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Karim, Rashed al

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# Users' Perception of Internet Banking Service: An Evaluative Study of Private Commercial Banks in Bangladesh

Rashed Al Karim

Assistant Professor, School of Business, East Delta University, Bangladesh.

E-mail: rashed@eastdelta.edu.bd

**Abstract:** *The development of electronic banking, especially internet banking has changed the relationship between the banks and its customers and has made the banks efficient which includes savings, improved marketing and communications, offer services regardless of geographic area, time and increased customer base. This empirical research study mainly focuses on investigating the major factors that influence users' perception towards internet banking service in Bangladesh. The existing literature was reviewed to discover reasons that would influence customers positively or negatively towards internet banking service. A structured questionnaire with 5-point Likert scale has been used to collect the data by conducting survey. The sample size is 170, chosen on a convenient basis. Data has been analyzed by using SPSS software (version: 17). From the findings, it was found that respondents use internet banking because they believe it is conveniently accessible to them and the conveniently accessible term includes elements such as webpage loading, ease of navigation, easy login process, website information, product features, transaction information, easy access and 24/7 internet banking. In contrast, along with the mind-sets of respondents, trustworthiness of internet banking, customer data privacy, reliability of internet banking service, integrated security elements, secure communication, latest encryption technology and freedom from danger/fraud are the foremost barriers of internet banking in Bangladesh. Furthermore, the result of hypotheses established that even though internet banking is conveniently accessible to all consumers in the present ICT environment, trust and security anxieties have significant impact on internet banking. Finally, some recommendations have been offered for higher authority of banks to take initiatives for making internet banking more admirable and trustworthy.*

**Keywords:** *Internet banking service, accessibility of internet banking, Information Communication Technology (ICT), trust and security, SPSS software.*

## **Background of the study:**

The development of electronic banking and especially internet banking has changed relationship (Sathye, 1999) between the banks and its customers and has enabled the banks to make efficient include savings; improve marketing and communications (Gurāu, 2002) and offer services regardless of geographic area, time and increased customer base. In recent years, as in many other developing countries, Bangladesh has witnessed (Azam, 2007) a phenomenal development in the technology-dependent communication medium, which is the Internet. Although, facing many constrains in establishing an internet-based society, the Bangladeshi government has given priority to developing ICT usage, Bangladesh has recently been connected

(Karmakar & Wahid, 2006) to the information superhighway through submarine optic-fiber cable network that create a favourable environment to increase Internet usage among its citizens.

A survey (Islam, 2005) of the current banking system in Bangladesh reveals that it requires adaptation and rapid modification if it wishes to keep up changes in the global economy. In the context of Bangladesh, a country of more than 140 million people, the government has realised that there is no other option but to join the modern trend. At present, people are very often scared (Salman, 2004) of doing any banking transaction on-line where they are offered by the banks in Bangladesh. However the efficiency of Bangladeshi banks still uses a, traditional paper-based system (Aldas-Manzano et al., 2009) which makes it cumbersome to perform even a simple financial service such as account checking. Therefore, the existing banking system in Bangladesh could be seen as awkward, slow and error-prone. Internet banking could solve the above problems, as well as opening up opportunities for increased foreign trade and foreign investment.

### **Objectives of the study:**

The aims of this study are to evaluate users' perception towards internet banking service: an evaluative study on private commercial banks in Bangladesh. Furthermore, this study seeks to investigate the accessibility of internet banking and the role of online security and trust as a specific from of technology in the context of internet banking in Bangladesh.

The above discussion leads to the development of the following specific objectives:

1. To analyse the overall accessibility of internet banking service in the existing ICT environment of Bangladesh.
2. To analysis whether the usage of internet banking is affecting by the factors trust and security.

### **Literature Review:**

**Concept of internet banking:** Internet banking or electronic banking (e-banking), also known as cyber banking, virtual banking (Turban et al, 2004), internet banking or home banking, include various banking activities conducted via the internet from home, business, and on the road rather than at a physical bank location. The consumer can use internet banking to pay all utilities bill (Çelik, 2008), to check their accounts balance and transactions, secure a loan electronically (Gurău, 2002), transfer money from one account to other accounts and much more. Internet banking saves money and time for the customer and the banks. Internet banking is an inexpensive banking channel for the banks; it offers an alternative way of branch banking and a chance to engage remote customers. In recent years, the subsequent evolution of internet banking have fundamentally changed the ways in which banks implement their business (Kraute & Faillant, 2008) and consumers conduct their everyday banking activities (Howcroft et al., 2002) because of the development of information communication technology.

Probably, the major phenomenon (McGaughey, 1999) of the twenty first century has been electronic communication and information technology. The technological progress is now sufficiently well advanced for it to enable commercial transaction and non-commercial activities which is facilitated through the use of information technology and network technology such as the internet, intranet and extranet. Internet banking has emerged as a significant and rapidly growing component (Akinici et al, 2004) of the world economic exchange. Through Electronic Banking the world economic exchange has been reduced to a tiny global village in terms of its information capacity and the resources it holds which can be accessed by anybody from anywhere in the globe through the use of medium of E-commerce namely the internet and some other electronic devices. According to David et al., (2008), undoubtedly, electronic banking (e-banking) has

experienced explosive growth and has transformed traditional practices in banking. Nowadays the growth rate of internet banking is very high in the developed countries like the UK and the USA, both in the sectors of retail and corporate banking. The use of internet banking has dramatically increased for several reasons; it offers a cost-efficient alternative to telephone and branch banking due to the relatively low maintenance and update expenses. Internet banking has not only been embraced in the developed world; it is becoming (Wood, 2004) an enabling feature of business growth in the developing world. For example, online banking in China is increasing rapidly in popularity, especially among China's new educated middle class in the developing cities. Consequently, the overall turnover of online banking activities is also growing rapidly.

### **Internet banking in developing countries:**

Internet banking is expanding in many Asian countries, including Hong Kong, South Korea, China, Singapore, and Taiwan. Well progress developing countries like Malaysia, Singapore, Hong Kong, United Arab Emirate etc. These countries are more or less adopted with internet banking. The least developing countries are these as Bangladesh, India, Pakistan, Nepal, Myanmar, China and where internet banking is not fully practiced due to issues relating to telecommunication infrastructure, trust and security. Singapore is a very small country with a population of only four million (Chan & Hawamdeh, 2002). It has a small (Gerrard & Cunningham, 2003) market and limited natural resources, thus it has become recognized that, knowledge and skills are the major factor of its competitive success. In 1997, internet banking was first introduced in Singapore. After five years in 2002, the annual survey of the Infocomm Development Authority of Singapore found that only 30 percent people (Garrard et al, 2006) were using internet banking. Despite the fact that at the end of year 2000, 60 percent households in Singapore owned at least one computer and 50 percent of all households had access to the Internet (Gerrard & Cunningham, 2003). Gerrard et al (2006) found eight factors why certain customers are not using internet banking in Singapore. These are; risk, no perceived need, lack of knowledge of service, inertia, inaccessibility, lacking human touch, pricing concern and IT fatigue. They also added that, the riskiness of the services and no perceived need are the two major barriers of internet banking adoption in Singapore.

Although, technological development has brought in a dramatic change in Malaysian business environment (Hway-Boon & Yu, 2003), internet banking in Malaysia was first introduced in mid 2000 (Poon, 2008). The adoption (Nadubisi & Sinti, 2006) of internet banking has been relatively low and research to determine the adoption key points are very little. In a survey Poon (2008) found ten determinants for consumer acceptance for internet banking in Malaysia, these are convenience, accessibility, future arability, bank management and image security, privacy, design, content, speed and fees and charges. Of the determinants Poon (2008) suggests that privacy and security are the two major components of bank customer dissatisfaction on internet banking in Malaysia. E-commerce is a strong tool almost all of over the world in modern business (Darby et al, 2003) and electronic payment or internet banking is the transactional drivers of e-commerce. Nowadays, in North America, Western Europe and Japan reach billions of dollars transaction through internet banking or electronic payment but, in the Arab businesses in the Middle East it is negligible (Yasin & Yavas, 2007) although it was estimated the revenue of e-commerce within the Middle East will increase more than 2 billion dollars by the year of 2002 (Darby et al, 2003).

### **Internet banking scenario in Bangladesh:**

The financial sector of Bangladesh, like most developing countries, is dominated by banking enterprises (Alam et al., 2007) and reform of the financial sector is part of the reform agenda of the so-called "Washington Consensus". This has been one of the conditionality's of the IMF/World

Bank structural program. According to bank and financial report (2005-06), there are 48 banks operating in Bangladesh. Out of 48 banks, 4 nationalized commercial bank, 5 nationalized special banks, 30 local commercial banks and 9 foreign commercial banks. Bangladesh Bank has been working as the central bank of the country since the country's independency. It has branches in only seven big cities in the country Dhaka, Chittagong, Rajshahi, Khulna, Bogura, Shyllet, Rongpur and Borishal. It has the legal authority to supervise, monitor and regulate the other entire bank in the country. It performs the traditional central banking roles of currency issuing and being banker to the government and banks (Alam et al., 2007). In Bangladesh, ANZ Grindlays Bank (Standard Chartered Bank) first introduced Internet Banking in 1995 (Khanam et al, 2005) and after 7 years the number is increased is 38 out of 52 total banks in the country. The people of Bangladesh do not interact very much with the bank service technology; in the bank sector the overall computer density is only 1.64. In the case of Foreign Commercial banks (FCBs) it is 45.34 but, Public Commercial Banks (PBCs) and National Commercial Banks (NCBs) are 4.94 and 0.41 respectively. The table-1 below shows the overall electronic banking services (% of banks) in Bangladesh:

**Table-1: Electronic Banking Services in Bangladesh (% of banks)**

EBS	1998	2000	2001	2002	2003	2004	2005
Tele Banking	14	20	24	28	33	37	40
Online corporate banking	.....	8	12	18	22	26	29
Electronic fund transfer	15.4	15	18	20	25	28	30
Credit card	_____	10	23	30	38	45	50
Debit card	_____	3.8	18	25	38	46	55
Internet Banking	.....	7.6	12	19	28	33	50

Source: Islam & Ahmad (2005) Note: "...” denotes service unavailable & “\_” denotes data unavailable.

### **Internet banking barriers in Bangladesh:**

In the banking sector online banking (Aladwani, 2001) is the latest distribution channel. Many technical and informational factors and security matters are involving in the system. According to Aladwani (2001), there are three consecutive stage to run the system; pre-development, development and post-development stage, thus offering internet banking is a difficult task. In Bangladesh, as a least developing country in Asia, internet banking is more difficult due to the fact that ICT infrastructure is still under development. There are several obstacles in Bangladesh in the growth of internet banking in general such as, poor ICT infrastructure, lack of skilled human resource and lack of adequate rules and regulations (Khanam et al, 2005). There are however, also problems in the country's banking system, customer behaviour and social structure. There are about 6412 bank branches (Bangladesh Bank, 2005-06) all over the country, among of that, 3386 (52.81%) Nationalized Commercial Bank (NCB), 1643 (25.62%) Public Commercial Bank (PCB), 41 (0.64%) Foreign Commercial Bank (FCB) and 1342 (0.21%) Nationalized Special Bank (NSB) (Bangladesh Bank, 2005-06) NCBs is the biggest category bank in the country but, these banks have no internet banking facilities. Although in the country the financial sector is dominated by the banking sector, the sector is not yet well developed. The overall picture of computerisation and networking system of the banking sector is very poor (Raihan, 2001).

In the country only the FCB's (19%) and some PCB's (26%) offer the provision of internet banking, however, the biggest part of consumer NCBs and NSBs (55%) has no provision of

internet banking. In the case of internet banking almost all of the FCBs account holders (94.12%) use internet banking and 62.50 percent of PCBs accounts holders' use internet banking. A recent study about internet banking states that, all the banks (Khanam, 2005) in Bangladesh are planning to convert their manual transaction to an on-line system, 75 percent banks have it in their strategic plan to implement ICT and internet banking. Barriers of Internet banking in Bangladesh are:

**PC ownership and internet availability:** In Bangladesh, PC started to use in the personal life in the 1990s, and it was gain a huge popularity within a few years. To realise the importance of computer and IT the government of Bangladesh decided to withdraw all the import duties and VAT for all computer hardware and software in 1998. And this has (Bangladesh Computer Samity, 2009) brought the prices of computers and its accessories down to a level affordable by middle income households. But the PC penetration (Wahid & Karmakar, 2006) still one of the lowest in the world it is only 7.82 per 1000.

**Lack of trained human resource:** In the age of (Salman, 2004) information and knowledge economy human capital is the prime asset for a developing nation. A number of leading (Wood, 2004) development agencies and organisations have identified commercial application of information and communication technology (ICT) as offering great potential to accelerate economic growth in developing nations. In this regard, public universities played an important role in supplying the market with ICT professionals. Between 2000 and 2006, the number of ICT professionals in Bangladesh increased from 11,440 to 25,200 (Raihan & Habib, 2008). The Bangladesh University of Engineering and Technology (BUET) first introduced formal education in Information Technology in 1984. At present, 10 public universities and more than 50 private universities are offering postgraduate diploma programmes in information technology. Private universities have been offering various ICT degrees since 1995. However, in terms of quality, only a few universities out of more than 50 can supply professionals who meet industry requirements. There are more than 350 training institutions (Raihan & Habib, 2008) in the private sector producing different categories of ICT professionals. In Bangladesh information technology (Bangladesh Bureau of Statistics, 2009) is mostly used in the private sector. Some government sectors have also introduced and are getting benefit of using such. That is why government employees are increasingly becoming ICT-literate. About 28 per cent of officials and 29 per cent of Ministry/Division staff have received ICT training. At the Department/Corporation level, about 23 per cent of officers have received ICT training.

**High cost of internet surfing:** Initially internet surfing rate was very high in Bangladesh; it was from US \$ 7.50-175 per month (Karmakar & Wahid, (2006). According to a survey by Karmakar & Wahid, (2006) found that most of the online bills about 85 percent pay by individual customers and only the 15 percent internet users use the internet on behalf of their companies. The internet accessing cost in Bangladesh still is very high as compared to the average annual income US \$470 (equivalent to about BD Tk. 32, 900, UNICEF, 2006) of the people. The table-2 shows the cost of accessing the internet in the country.

**Table-2: Charges of Bandwidth**

Internet Access Charges (Dial-up)	1.50Tk-0.20 paisa/Min
Unlimited Access (Dial-up)	Tk 1000/Month
Broadband - 64 kbps	Tk10,000/Month
Broadband - 128 kbps	Tk 15,000/ Month

Source: Karmakar & Wahid, (2006)

According to JETRO (Japan External Trade Organisation, 2008) 18<sup>th</sup> survey 2008, in Bangladesh the monthly basis payment for broadband internet service still holding the highest position among the all other participant countries in Asia pacific in this survey. Recently, BTTB reduced internet tariff charge up to 40% and later the internet service provider reduced the average internet access charge by 25% in Bangladesh, which is significant, but not sufficient for Bangladesh to be competitive and it is highly expected that authority concerned would take further measures to reduce the cost of internet service in coming days.

**Poor ICT infrastructure:** ICT infrastructure is the pre-requirement to implementing internet banking. There are only 22,000 ISP accounts holders in the two-major city Dhaka and Chittagong, where total population is about to 20 millions (Khanam et al, 2005) and the total number of users would be around 0.41 million. There are several constrain for development of ICT in Bangladesh; these are: low computer penetration, low teledensity, weak data communication infrastructure, no law against cyber crime, no law of electronic authentication, no electronic certification authority, poor public knowledge about ICT, brain drain (Hossian and Tisdell, 2005) and Inadequate budget provision (Rahman, 2007) for establishment, maintenance and expansion of computer Newark in the country. So far, the above discussion about internet banking system, advantages, drawbacks and the related factors, it is empirically observed that there is a relationship between internet banking and convenient accessibility.

**Trust and Security:** Financial institutions that provide electronic banking today have found customer's security as a vital issue in their day-to-day business transactions due to the fact that it involves the internet which is inherently unsecured (Hutchinson & Warren, 2003). Moreover, using the internet as a medium for electronic banking, one can impersonate another person or process and have access to other information like banking information. Data protection, guaranty of reliability and security these issues are very important for Internet Banking (Alam et al., 2007). Data security, the lack intellectual property and interoperability have negative impact on both the use of IT and incentive to introduce IT products into the market. Indeed, due to the open (Ozdemir et al, 2008) internet technology infrastructure and lack of sufficient regulations concerning e-commerce activities, the importance of trust and trust related concepts increasing for internet banking. Like traditional banking internet banking also faces some regulatory, legal and risk-oriented challenges. The agreement on Trade-Related Property Rights (TRIPS) provides standards for intellectual property rights (IPR) relating to patents, copyright and related rights, trademarks, industrial designs and layout designs of integrated circuits, undisclosed information, and trade secrets. Bangladesh has an 11-years transitional period to meet the obligations under this agreement (Alam et al, 2007). Internet banking security issues also involves software security/ application level security and external security issue/ communication security (Islam, 2005). But, in Bangladesh there are about 24 types of banking software used in the banking sector and among of the banking software used in the banks 51.47 percent have been developed in-house, 47.06 percent are off-the-shelf (OTS), only 1.47 percent was using both OTS and in-house software (Raihan, 2001).

In light of the previous discussion about the present ICT status and trust and security factors of internet banking service and the related rules and regulatory laws in Bangladesh, the following hypotheses were developed to examine:

**H<sub>1</sub>:** The overall accessibility of internet banking service in the existing ICT environment has significant impact on internet banking service in Bangladesh.

**H<sub>2</sub>:** Security concerns have significant impact on internet banking service in Bangladesh.

### **Research Methodology:**

**Sampling Method and Sample Size:** As the study is about measuring service quality of banks, the population included mainly clients of different private banks like- Standard Chartered Bank, City Bank, Dutch Bangla Bank, Bank Asia, Eastern Bank, Dhaka Bank, Trust Bank and Prime Bank, which are located in the Chittagong City. In this study 170 respondents of different banks have been selected by using convenience sampling method.

**Data Collection and analysis:** A survey was conducted in various private commercial banks in Chittagong city to collect primary data by using structured questionnaire. A convenience sampling process has been used to collect data for this research. All questions are closed-ended because all possible answers were given to the respondents. The five-point Likert scale (where 1= strongly disagree to 5 = strongly agree) has been used for the main research questions. After data collection, by using SPSS software (17.0 versions), correlation and multiple regressions analysis have been conducted to test the strength of associations between the study variables

**Reliability Assessment:** In order to prove the internal reliability, this study has performed Cronbach's Alpha Test of Reliability. Applying this test specifies whether the items pertaining to each dimension are internally consistent and whether they can be used to measure the same construct or dimension of service quality. According to Nunnally (1978) Cronbach's alpha should be 0.700 or above. But, some of studies 0.600 also considered acceptable (Gerrard, *et al.* 2006). In this study, the value of Cronbach's alpha is 0.665 which is almost equal to the standard value, 0.7. Thus, it can be concluded that the measures used in this study are valid and reliable.

### **Findings and Analysis:**

The first hypothesis of this study is:

**H<sub>1</sub>:** The overall accessibility of internet banking service in the existing ICT environment has significant impact on internet banking service in Bangladesh.

So, the hypothesis is-

**H<sub>0</sub>:** The overall accessibility of internet banking service in the existing ICT environment has no impact on internet banking service in Bangladesh.

**H<sub>A</sub>:** The overall accessibility of internet banking in the existing ICT environment has significant impact on internet banking service in Bangladesh.

Therefore, the SPSS outputs of hypothesis-1 (H<sub>1</sub>) are following:

From table-1, it has been seen that **R** value is 0.717. Therefore, **R value (0.717)** for the overall accessibility of internet banking suggested that there is a strong effect of overall accessibility in the existing ICT environment on internet banking service. From the table-2 it can also have observed that the **coefficient of determination** i.e. the **R-square (R<sup>2</sup>)** value is **0.514**, which representing that **51.4%** variation of the dependent variable (Internet Banking Service) is due to the independent variables (overall accessibility), which in fact, is a strong explanatory power of regression.



**Table 1: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.717 <sup>a</sup>	.514	.490	.28661	.514	21.260	8	161	.000

a. Predictors: (Constant), 24/7 internet banking, Webpage Loading, Website Information, Product Features, Easy Login Process, Transaction Information, Easy Access, Ease of Navigation

**Table 2: ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.971	8	1.746	21.260	.000 <sup>a</sup>
	Residual	13.225	161	.082		
	Total	27.197	169			

a. Predictors: (Constant), 24/7 internet banking, Webpage Loading, Website Information, Product Features, Easy Login Process, Transaction Information, Easy Access, Ease of Navigation

b. Dependent Variable: internet banking service

From the table-2, it is identified that the value of F-stat is 21.260 and is significant as the level of significance is less than 5% ( $p < 0.05$ ). This indicates that there is a statistically significant association between overall accessibility and internet banking service. Additionally, this also indicated that the **null hypothesis is rejected, and alternative hypothesis is accepted**. Hence it can be concluded that overall accessibility of internet banking service in the existing ICT environment has significant impact on internet banking service in Bangladesh.

**Table 3: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	.309	.298		1.035	.302	-.280	.897
Webpage Loading	.233	.031	.422	7.586	.000	.172	.294
Ease of Navigation	.075	.036	.123	2.058	.041	.003	.147
Easy Login Process	.117	.034	.205	3.466	.001	.050	.183
Website Information	.134	.038	.199	3.516	.001	.059	.210
Product Features	.092	.032	.162	2.899	.004	.029	.155
Transaction Information	.074	.032	.133	2.335	.021	.011	.137
Easy Access	.061	.032	.112	1.899	.059	-.002	.125
24/7 internet banking	.119	.033	.214	3.667	.000	.055	.183

a. Dependent Variable: internet banking service

In the table-3, Unstandardized coefficients indicated how much the dependent variable varies with an independent variable, when all other independent variables are held constant. The beta coefficients indicated that how and to what extent overall accessibility in the existing ICT

environment influence internet banking service. It has been found that, Webpage Loading (beta =.422, t=7.586, p<0.001) 24/7 internet banking (beta=.214, t=3.667, p<0.001), Easy Login Process(beta=.205, t=3.466, p<0.001), Website Information(beta=.199, t=3.516, p<0.001), and Product Features (beta=.162, t=2.899, p<0.001), have the highest influence or significant impact on internet banking service, whereas, Transaction Information (beta=.133, t=2.335, p<0.001), Ease of Navigation (beta =.123, t=2.058, p<0.001) and Easy Access (beta =.112, t=1.899, p<0.001), have a relatively lower impact on internet banking service of a bank.

**H<sub>2</sub>:** Security concerns have significant impact on internet banking service in Bangladesh.

So, the hypothesis is-

**H<sub>0</sub>:** Security concerns have no impact on internet banking service in Bangladesh.

**H<sub>A</sub>:** Security concerns have negative impact on internet banking service in Bangladesh.

Therefore, the SPSS outputs of hypothesis-2 (H<sub>2</sub>) are following:

From table-4, it has been seen that **R** value is 0.861. Therefore, **R value (.861)** for the overall security concerns suggested that there is a strong effect of security concerns on internet banking service. From the table-4, it can also have observed that the **coefficient of determination** i.e. the **R-square (R<sup>2</sup>)** value is **0.741**, which representing that **74.1%** variation of the dependent variable (Internet banking service) is due to the independent variables (Security concerns), which in fact, is a strong explanatory power of regression.

**Table 4: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.861 <sup>a</sup>	.741	.730	.24786	.741	66.285	7	162	.000

a. Predictors: (Constant), Freedom from danger/fraud, Latest encryption technology, Reliability & trustworthiness, Security of Internet banking service, Secrecy of customer data, Integrated security elements, Secure communication

**Table 5: ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.506	7	4.072	66.285	.000 <sup>a</sup>
	Residual	9.953	162	.061		
	Total	38.459	169			

a. Predictors: (Constant), Freedom from danger/fraud, Latest encryption technology, Reliability & trustworthiness, Security of Internet banking service, Secrecy of customer data, Integrated security elements, Secure communication

b. Dependent Variable: internet banking service

From the table-5, it is identified that the value of F-stat is 66.285 and is significant as the level of significance is less than 5% (p< 0.05). This indicates that there is a statistically significant association between overall security concerns and internet banking service. Additionally, this also indicated that the **null hypothesis is rejected, and alternative hypothesis is accepted**. Hence it can be concluded that security concerns have negative impact on internet banking service in Bangladesh.

**Table 6: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	.874	.140		6.259	.000	.598	1.149
Trustworthiness of Internet Banking	.129	.021	.277	6.089	.000	.087	.171
Customer data privacy	.102	.021	.219	4.872	.000	.061	.143
Reliability of Internet banking service	.070	.020	.157	3.573	.000	.031	.109
Integrated security elements	.157	.024	.319	6.458	.000	.109	.205
Secure communication	.108	.024	.230	4.488	.000	.060	.155
Latest encryption technology	.086	.024	.186	3.640	.000	.039	.133
Freedom from danger/fraud	.113	.018	.263	6.319	.000	.078	.148

a. Dependent Variable: internet banking service

In the table-6, Unstandardized coefficients indicated how much the dependent variable varies with an independent variable, when all other independent variables are held constant. The beta coefficients indicated that how and to what extent security concerns influence internet banking service. It has been found that, integrated security elements (beta =.319, t=6.458, p<0.001), trustworthiness of internet banking (beta=.277, t=6.089, p<0.001), freedom from danger/fraud (beta=.263, t=6.319, p<0.001) and secure communication (beta=.230, t=4.488, p<0.001) have the highest influence or significant impact on internet banking service, whereas, Customer data privacy (beta =.329, t=4.835, p<0.001), Latest encryption technology (beta=.284, t=4.226, p<0.001) and Reliability of Internet banking service (beta =.149, t=2.246, p<0.001), have a relatively lower impact on customers satisfaction of a bank.

### Conclusion:

The main objectives of the study were to evaluate users' perception towards internet banking service: an evaluative study on private commercial banks in Bangladesh. Despite being a least developing country, selected segments of Bangladeshi banking community have introduced internet banking with a selection of internet banking services. From the study it was found that the growth of internet banking in Bangladesh a certain group of people; only the people who are working in the private sector and highly educated use internet banking services. There are many other potential bank customers who have access to the internet but are not using internet banking services. Thus, creating awareness among the NCB's and local PCB's management regarding the benefits and essentialities of internet banking services. They need to be knowledgeable to appreciate and utilise the benefits of the banking channel. Their understanding on the cost-benefits and marketing communication aspects followed by the adoption of internet banking in the banking sector would be an achievement. The central bank of the country can also play a major role at this juncture by highlighting the benefits of internet banking to the scheduled banks and encouraging them to use customised software for their day-to-day operations. It would appear from the study that the major factors affecting the adoption of internet banking services in Bangladesh are:

- Development of ICT
- Trust and security concern
- Attitude towards changes
- Convenient accessibility and related cost

- The overview of the ICT-related legal and regulatory laws, such as the Intellectual Property Right Act (IPR) which relates to patents, copyright and related rights, undisclosed information and trade sectors have the capability of facilitating the scope of internet banking.

Nevertheless, Information technology environment is changing rapidly but Internet banking and its related technologies are still in its infancy stage in Bangladesh. Since the world is moving towards e-everything, so authority should try to overcome all the barriers and also try to develop such environment that is favorable for the development of Internet banking. Consequently, the number of physical branches will be decreased and most of the transactions will be completed via internet banking. In order for Internet banking to continue to grow, the security and the privacy aspects also need to be improved. With the security and privacy issues resolved, the future of Internet banking can be very prosperous.

#### **Limitations of the study:**

The major limitation of the study is to access secondary data and as well as literature on internet banking in the context of Bangladesh since internet banking is still in its infancy stage and published research work on internet banking in Bangladesh is good enough. Furthermore, in building up specific measures concerning the adoption of internet banking a relatively small sample size requires further testing in a quantitative stage, to ensure more generalisations findings in the country.

#### **Recommendations for Organization:**

Several managerial implications can be drawn from the research. These are:

- Under the present conditions of Information Communication Technology (ICT) in Bangladesh, it might be very difficult to establish a strong and reliable networking system in the financial sector. The government should establish an effective telecommunication infrastructure in the country.
- The central bank of the country should evolve a plan and policy that make it mandatory for all banks to develop internet banking facilities otherwise the banks customers who are already started internet banking services can not get the total benefit of the new channel of banking.
- The apex body should set up an information technology policy and regulatory activities that will stimulate standards to adhere strictly to implementation of information policy.
- Awareness of internet services is essential in the early adoption stage. As internet banking services are still new in Bangladesh, effective presentations using all forms of media advertising such as leaflets, brochures, web pages, etc., will be useful to introduce the services to a wide audience and educate potential customers about the benefits of internet banking.
- The banks should continue to stay abreast of technological developments especially in the area of application, so as to consistently develop e-products that will meet the needs of the customer market. More also, banks should be consistent and persistent in their manpower training and development.

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