

AN EMPIRICAL STUDY ON E-BANKING ADOPTION USING TECHNOLOGY ACCEPTANCE MODEL

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Abstract: The growth and advancements in technology has led to a paradigm shift in the entire banking operations and systems across the globe. The current technological environment facilitated in providing multiple and innovative contemporary services to the customers. Retail electronic payment system has progressed in the recent years in various countries, and India is no exception. The development of e-banking created a massive change in terms of fulfilling customers' divergent needs. The magnitude of success of the two fold objectives of our current budget, namely, demonetization and GST, purely depend on digital banking. This paper focuses on determining the level of users' acceptance of the electronic banking services and investigating the factors that determine users' behavioral intentions to use electronic banking systems. The researcher has attempted to apply an extended Technology Acceptance Model (TAM) as a conceptual framework to investigate the factors that influence users' acceptance and intention to use electronic banking. The model was applied to measure the impact of Perceived Credibility (PC), Computer Self-Efficacy (CSE), Perceived Usefulness (PU), and Perceived Ease of Use (PEOU) on customer attitude and the impact of customer attitude on customer adaptation of e-banking.

The result of this research shows that ATM still remains the most widely used form e- Banking service. Further, the regression analysis applied to test the proposed hypothesis proves a significant and positive relationship between the variables. Banks' customers who are active users of e-Banking system use it because it is convenient, easy to use, time saving and appropriate for their transaction needs. Also the network security and the security of the system in terms of privacy are the major concerns of the users and constitute hindrance to intending users.

Keywords: Online banking, Technology Acceptance Model, Perceived credibility, perceived use, perceived ease of use, perceived credibility, computer self-efficacy, customer attitude, and e-banking.

I. INTRODUCTION

Introduction of Information Technology in banking industry has led the banks to store, assimilate and process information electronically. Banks have embraced latest technologies to survive and grow in the changing market environment. Thus, the banks are able to deliver the provisions required for customers and offer the best solution from their product or service. This technological advancement in banking sector such as online banking, mobile banking, tele-banking, ATM/Debit card and credit card has led to the advancements in the payments and settlement systems. E-Banking first appeared in the United States in the mid-1990s, in which financial institutions in the United States to introduce and promote e-banking to provide better banking services (Chan and Lu 2004). E-banking becomes one of the strategies used by the banking industry to compete. E-banking services provided by banks with the main purpose of providing convenience to customers. Banks have been the earliest in India to adopt technology by automating systems and streamlining their processes. Introduction of tech advancements have enabled banks to keep a high level of security, check fraud, abuse or pilferage, and to minimize the risk and cost of handling cash. Introduction of non-cash payment modules like RTGS, NEFT, NECS, UPI and digital wallets also play an instrumental role in transforming the banking services. Reserve Bank in its Vision statement has set the objective to proactively promote electronic payments with an objective towards less cash society. The formation of National Payments Corporation (NPCI) in the year 2009 has set the stage for development of retail electronic payments which offers enormous opportunity to move towards cashless and less cash society. Findings have shown that with improved technological development and provision of basic infrastructure there will be improved e- Commerce and e-Payment services with overall reduction in the amount of currency in circulation (Ayo et al., 2008). The banks' huge investment in telecommunication networks and various e-Banking services delivery could be seen as an effort towards measuring up with global standard. This is among other reasons such as increased customer demand, increased competition among banks themselves, derive minimized cost, new entrants, and better service delivery (Muniruddeen, 2007).

While e-Banking services are numerous in number, there is not enough evidence of consumer acceptance and their stance towards the use of the services. For us to accept that e-Banking has fully gained prominence in Nigeria, customer's acceptance, attitude and confidence in the system need to be validated. Muniruddeen (2007) indicated that half of the people that have tried e-Banking services will not become active users of the system. Many findings have also shown that insecurity; inadequate

operational facilities like telecommunication and electric supply are among major hindrances to online banking in India. The purpose of this study is to investigate the factors that influence users' acceptance of e-banking, taking to consideration their attitude and confidence in the use of the system. The impact of perceived usefulness (PU), perceived ease of use (PEOU), perceived credibility (PC), computer self-efficacy (CSE), and customer attitude is sought to determine the level of users' acceptance of the various e-Banking services.

II. LITERATURE REVIEW

Electronic Banking

The advent of Internet, electronic commerce, communication technology and users' response to this technology has opened opportunity for many businesses including the financial institution. Adoption of electronic banking service delivery is fast gaining ground, not only in India but across the globe. Different e-Banking channels such as electronic cards, internet banking and mobile banking services have been introduced. Differences in the usage of channels exist between developed countries and developing countries. Evidence suggests that there is a shift from traditional channel to electronic channels. For example, usage of digital banking in developed countries is more than 90 percent and diffusion of digital channels in developing countries range from 11 percent to 25 percent. The study by Capgemini in his report "World Payments Report 2014" indicate that non-cash transactions have reached 334 billion transactions. There is greater propensity of customers to move towards digital channels. Banks which develop digital capabilities are going to benefit. Customers recognize greater convenience through digital channels. However, banks will need to cope up with issues of customer service and frauds which are associated with digital channels.

Electronic banking offers benefits to both banks and customers. Pikkarainen et al. (2004) mentioned two fundamental reasons underlying online banking development and penetration. First, that bank gets significant cost savings in their operation through e-Banking services. It has been proved that online banking channel is the cheapest delivery channel for banking products once established. Second, that bank have reduced their branch networks and downsized the number of service staff, which has paved the way to self-service channels as quite many customers felt that branch banking took too much time and effort.

On the other hand, customers enjoy self-service, freedom from time and place constraint, and reduced stress of queuing in banking hall. Therefore, time and cost, savings and freedom from place have been found the main reasons underlying online banking acceptance. It was indicated that electronic banking services delivery are the cheapest, the most profitable and wealthiest delivery channel for banking products (Pikkarainen et al., 2004).

However, not all bank customers engage in the use on e-Banking services. There are multiple reasons for this. First, customers need to have an access to the Internet in order to utilize some e-Banking facilities such as Internet and Mobile banking facilities. Furthermore, most new online users need first to learn how to use the service. Second, nonusers often complain that online banking is incomprehensible, difficult to use and has no social dimension, i.e. the lack of face-to-face situation at branch (Karjaluoto 2001; Mattila et al., 2003). Third, customers are afraid of security issues (Ezeoha, 2005).

According to *Safeena et al.*, the important determinants of online banking adoption are the usefulness of the system, the ease at which the online banking is done, customer awareness and knowledge about the possible risk. The online banking system is adopted due to its positive effect on the customers. Most of the online customers are aware of the risk involved in online banking.

Kolodinsky, explored factors that affect the implementation to three e-banking technologies: Automatic bill payment, Phone banking and Personal computer banking. The researcher recognized six issues, and they are "relative advantage, complexity/simplicity, compatibility, observability, risk tolerance and product involvement. The study concluded that the relative advantage and compatibility are significant with e-banking technologies, and trial-ability, simplicity, observe-ability, risk, and security" are not significant with e-banking technologies.

Girdhar and Bhardwaj, identified the awareness level of mobile banking services among working professionals and also whether or not they are using mobile banking. The study concluded that awareness level of mobile banking services among working professionals was very less. The reasons for its usage by the recent users and of those who were presently non-users strongly consider on two major factors, such as, secured and easy accessibility and uninterrupted mobility to exist mobile banking services. The banks should educate their customers by communicating benefit of mobile banking services by considering upon the above stated two major factors.

Lichtenstein and Williamson, reported that

- a. Convenience was the main factor for consumer adoption of internet banking,
- b. Australian Internet banking consumers continued to be affected by security concerns, and
- c. Some banking consumers remain unaware with existence, features, and relative advantage and benefits of Internet banking.

Wong et al., based on a survey on 706, examined the role of traditional service quality in e-banking era in Australia and found that electronic delivery of services continuously increased the customers' expectations of service quality and performance of traditional banking services was misaligned to their current expectations and caused dissatisfaction.

Gupta found internet banking to be very easier and speedier than the conventional banking. The factor 'trust' was found as most important factor followed by 'accuracy' and 'confidentiality'.

Singhal and Padhmanabhan explored the major factors responsible for Internet banking based on respondent's perception on various Internet applications. Using factors analysis, the major five independent set of factors were utility request, security, utility, ticket

booking and fund transfer. ANOVA results for assessing perception about internet banking with age and gender showed no difference.

Kamakodi and Khan, have observed that the New Private Sector Banks (NPSB) started after 1993 where able to make information technology revolution in the banks. The adoption of internet technology leads to competition between NPSB and Public Sector Banks and Old Private Sector Banks. The banking operations using internet was able to produce lot of new products like internet banking, ATMs, phone banking, debit card, credit card and online banking. A survey was conducted by the authors on a comfort level of customers with regard to CBS. The survey results shows that more than 50 percent are adaptable for internet banking, nearly 40 percent have expressed concern over risk.

III. TECHNOLOGY ACCEPTANCE MODEL (TAM)

User's attitude towards and acceptance of a new information system is important on successful adoption of the information system (Davis 1989). The quality and effectiveness of a system can only be validated with its level of users' acceptance. A system that satisfies users' needs boosts satisfaction with the system and is an indicator of the system's success (Pikkarainen et al., 2004).

To improve the delivery of efficient and effective system by designers and developers, it is important to study the reasons why people decide to use or not to use an information system. Technology Acceptance Model (TAM) is an information system theory that models how users come to accept and use a technology. TAM proposed by Davis (1989) is an extension of Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB). The Technology Acceptance Model explained the relationship between beliefs (perceived usefulness and perceived ease of an information system) and users' attitude, intentions, and actual usage of the system. The TAM posits these two theoretical constructs; perceived usefulness (PU) and perceived ease of use (PEOU) as fundamental determinants of user's acceptance of an information system. Although both models (TRA and TAM) is able to predict the interests and usage of information technology with the satisfying, TAM are known to be simple and easy to use yet more powerful in modelling the determinants of user acceptance of computer technology (Nugroho and Didi Achjari, 2004). Hong, W, Thong, J.Y.L & Kar-Yan, T. (2002) proposed that the relevance of e-banking will enhance our customers' needs perception of usefulness.

TAM posits that user's acceptance of a new information system is determined by his/her intention to use the system which is determined by users' attitude. In turn, users' attitude is determined by the two behavioral beliefs; perceived usefulness and perceived ease of use (Davis, 1989). Much research had been conducted using TAM and it has become the most widely accepted model among information system researchers (Muniruddeen, 2007). Many research works had been conducted using TAM and introducing other variables which are validated as having impact on usefulness, ease of use, attitude, users' acceptance and intention (Hanudin 2007; Muniruddeen 2007; Pikkarainen et al., 2004). Davis sited that future research on technology acceptance should address the impact of other variables on usefulness, ease of use and user acceptance and intention. Validity of TAM can be increased by exploring the nature and specific influences of technological and usage-context factors that might affect user's acceptance. For instance, Hanudin (2007) concluded that credibility is the heart of Internet banking system and found computer self-efficacy as a major influence on perceived ease of use.

In the context of electronic banking, Muniruddeen (2007) employed the extended TAM to examine individual's perceived security and privacy of Internet banking in Malaysia. Siu-Cheung and Ming-te (2004) also extended the model with Subjective Norm and Social Cognitive Theory (self-efficacy) by Bandura (1982) to explain the intention to use Internet banking in Hong Kong. Jahangir and Begum (2008) also employed the extended TAM with attitude as defined by Theory of Reasoned Action to determine the customer adaptation of e-Banking.

Therefore, perceived ease of use and perceived usefulness alone may not fully determine the user's intention to adopt electronic banking, thus the need to examine additional factors that may better predict the acceptance of electronic banking. Computer self-efficacy, perceived credibility (security and privacy), perceived risk, quality of Internet connection, and perceived enjoyment among others are external variables that have been introduced into TAM in extending its validity on examining user's acceptance of online banking, Internet banking, e-Commerce and Internet usage.

IV. RESEARCH MODEL AND HYPOTHESES

The Extended TAM model is being widely used and proven model of investigating user's adoption of information systems. This extension refers to the introduction of external variables and measuring their impact on the acceptance to use an information system. Extended TAM is adopted as the theoretical framework adopted in this research. The proposed research model in this study is shown in Figure 1 below. The extended TAM includes external variables 'Perceived credibility', 'Computer self-efficacy', and 'Customer attitude'.

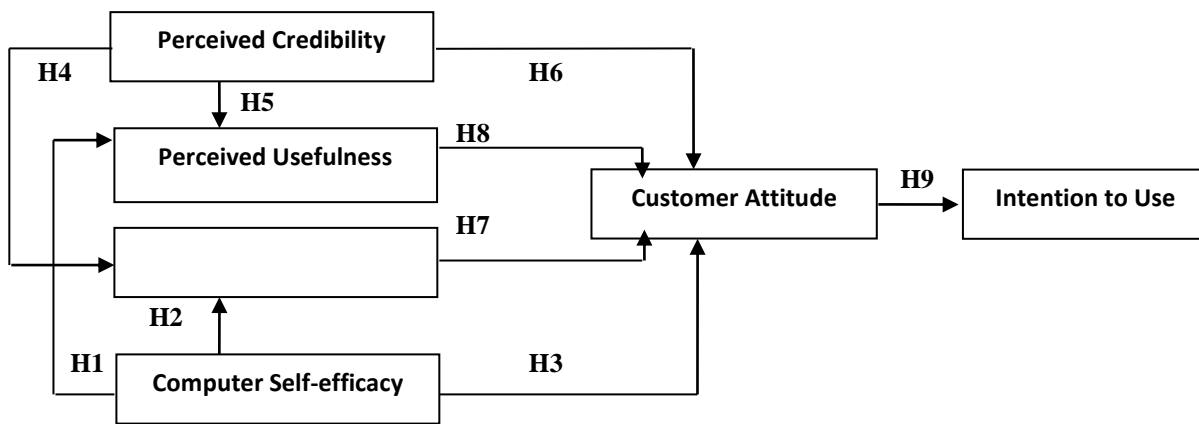


Figure 1: The Research Model

4.1 Computer Self efficacy

The importance of perceived ease of use is supported by Bandura who defined self efficacy as "judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982). Self-efficacy beliefs are theorized to function as proximal determinants of behaviour.

The proposed relationship between computer self-efficacy and perceived ease of use is based on the theoretical argument by Davis (1989). Studies have also shown that there exists empirical evidence of a causal link between computer self-efficacy and perceived ease of use (Hanudin 2007; Reid et al., 2008). Hanudin, in his research found that computer self-efficacy had a positive effect on both perceived usefulness and perceived ease of use on Internet banking among young intellectual in Malaysia. Thus, in order to further determine factors affecting users' acceptance of electronic banking in Vadodara, we propose the following hypotheses:

H1: Computer self-efficacy has a positive effect on perceived usefulness.

H2: Computer self-efficacy has a positive effect on perceived ease of use.

H3: Computer self-efficacy has a positive effect on customer attitude.

4.2 Perceived Credibility

According to Hanudin (2007), perceived credibility is a determinant of behavioral intention to use an information system. Perceived credibility consists of two important elements: privacy and security. Security refers to the protection of information or systems from unauthorized intrusions (Egwali, 2008). Fear of inadequate security is one of the factors that have been identified as impediments to the growth and development of e-Commerce including electronic banking adoption (Ezeoha, 2005).

For the purpose of this research, 'Perceived credibility' (PC) is defined as users' perception of protection of their transaction details and personal data against unauthorized access. PC is about personal belief that a user has in the system to carry out a transaction securely and maintain the privacy of personal information. Perceived credibility has also been tested and confirmed to have a significant effect on perceived ease of use and perceived usefulness (Karjaluoto 2002; Muniruddeen 2007). Therefore, for studying the effect of perceived credibility on user's acceptance in Nigeria electronic banking services, we formulate the following hypotheses to investigate its effect on user's intention:

H4: perceived credibility has positive effect on perceived ease of use of e-Banking

H5: perceived credibility has positive effect on customer perceived usefulness of e- Banking

H6: perceived credibility has positive effect on customer attitude towards the use of e-Banking

4.3 Perceived ease of use

Similarly, perceived ease of use (PEOU) is a major factor that influences customer attitude towards the use of an information system (Jahangir, 2007). PEOU is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). Hence an application perceived to be easier to use than another is more likely to be accepted by users. Hence, we hypothesize that:

H7: Perceived ease of use (PEOU) has a positive effect on customer attitude.

4.4 Perceived usefulness

People tend to use an application to the extent they believe it will aid their performance. Davis defined PU as "the degree to which a person believes that using a particular system would enhance his or her job performance". We hypothesize that:

H8: Perceived usefulness (PU) has a positive effect on customer attitude.

4.5 Customer attitude

Attitudes as defined by Davis (1989) and Karjaluoto et al., (2002), is the users' desirability to use the system. Researchers have noted attitude as the driver of consumer utility. It reveals the perceptions of usefulness, credibility and individual preferences (Jahangir et al., 2007). Consumer's attitude is argued to have a strong, direct and positive effect on consumers' intention to actually use new information system (Jahangir, et al., 2007).

TAM posits that attitude is based on the salient belief which a person has about the consequences of a given behavior and his or her appraisal of those consequences. Customer attitude is formed based on characteristic beliefs about the object and perceived importance of those characteristics in making the decision to adopt. Electronic banking users' attitude varied in terms of perceptions regarding product information, form of payment, delivery terms, service offered, risk involved, privacy, security, personalization, visual appeal, navigation, entertainment, and enjoyment. With this understanding of consumer's attitude, we therefore post the following hypotheses to determine that:

H9: Customer attitude has a positive effect on customer acceptance of electronic banking

V. RESEARCH METHODOLOGY

5.1 Sample of the study

The conceptual framework of the present study (extended TAM) was employed and further tested with the use of a questionnaire as a part of pilot study on a sample of e-banking users. The sampling unit were e-banking customers of both, private as well as public sector banks. Since the main dependent variable of the study was intention to use electronic banking, the final sample of the study included in-experienced online banking users (non-users), one time banking users (non-continual users), and continual users. The primary data was collected from the respondents by applying various research techniques.

5.2 Measures

The researcher has used Questionnaire as the survey instrument, which included several questions which were continuous and categorical in nature. The questionnaire was divided into two sections. The first section of the questionnaire consisted of demographic profile and the e-banking usage of the respondents. Section two consist of 30 questions: 5 questions on perceived ease of use; 5 questions on perceived usefulness; 7 questions on perceived credibility; 7 questions on computer self-efficacy; 3 questions on customer attitude; and 3 questions on intention to use.

The questionnaire items were adopted from the following prior studies (Reid et al., 2008; Jahangir et al., 2008; Muniruddeen 2007; Pikkarainen et al., 2004; Karjaluoto et al., 2002). The respondents were asked to indicate their perception on Likert scales (1-5) with responses ranging from "Strongly Disagree" to "Strongly Agree". The statistical package for social sciences (SPSS) was used to analyze the collected data. Correlation and regression analyses as statistical tools were applied to test the proposed hypothesis.

5.3 Data Collection

The primary data was collected by administering questionnaire through two research techniques: personal contact and e-mail. The researcher deliberately sampled equal number of public bank account holders and private bank account holders. Convenience sampling, a non-probability sampling method was used to collect primary data. The questionnaire was administered personally to almost half of the total respondents of the study. The remaining data was collected by sending the questionnaire as an attachment to the e-mail ids of bank customers obtained through personal contact. The data collection process took almost two and half months (Dec 2017 - Jan 2018). Out of the total 180 questionnaires personally administered, 165 questionnaires were found to be eligible for data processing. There were large number of missing responses in 15 questionnaires and hence they were eliminated. After conducting the filtering of the questionnaires received through e-mail, 135 valid questionnaires were included for the final data analysis. Thus, the final data analysis included the responses given by 300 respondents.

VI. RESULTS & DISCUSSION

6.1 Demographic profile of respondents

As reflected from the below given Table 1, 59% of respondents were males while 41% were 20% of the total respondents are less than 21 years. Further, 47% of the respondents are in the age group of 21 – 30 years; 19% of the respondents were between the age 31 – 40 years; and, 4% were above 50 years. Majority of respondents (49%) were post-graduates and 31% were graduates. Only 12% of the total respondents have done their schooling.

Table 1: Demographic Profile of Respondents

		Frequency & Percentage (Total: 300 respondents)
Gender:	Male	177 (59%)

	Female	123 (41%)
Age:	Less than 21	60 (20%)
	21 – 30	141 (47%)
	31 – 40	57 (19%)
	41 – 50	30 (10%)
	50 & above	12 (4%)
Education:	Schooling	36 (12%)
	Graduate	93 (31%)
	Post-graduate	147 (49%)
	Others	24 (8%)
Occupation	Service	204 (68%)
	Business	54 (18%)
	Student	42 (14%)
Income	Less than Rs. 50,000	78 (26%)
	Rs. 50,000 – 1,00,000	141 (47%)
	Rs. 1,00,000 – 1,50,000	48 (16%)
	Rs. 1,50,000 & above	33 (11%)

Source: Primary data collected through questionnaire

Majority of respondents (68%) belonged to service class, 18% owned business, and 14% were students. Around 26% of respondents had monthly income less than Rs. 50,000. 141 respondents (47%) respondents belonged to the income group of Rs. 1,00,000 – 1,50,000. 11% were having income of more than Rs. 1,50,000. Thus, the composition of the sample reflects a proper mix of respondents, which were likely to reflect the real picture of internet banking users of Vadodara city.

6.2 Banking related information

Below mentioned Table 2, gives details about the banking related information of sample respondents.

Table 2: Banking related information of respondents

Bank Details		Frequency	%
Name of the Bank	SBI	78	26%
	BOB	72	24%
	ICICI	81	27%
	HDFC	69	23%
Operation of Bank Account	Self	291	97%
	Others	09	3%
Type of Bank Account	Savings	255	85%
	Current	30	10%
	Both	15	5%

Source: Primary data collected through questionnaire

As mentioned previously, an equal number of respondents were chosen from the leading public sector and private sector banks of India. The State Bank of India and Bank of Baroda were chosen from the public sector, while ICICI and HDFC were chosen from the private sector. The statistics reveal that majority of the respondents (97%) self-operated their bank accounts and 85% of the respondents held savings accounts with these banks.

6.3 E-Banking Usage of Respondents

E-Banking usage of the respondents was analysed from the primary data collected. The below mentioned Table 3 reports the usage frequency of various modes of e-banking. For majority respondents, mobile banking, phone banking, electronic fund transfer, and internet banking invite less than 3 visits every month. However, point of sale revealed the maximum frequency of visits (4 – 8 times). There are two reasons: first and major reason being, the non-availability of cash in ATMs for quite a long period of time after demonetisation, and second the spread of the message by central government of a cashless society. Apart from withdrawal/deposit of cash, ATMs are frequently visited for other banking transactions also. The third most frequently mode (under 4 – 8 times) visits is for electronic fund transfer. Non-functioning/operational issues of ATMs have also led to more and more people using internet banking. With regards to safety issues of carrying hard cash in purses/wallets, people find it safer and also convenient to use debit/credit cards at the point of sale.

Table 3: E-Banking Usage Frequency

Usage frequency (per month)	< 3 times		4 – 8 times		> 8 times	
	Frequency	%	Frequency	%	Frequency	%
ATM Banking	96	32%	159	53%	45	15%
Mobile Banking	213	71%	63	21%	24	8%
Phone Banking	192	64%	69	23%	39	13%
Electronic Fund Transfer	141	47%	99	33%	60	20%
Internet Banking	183	61%	78	26%	39	13%
Point of Sale	87	29%	177	59%	36	12%

Source: Primary data collected through questionnaire

6.4 Reliability Analysis

To determine the internal consistency across items for each construct, a reliability analysis was conducted through Cronbach's Alpha test. The Cronbach's alpha values (Table 4) for all dimensions range from 0.754 to 0.91, exceeding the minimum alpha of 0.7 (Pallant, 2004). This indicates good reliability on all constructs.

Table 4: Reliability Analysis

Construct	No. of Items	Cronbach's Alpha
Perceived Use (PU)	5	0.910
Perceived Ease of Use (PEOU)	5	0.889
Perceived Credibility (PC)	7	0.793
Computer Self-efficacy (CSE)	7	0.767
Customer Attitude (ATT.)	3	0.754
Intention to Use (BI)	3	0.782

6.5 Correlation Analysis

The correlation analysis has been applied to explore the impact of perceived use, perceived ease of use, perceived credibility, and computer self-efficacy on customer attitude; and, the impact of customer attitude on customers' intention to use electronic banking. The analysis of bi-variate correlation was subject to two tailed tests at 0.01% levels of significance. Table 5 shows all positive figures suggesting that correlations are positive and significant at the 0.01 level between customers' attitude towards the use of e-banking and its variables; i.e., perceived usefulness, perceived ease of use, computer self-efficacy, and perceived credibility.

Table 5: Correlation Analysis

	Perceived Use	Perceived Ease of Use	Computer Self-efficacy	Perceived Credibility	Customer Attitude	Intention to Use
Perceived Use	1.000	.675**	.461**	.398**	.591**	.539**
Perceived Ease of Use	.675**	1.000	.343**	.356**	.537**	.448**
Computer Self-efficacy	.461**	.343**	1.000	.397**	.386**	.336**
Perceived Credibility	.398**	.356**	.397**	1.000	.461**	.392**
Customer Attitude	.591**	.537**	.386**	.461**	1.000	.613**
Intention to Use	.539**	.448**	.336**	.392**	.613**	1.000

** Correlation is significant at 0.01 level (Two-tailed test); N=300

6.6 Hypothesis Testing

Single linear regression analysis was used to test the proposed hypothesis.

Table 6: Regression Analysis

Constructs	Constant	Beta	t	p-value	R ²
CSE – PU	1.743	0.326	5.137	0.000	0.318
CSE – PEOU	2.162	0.217	3.741	0.000	0.161
CSE – CA	2.041	0.332	3.627	0.000	0.143
PC - PEOU	1.962	0.142	2.379	0.000	0.271
PC – PU	2.451	0.197	1.143	0.000	0.293
PC – CA	1.836	0.411	5.871	0.000	0.194
PEOU – CA	1.791	0.369	5.724	0.000	0.162

PU – CA	1.393	0.348	5.436	0.000	0.136
CA - BI	2.572	0.179	1.373	0.000	0.285

As reflected by the t-values for all individual constructs mentioned in Table 6, computer self-efficacy has a positive and significant individual effect on all three variables; viz. perceived usefulness, perceived ease of use, and customer attitude to use the e-banking system. Further, the impact of perceived credibility on perceived ease of use of e-banking, perceived usefulness, and customer attitude towards the use of e-banking is also proven significant. Also, the impact of perceived ease of use and perceived usefulness on customer attitude towards the use of e-banking is also significant, and hence the hypothesis being supported. Thus, the results of the majority of the hypothesis tested match with previous studies conducted by Muniruddin (2007) and Hanuddin (2007). Finally, the result of the single regression between customer attitude and behavioural intention also shows that customer attitude has a positive impact on the customers' intention to use the e-banking system.

VII. CONCLUSIONS

By extending TAM, the author has been able to support the argument by other researchers who claimed that perceived usefulness and perceived ease of use is not sufficient to determine the consumer's behavioral intention to use information system. The results of the regression analysis conducted on the six factors indicate that relative advantages, trust and perceived ease of use were the most influential factors explaining perceived usefulness of online banking services.

Perceived credibility and computer self-efficacy were selected as additional factors to TAM construct because of their potent influence on the use electronic system, where there is a general perception that people have a hidden resistance to the use of electronic banking due to low literacy and high security concerns. The result of the statistical analysis showed that all the four factors used to access users' attitude towards the acceptance of e-banking have a positive influence on the acceptance of the e-banking system.

The result of this study clearly reflects that users find e-banking system useful, convenient, and easy to use. Perceived usefulness is the critical factor in explaining users' adoption of e-banking. Credibility of the system is a major concern for both users and intending users and should be given more attention. Privacy of data and security measures of the e-Banking technology are the issues that always remain at the back of the minds of users. The items of perceived credibility in terms of mean score showed that users of e-Banking system are worried about the security of the system. It also reflects that there is low level of trust in the security measure of e-banking technology and the ability of e-Banking systems to protect privacy. As society moves into the era of new technologies and as e-services become more widely accepted, it will be important that banks meet the needs of consumers. In order to cultivate consumer internet-banking demands, banks must make key improvements that address consumer concerns.

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