

POPULARITY OF E-BANKING IN SRI LANKA

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Abstract

As a wave of new technology, internet provides banks a substantial opportunity to expand their customers reach beyond traditional boundaries across national borders. Increased competitive pressures and the speed of technological changes are leading to rapid expansion of electronic banking (e-banking). This research is carried out with the objective of measuring the availability of e-banking facilities in Sri Lanka. Further this provides an analysis as to the extent to which e-banking facilities have been used by customers. Data were collected using questionnaire survey. The initial sample comprised of hundred and fifty customers who were randomly selected from five different areas in Colombo district. Majority of the customers in the country were aware about e-banking facilities but most of them had not been tried those facilities by them selves. They still pay their bills, withdraw money, check balances and deposit cheques at their bank counters, much as the traditional way. Specially in state banks, usage of e-banking facilities was not to a very greater extent. Further this study has identified some of the factors which inhibit the usage of those facilities such as confusions and delays in the system, accessing problems and security problems etc.

Keywords: E-banking, Internet

1. INTRODUCTION

Banking environment worldwide is undergoing a massive transformation. The challenges in this millennium for the banking industry are enormous. The technology and banking sector reforms together and lifting the competitive intensity of the banking industry. The banks that are first to market with the right mix of technologies, strategies and partnerships would be the sure winners.

E-banking, a wave of new technology has provided the customers of the banking world with new and more convenient ways to do their banking. It offers financial services via the internet and it offers value added services to the customers. E-banking enables the customer to view account balances, access to account history, payment of utility bills etc. Customers prefer to use it due to its convenience, speed, efficiency, effectiveness and ubiquity. Banks prefer it as it retains customers and reduce paper work.

At the inception of e-banking, banks used it merely to disseminate information and knowledge (Mahat, 2004). But later its application was widened as they used it for many other purposes such as on-line access to customer accounts (current and savings accounts), view account balances, inquiries of account balances, access account history, access to loan balances and unclear cheques, transfer funds between accounts, fund transfer scheduling for future dates, payment of utility bills, request for treasury bills, application for loans and mortgages, schedule automatic payments, on-line information such as interest rates and exchange rates, use of easy banking centers (Automated Teller Machines(ATM), Telebanking.) etc...

In Sri Lanka, e-banking was first introduced by the Sampath Bank in 1988. They started with networking all their branches enabling their customers to access to their accounts at any branch. ATM cards enable the customers to withdraw money from teller machines

throughout the day. This made a complete revolution in the banking industry in Sri Lanka.

However, the biggest challenge faced by the e-banking is the customers' satisfaction on the security it provided (Bill, 2002). Deshpande (2002) also has identified Operational risk, Security risk, Reputational risk, Cross Border risk and Legal risk as risks that the regulators and supervisors should pay their attention. On the other hand, a research carried out by the Bank of America, has found that 12 percent of their customers are not satisfied with the services provided. Further this research has shown that customers between the ages of 35-54 are most satisfied with online banking. One out of every four people who stop using online services were not displeased with it but they were never enticed to use it.

Research objectives of this study would be as follows;

- To measure the awareness and usage of customers about e-banking facilities
- To measure the customer satisfaction on e-banking.
- To identify the factors affecting the lesser usage of e-banking.

2. RESEARCH METHODOLOGY

The population used for the study is restricted to only five areas in the Colombo district (Borella, Kiribathgoda, Kaduwela, Maharagama and Rathmalana). The banks considered are, Bank of Ceylon, Sampath bank, Peoples bank, Commercial bank, Hatton National Bank and Seylan bank. These banks were selected to cover both public and private sectors.

The data used for the study obtained from two sources. Websites of the banks play a vital role for the Secondary data. Primary data were gathered by distributing a questionnaire among the customers. At least 30 customers were selected from each specified area. In addition, managers were interviewed to collect other necessary data.

The collected data were first analyzed using tables and charts. However, to identify the significance of the relationship, Chi-Squared test was used. The hypotheses tested in the study are;

1. Awareness of e-banking is independent from the bank they attached.
2. Use of e-banking is independent the bank they attached
3. Rate of usage of e-banking is independent from the different age groups of customers
4. Rate of usage of e-banking is independent from the different type of the employment
5. Rate of usage of e-banking is independent from the different type of the bank account
6. Reasons for the use of e-banking is independent from the frequency of visiting the bank
7. Reasons for the use of e-banking is independent from the bank they attached
8. Customers' level of satisfaction is independent from the different age groups of customers
9. E-banking users' doubts about the systems security and accuracy is independent from the different bank that the users attached
10. Problems experienced by e-banking users is independent from the bank they attached
11. Problems experienced by e-banking users is independent from different age groups they attached

3. DATA ANALYSIS

Data attached to above hypotheses have been analysed as follows;

3.1. CUSTOMER AWARENESS OF E-BANKING

Most of the customers have heard of e-banking. But all of them probably have not tried it by themselves. Out of 150 customers from whom the data were collected for the study, 130 customers have got awareness on e-banking. It represents 87 percent of the sample. However, this percentage may change from bank to bank. The details are given in Table 1.

Table 1: Customer awareness of e-banking

Bank	Awareness of e-banking facilities				Total
	Yes	%	No	%	
BOC	15	68%	7		22
Sampath	39	100%	0	-	39
Peoples	6	40%	9		15
Commercial	24	100%	0	-	24
HNB	19	95%	1		20
Seylan	18	95%	1		19
Other	9	82%	2		11
Total	130		2		150

According to Table 1, almost all the customers in Sampath, Commercial, Seylan and Haton National banks are aware of e-banking. However only 40 percent of the customers in the Peoples Bank and 68 percent of the customers in the Bank of Ceylon (BOC) are aware of this facility. This shows that the awareness of e-banking of customers is mainly depend on the ownership of those banks, whether they are state owned or privately owned. The χ^2 test carried out to test the hypothesis that the awareness of e-banking is independent of the bank in which the customer is attached, is resulted with rejecting the hypothesis at 1 percent level of significance. (the calculated χ^2 value is being 41.05 against the one percent value of 6.64.

3.2. USAGE OF E-BANKING IN SRI LANKA

The next important point is that are the customers using the e-banking facility, though they aware it. Results revealed that out of the 150 customers from whom data were collected for the study, only 66 (56 percent) were using e-banking. Their distribution is given in Table 2.

According to Table 2, the usage of e-banking differs widely between the two types of banks, the state owned and privately owned. Customers of the two private banks, Haton National Bank (HNB) and Commercial Bank, are highly enjoying the facilities of e-banking and is followed by the Sampath Bank customers. Customers at the Seylan Bank use the e-banking facility at a moderate rate of 55.6 percent.

Table 2: Usage of e-banking in Sri Lanka

Bank Name	# aware	# use	percentage
BOC	15	2	13.3
Sampath	39	29	74.4
Peoples	6	1	16.6
Commercial	24	21	87.5
HNB	19	17	89.5
Seylan	18	10	55.6
Other	9	4	44.4
Total	130	84	64.6

The significance of these two different patterns of using e-banking at state and private banks is measured using the χ^2 test and the null hypothesis that the use of e-banking is independent from the type of the bank is rejected at one percent level. It reveals that there is a significant relationship in the level of usage of e-banking in different banks with 1 percent level of significance. (Chi-Squared value is 47.6 which is very much greater than the table value of 16.8)

As according to the discussion with the BOC branch managers, the main reason for the lack of establishment of e-banking facilities is their beauracratic procedure in decision making and lack of fund allocation through the budget to incorporate more and more Information Technology (IT) in their operations.

In this study, the usage of e-banking in different banks (which is the independent variable) is measured with some other dependent variables such as different age groups, different types of employment, different types of account holders, frequency of visiting the bank, different reasons for selecting the preferred bank, etc. These factors have been analyzed from 3.3 to 3.7.

3.3. USAGE OF E-BANKING AMONG DIFFERENT AGE GROUPS

This distribution is given in Table 3. Out of the entire sample of 150, 40 customers (82 percent) are using e-banking in the age category of 26-40. In addition, when considered the customers in the age groups of 18-25, 60 percent of the customers are using e-banking.

Table 3: Usage of e-banking in different age groups

Age	# users		# non users		Total
		%		%	
18-25	12	60%	8	40%	20
26-40	40	82%	9	18%	49
41-55	26	46%	30	54%	56
56 and above	6	24%	19	76%	25
Total	84		66		150

Among the age groups of 41-55, 56 and above, most of the customers are non users. Percentages would be respectively, 54 percent and 76percent.

The disparity of usage of e-banking among different age groups can be analysed using χ^2 . The calculated χ^2 value of 21.1 lies above the table value of 11.3 at 1 percent level of confidence, rejecting the null hypothesis of rate of usage of e-banking is independent from the different age groups of customers. Therefore, the age of the customer is directly affecting the rate of usage of e-banking. Since, younger generation is more familiar with internet based work, so they tend to use e-banking more than the others.

3.4. USAGE OF E-BANKING AMONG DIFFERENT TYPES OF EMPLOYMENT

According to the Table 4, Out of total 150 customers, 84 are customers are employed in private firms, 39 are self employed and only 27 are employed in government sector.

Table 4: Use of e-banking in different employment types

Emp:type	# users	# non users		Total
Govt	6	22%	21	27
Pvt	62	74%	22	84
Self Employed	16	41%	23	39
Total	84		66	150

With the calculated χ^2 value of 11.58 and the table value of 5.99 at 5 percent level of confidence, the null hypothesis that rate of usage of e-banking is independent from the type of the employment, will be rejected with 95 percent assurance. So we can identify a relationship between the customers' employment type and their usage of e-banking.

According to the analysis, customers who have employed in private organizations have used e-banking compared to government employees and self employees. Private sector is considered as more effective, efficient, productive, transparent and user-friendly with IT incorporations. Therefore it facilitates rapid expansion of usage of e-banking among private sector employed customers. The IT education and training in the private sector allow more opportunities for skill development in IT. This also would be another reason to the increased level of computer literacy among customers in private organizations.

3.5. USAGE OF E-BANKING AMONG DIFFERENT TYPES OF ACCOUNT HOLDERS

According to the following Table 5, most of the e-banking users are Current account holders (75 percent) and most of the saving account holders are non users (65 percent). 83 customers are holding both the types of accounts out of which 67 percent are users and 33percent are non users.

Table 5: Use of e-banking among different types of account holders

A/C type	# users	# non users		Total
Current Account	9	75%	3	12
Savings Account	19	35%	36	55
Both	56	67%	27	83
Total	84		66	150

The χ^2 test carried out to test the hypothesis that the rate of usage of e-banking is independent of the type of the account hold by customers, is resulted with rejecting the hypothesis at 5 percent level of significance. (the calculated χ^2 value is being 7.24 against the five percent value of 5.99).

As according to the analysis, the relationship between the type of the account and the usage of e-banking, customers who maintain savings accounts are the fewer users. Complexity of transactions in those accounts is low. But current account holders have to perform many number of transactions in day to day business. There, the complexity is high. As a method of time saving and convenience, they may tend to use e-banking more.

3.6. CUSTOMERS' FREQUENCY OF VISITING THE BANK AND THEIR RATE OF USAGE AND NON USAGE OF E-BANKING

Since e-banking is in existence, the tendency of customers getting visited their banking counters to process their day today banking transactions is less.

Table 6: No. of visits to the bank and usage of e-

Frequency of visiting	No. of users	No. of non users	Total
Once a week	9 13%	27 86%	36
Twice a week	6 20%	24 80%	30
Once a month	69 61%	15 39%	84
Total	84	66	150

banking

According to the sample data, none of customer is visiting the bank Everyday. From the total number of users, 61 percent are visiting the bank Once a month, while 80 percent of non users' frequency of visiting the bank is Twice a week.

To test the significance of the relationship between the rate of usage of e-banking and frequency of visiting the bank, the null hypothesis that the use of e-banking is independent from the frequency of visiting the bank is rejected with the χ^2 value of 45.11 with the table value of 9.21 at 1 percent level of significance. Which concluded that the rate of usage of e-banking would differ according with the frequency of visiting the bank.

Most of the e-banking customers in the sample are 'Once a month' visitors to the bank. If customers use more and more online banking,

the purpose of visiting the bank will be lower. Then, they tend to carry out each and every transaction through online.

3.7. REASONS TO USE E-BANKING

Customers may use e-banking for different reasons. These reasons highlighted by the customers for their use of e-banking is given in Table 7. Only the customers attached to the private banks were considered as only a small percentage of customers attached to the two state banks were enjoying this facility.

According to Table 7, highest preference for e-banking is the conveniences to its customers. Another 34 percent of the customers find it as saving of their valuable time while 20 percent seek it as a cheaper way to access their accounts. However, Table 7 shows that not all the banks have the same pattern of preference.

Table 7: Reasons for using e-banking

Bank	Sampath	Commercial	HNB	Seylan	Total	Percentage
Convenience	14	10	6	5	35	46
Cheap	6	2	7	1	16	20
Save Time	9	9	4	4	26	34
Total	29	21	17	10	77	

To test the significance of this difference the χ^2 test is carried out using the null hypothesis that all the banks customers have the same preference pattern. However, the calculated χ^2 value of 7.58 enabled us to conclude that reasons for customers to use e-banking will not differ among different banking customers with a 5 percent level of significance. But according to the Table 7, Hatton National Bank customers exhibit a different pattern from others. Their highest preference for its cheapness followed by the convenience and time saving.

3.8. USAGE OF E-BANKING FACILITIES

Considering the usage of e-banking, only the customers attached to private banks were considered because, very few number of customers from the two state banks are using Easy banking centers as the only e-banking facility.

E-banking provides number of services. It offers financial services via internet and also value added services to the customers where they do not enjoy normally at the banking counters.

Table 8: Usage of different e-banking facilities

Ebanking facility	Samp	Com	HNB	Seylan	Total
View a/c balances	24	15	13	7	59
Access other information	18	13	9	3	43
Transfer Funds	7	10	4	4	25
Future Transfers	2	4	3	3	12
Payment of utility bills	17	11	10	6	44
Access loan balances	11	6	5	-	22
Easy banking centers	29	20	16	10	75
Total	108	79	60	33	280

According to the Table 8, the most used facility by customers is the Easy Banking Centers. i.e. 75 customers from total of 84 customers who are using e-banking, has used this facility. This facility includes ATMs, Telebanking /Phone banking, SMS banking etc. Further we can identify all the e-banking users in Sampath (29) and Seylan (10) are using this Easy banking centers facility.

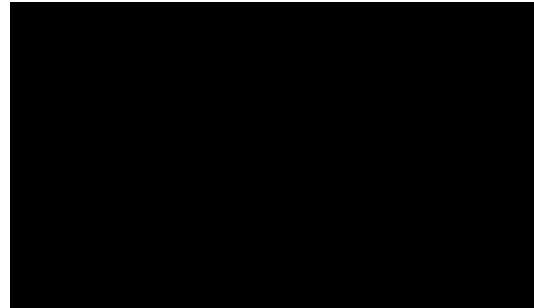
Next, the most used e-banking facility is viewing account balances. Therefore out of the total users, 59 are using this facility. Considerable amount of customers are using e-banking to pay their utility bills online.

Relatively more similar no. of customers have used e-banking for Access other information (such as interest rates, exchange rates, bank details etc.) and Payment of utility bills. 43 and 44 respectively.

Compared to the other facilities, relatively less number of customers are using e-banking to transfer funds between accounts, to access loan balances and transfer funds scheduling for future dates.

Among the private banks, Sampath banks' e-banking users represent a significant portion in usage of all e-banking facilities compared to other banks. It is 39 percent (108/280). Then the Commercial bank represents 28 percent. Subsequently, 21 percent by HNB and 12 percent by Seylan Bank. Only 0.01 percent of state bank customers are using the e-banking facility, only the ATM. These facts can be shown in the following Figure 1.

Figure 1: Percentage of using e-banking facilities in different banks



E-banking facilities available in private banks are more similar. However, it is up to the banks to choose the level of e-banking services to be provided to various customer segments based on customer needs and the bank's risk assessment considerations. In banks point of view, they reach this decision through a mutually accepted e-banking strategy that considers factors such as customer demand, competition, expertise, implementation expense, maintenance costs, and capital support. Depending on these factors, some banks may choose not to provide e-banking services or to limit e-banking services.

3.9. CUSTOMERS' LEVEL OF SATISFACTION OF E-BANKING

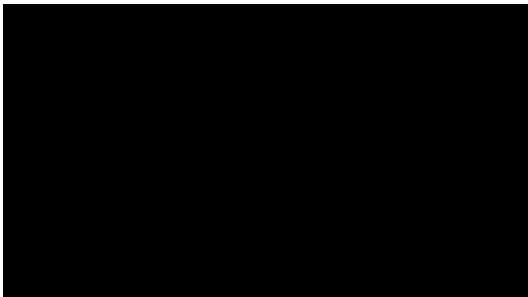
The purpose of every product is to make someone happy. So, what makes a customer happy in using e-banking? Not all the customers who have used e-banking have 'very well'

satisfied. But the analysis has shown that customers who completed their transactions online like to be ‘very well’ and ‘well satisfied’.

So basically, the better functionality of the website leads to better satisfaction of the customers. Since in this study, only the private banks have been considered because, all the infrastructure facilities related in providing e-banking facilities to their customers are being considered as at the similar level.

Satisfaction of e-banking users has show in the following Figure 2, pie-chart.

Figure 2: Customers’ level of satisfaction on e-banking



According to the Pie-chart, 64 percent of customers who are using e-banking are ‘well satisfied’, while 23 percent are ‘very well satisfied’. 11percent of customers are having a moderate satisfaction and only 2 percent of customers have a ‘poor satisfaction.

Further, customer satisfaction with e-banking may vary due to some other reasons such as, age group of customers.

3.9.1. SATISFACTION IN DIFFERENT AGE GROUPS

If the significance of the relationship between the two variables (different level of satisfaction of e-banking users and the different age groups) is statistically tested using Chi-Squared test, then the null hypothesis that the level of the satisfaction of e-banking users is independent from the different age groups they attached, is rejected with a chi value of 16.98 at 5 percent level of significance. It reveals, there is a difference in the level of satisfaction of usage of e-banking in different age groups of customers.

Table 9: Satisfaction in different age groups.

Age range	Satisfaction in usage of e-banking				Total
	very well	well	Normal	Poor	
18-25	8	7	1	1	17
26-40	15	27	3	0	45
41-55	3	8	5	0	16
56 and above	0	5	1	0	6
Total	26	47	10	1	84

According to Table 9, most of the ‘Well’ satisfied customers are in the age group of 26-40. Most are of the ‘Very well’ satisfied customers are also in the age group of 26-40. Further this research has shown that 8 customers between the ages of 18-25 are ‘Very well’ satisfied with e-banking. None of the customers have showed a ‘very poor’ satisfaction.

3.10. REASONS FOR NOT USING E - BANKING

On the other hand, there are considerable number of customers who are still not using e-banking facilities. The reasons specified by them are given in Table 10. Number of private bank customers who are not using e-banking are relatively low compared to the two state bank customers. Therefore they are grouped together in Table 10 in presenting reasons for not using e-banking.

According to the Table 10, 44 percent of the customers are not using e-banking as customers do not have computer facilities. This percentage is much higher for the Bank of Ceylon (55 percent). Among non users, 41 percent is due to the complications of the systems. Out of that most of the customers are attached to private banks. Very few customers are not using e-banking because of the difficulties in getting

passwords, long time gap to get access and due to the security problems in the system.

Table 10: Reasons for not using e-banking

Reasons for not using	BOC	Peoples	Pvt banks	Total	Percentage
No computer facilities	11	6	9	26	44%
Very complicated	8	6	10	24	41%
Difficulties in password	0	0	1	1	02%
Time to get access	1	0	2	3	05%
Due to security	0	2	3	5	08%
Total users	20	14	25	59	100%

In customers' point of view, lack of adequate infrastructure and the problems associated with connectivity and access are considered as major constraints for the development of e-banking in Sri Lanka. According to the analysis, customers have stated that unavailability of the computer facility as the main reason to not to use e-banking.

High capacity and efficient telecommunication service at a reasonable price is a key to promote IT usage among customers. One of the suggestions would be that, highest priority should be given to enhance the capacity and speed of telecommunication lines.

3.11. E-BANKING USERS' DOUBTS ABOUT SECURITY AND ACCURACY OF THE SYSTEM

Security problem is one of the critical issues considered by the e-banking users. E-banking users' doubts about the security and accuracy of the system would also be differed in different banks.

According to the Table 11, from the total no. of users and 27 of customers have doubts about the

security and accuracy of the system. 57 customers were having no doubts. In Sampath, HNB and Commercial banks, similar no. of customers are having doubts about the system and accuracy of the system.

Table 11: Doubts on security and accuracy of the system

Name of bank	Doubts on system		Total
	Yes	No	
State Banks	1	2	3
Sampath	8	21	29
Commercial	7	14	21
HNB	8	9	17
Seylan	2	8	10
Other	1	3	4
Total	27	57	84

With the use of Chi-Squared test, the null hypothesis that no disparity in doubts of the e-banking users' on security and accuracy issues in different banks is accepted with the calculated Chi value of 7.52 at 5 percent level. Therefore, this data reveals that customers' doubts about the security/accuracy of the system will not differ in different banks.

Since, security concerns is one of the important factor discouraging many Internet users from e-banking, as a remedy, banks need to conduct adequate assessment of the vulnerability of operating systems to hackers and denial-of-service attacks (deliberate overloading of websites), back-up systems, firewalls and emergency procedures. More work needs to be done on developing common authentication standards and legal recognition for those security issues.

One of the important variables to measure inline with the users' doubts on the system security and accuracy is the cancellation of e-banking facilities by its users. Table 12 shows these facts.

Table 12: Cancellation of e-banking facilities due to doubts about the security

Cancellation of e-banking facilities	Doubts about security and accuracy of the system		Total
	YES	NO	
YES	7	20	27
NO	0	0	0
Total	7	20	27

Out of the 27 customers that do have doubts regarding the security and accuracy, only 7 customers had cancelled their e-banking facilities due to those security and accuracy problems. Though customers have doubts about the security and accuracy of the system, slightly higher proportion of customers canceling their online services due to security problems. Whether the customer bank on line or prefer the old traditional way, receives a statement every month that details transactions and account status. Therefore the customer should take time every month to review the statement carefully. With this matter, it is also necessary to stress the importance of framing cyber legislation in Sri Lanka.

3.12. PROBLEMS EXPERIENCED WHEN DEALING WITH E-BANKING ARE DIFFERENT IN DIFFERENT BANKS' E- USERS

According to the Table 13, most number of users are faced with the problem of Confusions and delays in site changes and some what similar number of customers are faced with the problems of Difficulties in connections, Security problems.

Notably, 25 customers have specifically stated 'Problems in ATMs' as other problems. And some others have stated, 'confused instructions' which has been considered under Confusions and delays due to site changes.

Table 13: Problems experienced by customers when using e-banking

Problems	Samp	Com	H NB	Se y	Tota l
Confusions & delays due to site changes(i)	18	7	8	5	38
Difficulties in connection(ii)	6	11	9	2	28
Security problems(iii)	7	6	7	1	21
Other -ATM problems(iv)	5	10	5	5	25

The null hypothesis that there is no disparity in problems faced by the e-banking users at different banks, is accepted with 1 percent level of significance, resulting a conclusion that all the e-banking users are experiencing similar kinds of problems in dealing with e-banking transactions. (The calculated χ^2 value of 11.19 against the table value of 13.3)

In Table 14, problems shown as (i) to (iv) would be as according to the Table 13 and it shows the relationship between the different age groups of customers and their problems experienced in using e-banking facilities.

Table 14: Problems experienced among different age groups

Age range	(i)	(ii)	(iii)	(iv)	Total
18-25	7	1	3	3	14
26-40	19	13	8	12	52
41-55	11	11	8	9	39
56 and above	1	3	2	1	7
Total	38	28	21	25	112

According to Table 14, most of the customers who are experiencing problems are in the age category of 26-40. And then 39 customers in the age group of 41-55, and only 7 customers in the age group of 56 and above, having problems when using e-banking.

The significance of the relationship of the two variables(different problems experienced by e-banking users and different age groups) is measured using χ^2 test and the null hypothesis that different problems experienced by e-banking users is independent from the different age groups they attached, is rejected at five percent level of confidence. (Calculated χ^2 value is being 17.5 against the 5 percent value of 16.9). Hence, this study identifies a difference in the problems faced by customers in different age groups. As stated in the 4.3, most of the users are also in this particular age group which concludes that, more the no. of usage, more the problems experienced by users.

4. FINDINGS AND CONCLUSION

In Sri Lanka, banks as the e-banking service providers and customers as the beneficiaries, are still not making the real use of e-banking adequately. As a developing country it may be due to various problems and difficulties. Lack of infrastructure facilities and lack of technological developments are some of them.

It is necessary to have sophisticated technology to provide the services at a level of efficiency and speed that is required by the customer. However, it is very complicated and expensive task to acquire the required infrastructure facilities for a developing country.

Other problem is the unawareness of people about, 'what is e-banking' and what kind of services or benefits it derives to them. It means, e-banking has still not move towards people and the popularity of e-banking among people are not at a satisfactory level.

In the data analysis, there was a significant difference in the usage of e-banking in different banks. Specially between the State banks and Private banks.

A fundamental restructuring of both State banks' and Private banks' business models and operations (such as clearing and settlement procedures) and significant retraining may be necessary to reap the full benefits. Some banks have invested too much, too quickly on new technology without a clear business plan. In

some cases, banks may not be achieving potential cost savings because they are not providing strong price incentives for customers to switch to e-banking. They seem to be promoting it more as offering convenience, is not proving enough to overcome customer inertia.

In banks' point of view, adding e-banking services requires high initial set-up costs (both technological and marketing) with the savings following later. Once marketing and set-up costs have been incurred, transactions costs (excluding the cost of customer support) appear much lower for e-banking, especially in developing countries. A managerial challenge for "clicks-and-mortar" banks (combination of traditional way of doing banking and online banking) is to incorporate IT, creative staff, and visionary managers within more traditional banking hierarchies.

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