it by means of strict social norms.

In this paper the collectivism dimension of culture is considered, hence culture means the way that people in a society are interrelated and place higher importance on belonging to a group.

Perceived Risk

Consumer behavior studies define perceived risk (PR) in terms of the customer's perception of the uncertainty and potential adverse consequences of buying a product or services. The degrees of risk that customers perceive and their own tolerance of risk tacking are factors that influence their purchase decision (Nasri, 2011). Perceived risk can also cause customer to reject new technological service and it is related to reliability and system failure. Customers are also worried that technology based service delivery will not work as expected and lack confidence that problems can be solved quickly (walker 2002).

Empirical Review of Literature:

Braja (2005) conducted a research to identify relevant factors that influence New Zealand's bank customers' intention to use Internet banking. This study used the factors in TAM and in addition risk. The result showed that perceived ease of use and perceived usefulness have a significant association with the intention to use. But risk is not significant. This is contrary to other research results. This study also indicates that TAM has low capability in explaining the factors in users' intention to use online banking services.

Safeena et al. (2011) investigate the customer perspective about Internet banking adoption in an emerging Indian economy by using the convenience sample method for collecting data of the student of educational institutes through questionnaire. The variables of the research were perceived usefulness, perceived risk, consumer acceptance and perceived ease of use. For this research the factor analysis technique was used. The result showed that the perceived usefulness, perceived ease of use a perceived risk are the most important factors for the adoption online banking and also help to make a strategy formulation process.

Nasri (2011) investigate the determinants of accepting Internet banking (IB) for the customers' of Tunisia. The purpose of this paper was to determine those factors that influence the adoption of Internet banking services in Tunisia. A total of 253 respondents in Tunisia were sampled for responding: 95 were internet bank users, 158 were internet bank non users. Factor analysis and regression technique were employed to study the relationship. The results showed that use of Internet banking in Tunisia is influenced most strongly by perceived convenience, perceived risk, security and prior internet knowledge. Only information on online banking did not affect intention to use Internet banking services in Tunisia. The results also proposed that demographic factors impact significantly Internet banking behavior. Finally, this paper recommend for the banks to implement new security policies, provide encryption and strong authentication, and provide free demonstration computer courses about using Internet banking to bank customers.

Perkins and Annan (2013) examined the factors that influence the adoption of online banking in Ghana. The study was based on TAM which has been used expansively in similar studies. Primary data were collected from randomly selected customers and was analyzed by using multiple regression analysis in SPSS. The results showed that the original constructs of TAM i.e. perceived Usefulness (PU), perceived Ease of Use (PEOU) as well as the extensions of government support; trust and security were all significant to customers' intentions to adopt online banking.

Many studies around the world show that the variables in TAM have significant relationship with the customers' intention to use online banking service. The same is true for India. Rakesh and Ramya (2014) studied factors influencing consumer adoption of internet banking in India. A new construct "perceived reliability" was proposed to enhance the understanding of an individual's acceptance behavior of Internet banking with respect to consumers' perceived security, privacy issues and the perceived risk of consumers. In addition to perceived reliability, level of awareness, perceived ease of use and perceived usefulness were other factors. It was hypothesized that all the factors have positive effect on consumer adoption of Internet banking and each other. Data for the study was collected from 100 participants by means of a survey conducted in Mysore, India. It was found that awareness level of consumers has a positive effect on the perceived ease of use, perceived usefulness, and perceived reliability on Internet banking. Perceived ease of use has an effect on consumer adoption of Internet banking. Perceived usefulness has a positive impact on perceived ease of use, perceived

reliability, and consumer adoption of Internet banking. Perceived reliability has a positive impact on consumer adoption of Internet banking.

From the reviewed literatures, the researcher came up with two research gaps. The first one is that most of the researches are conducted in foreign countries. So much should be studied to see the factors affecting the adoption of Internet banking services in Indian context. The second gap is that most of the researches did not include culture as a factor. So this research included culture as one external factor.

Research Design and Methodology

Research Approach

Since the aim of the study is to examine the factors affecting the adoption of Internet banking services and hypothesis have to tested, quantitative research method is used. Inferential study design is used to determine how the independent variables explain the dependent variables of the study. The researcher used primary data sources which are customers of the three banks selected namely *ICICI Bank*, *HDFC Bank*, and *Axis Bank*. These banks are randomly selected from banks that are providing Internet banking services in Karimnagar town. Primary data was collected through questionnaires and the questionnaire was prepared in the way that is relevant to the situation so as to decrease invalid responses. The questionnaire was adapted from the work of Mohammed (2013), Lu (2010), and Ozelm (2012). The five point likert scale was used for the statement of the questionnaire ranging from 1 for "strongly disagree", 2 for "disagree", 3 for "no opinion", 4 for "agree", and 5 for "strongly agree". Reliability and validity test was conducted to measure the internal consistency of the data items and to measure whether an instrument actually measures what it is supposed to measure respectively.

Measurement of the Constructs

The constructs in this research are defined in the following:

Perceived Ease of Use (PEOU) - is defined by Davis (1986) as “the degree to which a person believes that using a particular system would enhance his job performance”. Three question items are used to measure PEOU. The items are Internet banking easiness, its complexity and the ability to conduct Internet banking with no one help.

Perceived Usefulness (PU) - is defined by Davis (1986) as “the degree to which a person believes that using a Internet banking would be free of effort”. Four question items are used to measure PU. The items imply its usefulness, its cost, and time taken to conduct banking transaction using Internet banking.

Attitude (ATT) - refers to an individual’s positive or negative feelings (evaluative affect) about performing a particular behavior (Fishbein and Ajzen, 1975). Three question items are used to measure ATT. The items indicate Internet banking convenience to use and idea of using Internet banking.

Culture - refers to individual core values and beliefs which are formed through childhood and reinforced all through their life. Three question items are used to measure CU. The items represent the collectiveness of the society. The items were adapted from the work of Mohammed (2012).

Perceived Risk - refers to the degree that customers think that using Internet banking services will expose them to monetary loss or fraud. Four question items are used to measure perceived risk. The items imply its exposition to fraud, and its security aspect.

Intention to Use (INT) - refers to customers’ intention to use Internet banking services. One question item which measure their plan to use Internet banking In the near future.

Reliability and Validity Test of the Instruments

Before empirical analysis is conducted by using the instrument, reliability and validity test were done on items in the questionnaire instrument.

Table-1: Reliability coefficient for the study variables

| Variables | No. of items | Cronbach's alpha |
|-----------------------|--------------|------------------|
| Perceived usefulness | 4 | 4 0.881 |
| Perceived ease of use | 3 | 3 0.761 |
| Perceived risk | 4 | 4 0.860 |
| Attitude | 3 | 3 0.841 |
| Culture | 3 | 3 0.701 |

The Cronbach alpha is calculated and the values for individual dimensions were 0.881 (for perceived usefulness), 0.761 (for perceived ease of use), 0.860 (for perceived risk), 0.841 (for attitude), and 0.701 (for culture). According to Ozelm (2012), all of these show that instrument

of this research was suitable for further statistical analysis since their value are greater than 0.7. Validity on the other hand refers to whether an instrument actually measures what it is supposed to measure.

To assure validity, questionnaires were designed on the basis of previous studies' questionnaires and review of related literatures. In addition convergent validity and discriminant validity were tested. According to Fornell and Larcker (1981), two criteria evaluate convergent and discriminant validity. For convergent validity, all factors loading should be significant and exceed 0.5 and for discriminant validity, average variance extracted should exceed 0.5. According to table-2, below convergent validity is shown in each variable since all factor loadings are above 0.5 for all item. There is also discriminant validity in all items since the value of average variance extracted exceed 0.5.

Table-2. Validity test

| Constructs | Items | Factor loading | Average variance extracted |
|-----------------------|-------|----------------|----------------------------|
| Perceived Usefulness | PU1 | 0.762 | 0.578 |
| | PU | 0.579 | |
| | PU | 0.575 | |
| | PU | 0.625 | |
| Perceived ease of use | PEU | 0.767 | 0.629 |
| | PEU | 0.756 | |
| | PEU | 0.819 | |
| Perceived risk | PR | 0.952 | 0.726 |
| | PR | 0.963 | |
| | PR | 0.857 | |
| | PR | 0.752 | |
| Attitude | ATT | 0.748 | 0.786 |
| | ATT | 0.908 | |
| | ATT | 0.856 | |
| Culture | CU | 0.949 | 0.688 |
| | CU | 0.758 | |
| | CU | 0.852 | |

Data Analysis, Interpretation, and Discussion of Result

All the data were coded and entered in to Statistical Package for Social Sciences (SPSS) version 20.0. There after descriptive analysis was carried out by using SPSS version 20.0. Structural analysis modeling software, SMARTPLS version 3.2.1., was used to test the relationship between the variables. Descriptive and inferential analysis was used.

1. **Descriptive Analysis:** The researcher used descriptive analysis to reduce the banking practice information in to a summary format by tabulation (the data arranged in a table format).
2. **Inferential Analysis** is used to analyze the relationship between two variables and to assess how the dependent variables explain the independent variable.

Descriptive Analysis

As shown below in table 4.1 equal number (33.3%) of the respondents were from ICICI Bank, HDFC Bank, and AXIS Bank. Most of the respondents (76%) perform their banking transaction by directly visiting bank branch. Only 1.3% of the respondents adopt mobile banking. 40% of the respondents said that their reason to visit bank is to withdraw cash and 35% of the respondents visit bank to make a deposit. This can be reason for not adopting internet banking since they cannot perform this transaction through it. When most of the respondents (71.3%) use internet sometimes, 23.7% of the respondents use internet daily and 5 % never use internet. Regarding the question of where the use internet, most of them respond that they have to visit internet cafe to get internet access. This is not good because they may not feel safe to handle their banking transaction in a computer where other people will use later on.

Table-3: Descriptive result of respondents

| | Category | Frequency | Percent |
|-----------------------------|-------------------|-----------|---------|
| Financial Institution | ICICI Bank | 100 | 33.3 |
| | HDFC Bank | 100 | 33.3 |
| Main banking method | ATM | 68 | 22.7 |
| | Visiting branch | 228 | 76.0 |
| Main reason to visit a bank | To make a deposit | 107 | 35.7 |
| | To withdraw cash | 120 | 40.0 |

| | | | |
|------------------------------|-------------------|-----|------|
| | To transfer money | 33 | 11.0 |
| Internet usage | Daily | 71 | 23.7 |
| | Sometimes | 214 | 71.3 |
| Location when using internet | Via mobile | 102 | 34.0 |
| | In internet cafe | 161 | 53.7 |

Inferential Analysis

Hypotheses Testing

In this study structural link of research model was analyzed using the structural equation model software, SMARTPLS version 3.2.1. Table 4.4 shows the summarized result of the hypotheses test.

Table-4: Summary of hypothesis result

| Hypothesis | Effect | Path coefficient | T-statistic | P values |
|------------|---------|------------------|-------------|----------|
| H1 | PU-INT | 0.421 | 2.456 | 0.000 |
| H2 | PU-ATT | 0.458 | 3.327 | 0.000 |
| H3 | PEU-ATT | 0.235 | 1.845 | 0.000 |
| H4 | PEU-PU | 0.348 | 3.225 | 0.005 |
| H5 | ATT-INT | 0.411 | 5.541 | 0.001 |
| H6 | CU-PU | 0.468 | 6.008 | 0.000 |
| H7 | CU-PEU | 0.514 | 10.529 | 0.015 |
| H8 | PR-ATT | -0.613 | 7.061 | 0.000 |

Hypothesis

1

In the first hypothesis, it was hypothesized that perceived usefulness has a positive effect on consumers' intention towards the use of Internet banking services. From table 4.4 it can be seen that there is a positive relation between perceived usefulness and intention to adopt Internet banking services given by 0.421. Since $p < 0.01$ the relationship can be considered

significant. This means perceived usefulness has a significant positive effect on intention to adopt Internet banking services. Therefore, hypothesis one is supported.

Hypothesis 2

The second hypothesis was that perceived usefulness has a positive effect on consumers' attitude towards the use of Internet banking services. The above table 4.4 result show that perceived usefulness has a positive correlation of 0.458 and statistically significant relationship ($p < 0.01$). Therefore, hypothesis 2 is supported which means perceived usefulness has a significant positive effect on attitude.

Hypothesis 3

Hypothesis three stated that perceived ease of use has a positive effect on consumers' attitude towards the use of Internet banking services. As indicated in the above table 4.4 perceived ease of and attitude have positive relation of 0.235. Since this relationship is significant ($p < 0.01$), hypothesis 3 is supported. Perceived ease of use has a positive effect on attitude.

Hypothesis 4

Perceived ease of use has a positive effect on consumers' perceived usefulness towards the use of Internet banking services was the fourth hypothesis of this research. Table 4.4 show that perceived usefulness and perceived ease of use have a positive relation with Beta result of 0.348 and this relationship is statistically significant ($p < 0.01$). Thus hypothesis four is supported which imply that perceived ease of use has a positive effect on perceived usefulness.

Hypothesis 5

The fifth hypothesis was that attitude has a positive effect on consumers' intention towards the use of Internet banking services. The above table 4.4 result show that attitude and intention to adopt Internet banking services has a correlation of 0.411 and statistically significant relationship ($p < 0.01$). Therefore, hypothesis 5 is supported which means attitude has a positive effect on intention to adopt Internet banking services.

Hypothesis 6

In the sixth hypothesis, it was hypothesized that culture has a positive effect on consumers' perceived usefulness towards the use of Internet banking services. Table 4.4 show that positive ($\beta = 0.468$) and significant ($P < 0.01$) relationship between culture and perceived usefulness exists, hence hypothesis six is supported.

Hypothesis 7

Hypothesis seven stated that culture has a positive effect on consumers' perceived ease of use towards the use of Internet banking services. As indicated in the above table 4.4 culture and perceived ease of use have positive relation of 0.514. Since this relationship is significant ($p < 0.01$), hypothesis 7 is supported. Culture has a positive effect on perceived ease of use.

Hypothesis 8

Perceived risk has a negative effect on consumers' attitudes towards the use of internet banking services were the final hypothesis of this research. Since table 4.4 show that the relationship between perceived risk and attitude is statistically significant ($p < 0.01$) and have negative relation of -0.613, hypothesis 8 is supported.

Explaining Intention to Adopt Internet Banking Services:

The intention to adopt internet banking services is jointly predicted by perceived usefulness ($\beta = 0.421$, $p < 0.01$) and attitude ($\beta = 0.411$, $p < 0.01$) directly. As shown in figure four below these two variables explain 56% of the variance in the dependent variable which is intention to adopt internet banking service.

Explaining Attitude

Attitude is jointly predicted by perceived usefulness ($\beta = 0.458$, $p < 0.01$), perceived ease of use ($\beta = 0.235$, $p < 0.01$), and perceived risk ($\beta = -0.613$, $p < 0.01$). As shown in figure four below these three variable explain 31.9% of variation in attitude.

Explaining Perceived Usefulness

Perceived usefulness is jointly predicted by culture ($\beta = 0.468$, $p < 0.01$) and perceived ease of use ($\beta = 0.514$, $p < 0.01$). As shown in figure four below these two variables jointly explain 50.7% of variation in perceived usefulness.

Explaining Perceived Ease of Use

Perceived ease of use is predicted by culture ($\beta = 0.514$, $p < 0.01$) and culture explain 26.5% of variation in perceived ease of use. The above analysis shows that perceived usefulness ($\beta = 0.421$, $p < 0.01$) positively and significantly influence intention to adopt internet banking services. So hypothesis one is supported. Attitude is significantly and positively affected by perceived usefulness ($\beta = 0.458$, $p < 0.01$) positively and significantly influence attitude which means hypothesis two is supported. Perceived ease of use ($\beta = 0.235$, $p < 0.01$) positively and significantly influence attitude which means hypothesis three is

supported. Perceived ease of use ($\beta = 0.348$, $p < 0.01$) also positively and significantly influence perceived usefulness. This means hypothesis four is supported. The intention to adopt internet banking services is positively and significantly influenced by attitude ($\beta = 0.411$, $p < 0.01$), Hence hypothesis five is supported. Culture has a positive effect on perceived usefulness ($\beta = 0.468$, $p < 0.01$) and perceived ease of use ($\beta = 0.514$, $p < 0.01$). This means hypothesis six and seven are supported. Perceived risk ($\beta = -0.613$, $p < 0.01$) has a significant negative relationship with attitude, hence hypothesis eight is supported. This means that all hypotheses are supported.

The descriptive part of the analysis showed that most of the respondents perform their banking transaction by directly visiting bank branch. Only 1.3% of the respondents adopt mobile banking. The major reasons for respondents to visit bank are to withdraw cash and to make a deposit. Results from structural equation modeling analysis revealed that intention to adopt internet banking service is negatively, significantly, and indirectly related to perceived risk through attitude, and a significant, positive, and direct relationship between attitude and intention to use internet banking services exists. The construct perceived usefulness positively, significantly, and directly influence intention to use internet banking services. In addition it also indirectly influence intention to use internet banking services through attitude. Perceived ease of use also positively and indirectly influences intention to use internet banking services through attitude. Culture has a significant and positive relationship with perceived usefulness and perceived ease of use. The results of this study go in line with previous studies, Mohammed (2012); Kent et al. (2011); Maduko (2013); Jihyune (2003); Nasri (2011); Yitbarek et al. (2013); Sara (1999).

Conclusion

The objective of this study is to analyze the factors affecting bank customers' decisions to adopt Internet banking in Karimnagar town. The results showed that all the factors considered (perceived usefulness, perceived ease of use, culture, attitude, and perceived risk) have significant effects on behavioral intention to use online banking.

Based on the statistical analysis and the results of the study, a number of conclusions can be drawn. First: the results of the study revealed that perceived usefulness and perceived ease of use has a positive and significant impact on customers' attitude toward Internet banking services. This means customer will have good attitude towards Internet banking, if the perceive it as useful and ease to use. Second: the result showed that culture has a positive and

significant impact on perceived usefulness and perceived ease of use. This means social influences could result in potential customers transferring to internet banking services. Third: the results revealed a negative and significant impact of perceived risk on the customers' attitudes to use Internet banking services. This means customers will have a bad attitude to Internet banking services with high risk. Fourth: the result showed that perceived ease of use significantly and positively affect perceived usefulness. This means the more customers perceive internet banking services as ease to use, the more they perceive it as useful. Fifth: the results showed that attitude has a positive and significant influence on customers' intention to use Internet banking services.

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