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COMPARISION OF E-BANKING AND ITS SECURITY AWARENESS AMONG CUSTOMERS OF PUBLIC AND PRIVATE SECTOR BANKS

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Abstract
In today's fast-moving world banking activities has become a part and parcel of everyday life. Rapid development in technology has changed the identity of banks. E-banking is one such application of new technology. E-banking allows a customer of a bank to conduct financial transaction on a secure website operated by the bank itself. This paper is an attempt to study the awareness among public banks and private sector customers on e-banking and its security. The various problems faced by both the customers in using the technology are also studied. For this study 60 respondents were chosen as sample using convenience sampling method. Both primary and secondary data were used. The primary data was collected using a structured questionnaire. The study shows that the level of usage of e-banking services is not satisfactory due to the various requirements and security issues among both customers. Banks should take measures to ensure security measures for transactions.

Key words: *e-banking, security*

Introduction

Banking institutions are indispensable in modern society .they play a vital role in the economic development of country and core of money market. Financial institutions constitute financial infrastructure which influences the economic development of a country. Banking industry in india is regulated as per banking regulation act 1949. This sector has under gone phenomenal reforms during the years that enhanced the economic growth .the reforms began with nationalisation of the 14 banks in 1969. However, the path breaking reform was the entry of private sector banks which was initiated in 1993.moving further indian banking sector introduced the concept of debit and credit cards, electronic transfer of funds, atm, and mobile banking etc.at present, the banking sector is in the growth stage with many new products and service offered .electronic banking was an innovation in the field of banking. It is offered in many ways like internet banking, atm, debit card, credit card, telebanking mobile banking etc.

Conceptual framework

Banking –definition

"banking is the accepting for the purpose of lending or investments of deposits of money from the public repayable on demand or otherwise, and withdrawal by cheque ,draft, and order or otherwise"- banking regulation act 1949

Meaning of e-banking: E-banking or internet banking or online banking allows customer of a financial institution to conduct financial transaction on a secure website operated by the institution, which can be a retail or virtual bank, credit union or building society

Forms of e - banking

1. Electronic banking using a telephone connection
2. Wap (wireless application protocol)
3. Electronic banking using personal computers
4. Payment instruments and self-service zones

E-banking security

Basically there are two different security methods in use for e-banking:

1. pin/tan system
2. Pin/tan system where the pin represents a password, used for login and tans representing one-time password to authentic transactions.
3. encryption
4. Signature based method where all transactions are signed and encrypted digitally. The keys for the signature generation and encryption can be stored on smartcards or any memory medium, depending on the generation implement.
5. Banks have built firewalls to protect the servers and bank databases from outside intruders.

statement of the problem

The level of usage, awareness about security and satisfaction level on e-banking services may vary depends on the personnel characteristics of the

customers. The study was intended to find out the usage level of e banking and security awareness of e banking among customers of scheduled private sector and public sector banks. The research problem can be investigated from the following point of view:

1. To what extend customers are using e-banking services?
2. To what extend customers are aware about e-banking security?
3. What are the problems faced by customers while using e- banking?
4. To what extend customers are satisfied in e-banking services?

Objectives

1. To identify the usage of e-banking services among customers of public sector banks and scheduled private sector banks
2. To compare the awareness level about e-banking security among customers of public sector banks and scheduled private sector banks.
3. To find problems faced by customers of public sector banks and scheduled private sector banks in using e-banking services.
4. To check the satisfaction level of customers of public sector banks and scheduled private sector banks in using e- banking services
5. To make suggestions and recommendations on the basis of findings of the study.

Hypotheses

1. Ho: there is no significant difference between scheduled private sector banks and public sector banks customers with regards to level of awareness regarding e- banking security.
2. Ho: there is no significant difference between public sector banks and scheduled private sector bank customers with regards to problems in e banking.
3. Ho: there is no significant difference between mean ranks towards problems faced by customers of public sector banks in using e- banking services.
4. Ho: there is no significant difference between mean ranks towards problems faced by customers of schedule private sector banks in using e- banking services.
5. Ho: there is no significant difference between public and scheduled private sector bank customers with regards to level of satisfaction regarding e banking.

methodology

Data collection: both primary and data and secondary data was collected for the study.

Primary data related to this study was collected by using a structured questionnaire and secondary data collected from books, journals, internet etc.

Sample design:

A) sampling area: kottayam district of kerala was selected as the area for the study.

B) sample size: 60 respondents were selected for the study which consist of 30 respondents from public sector banks and 30 from scheduled private sector banks.

C) sample method: convenience sampling method was used for selecting the samples.

Tools for analysis: tables and diagrams are used for data analysis and interpretation.

Hypothesis testing: hypothesis was tested by using independent sample t- test and friedman test.

Scope of study

This study gives a special emphasis on e-banking services, which is a modern trend in banking. An extensive analysis of customer usage and awareness of the existing mechanisms are attempted. This study covers only kottayam district. A detailed, but time bound study is conducted to ascertain the customer's attitude and approach towards e - banking services.

Review of literature

Durkin and howcroft (2003) evaluated that the banker-customer relationship was improved through internet banking. The authors found that new technology has made the bank very competitive and profitable. Internet has played a key role in it. Perception of bankers and customers regarding the use of internet banking was examined. They pointed out that as customer usage of remote bank delivery channels increases, relationship management will become more important.

singh and malhotra (2007) made an attempt to discover factors affecting a bank's decision to adopt internet banking in india. The results of the study showed that large banks having high fixed expenses, high income and expenditure tend to use more technology. Banks used internet banking as complementary channel to existing branch network. The private and foreign banks were quick adopted to internet banking than public sector banks. The adoption of this innovation by the banks has increased the profitability and productivity.

Ramani (2007) studied the impact of e-payment system on indian banking sector. E payment was required for handling large volume of business payment and remittances .the researcher highlighted various steps taken by rbi for e-payment. It includes rtgs, electronic clearing services debit and credit card electronic fund transfer and neft. The researcher studied that

these methods had increased the use of core banking solutions, data warehousing and data mining.

Suresh (2008) highlighted that recently developed e-banking technology had created unpredicted opportunities for the banks to organize their financial products, profits, service delivery and marketing. The objectives of the study were to evaluate the difference between traditional and e-banking, and identify the core capabilities for the best use of e-banking. The author analysed that e-banking will be an innovation if it preserve both business model and technology knowledge, and disruptive if it destroys both the model and knowledge.

data analysis and interpretation

Personel profile

Table 3.1

	Frequency	Percentage
Gender		
Male	30	50
Female	30	50
Age		
Below 20	1	1.66
20-40	38	63.33
41-60	18	30
Above 60	3	5
Educational qualification		
Undergraduate	9	15
Graduate	39	65
Post graduate	12	20
Occupation		
Business	6	10
Profession	2	3.33
Employment	34	56.66
Others	18	30
Annual income		
Below 250000	19	31.66
250000-500000	33	55
Above 500000	8	13.33

From table 3.1 we can understand that half of the respondents are male and half are female**.** Majority of the respondents belongs to the age group 20-40 and are graduates. Majority of the respondents are employed and earn an annual income between 250000 and 500000.

Table 3.2, table showing usage of e-banking services

	Public sector bank		Schedule private sector bank	
	Frequency	**Pecentage**	**Frequency**	**Percentage**
Period of usage				
Below 5	2	6.66	4	13.33
5 & 10	26	86.66	24	80
10 & 15	2	6.66	2	6.66
Above 15	0	0	0	0
Place of usage				
House	9	30	12	40
Office	6	20	8	26.66
Café	1	3.34	1	3.33
Travel	13	43.33	7	23.33
Others	1	3.33	2	6.66
Channel of usage				
Mobiles	12	40	14	46.66
Atm	10	33.33	8	26.6
Computer	8	26.66	8	26.66
Others	0	0	0	0

Frequency				
Daily	1	3.33	2	6.68
Weekly	17	56.6	12	40
Monthly	7	23.3	8	26.66
Quarterly	5	16.6	8	26.66
Purpose of usage				
Bill payments	16	53.33	17	56.6
Money transfers	2	6.66	1	3.33
Share trading	2	6.66	4	13.3
Online purchases	10	33.33	5	16.66
Others	0	0	2	6.66

Table 3.2 shows that 86.66% of public bank customers and 80% of scheduled private sector bank customers were 5-10 years' experience with e-banking. Majority of public sector bank customers prefer traveling whereas majority of scheduled private sector bank customers were mostly prefer house for using their e-banking services. Majority of both public sector and scheduled private sector employees use mobiles as the platform of usage and they use e banking services weekly. Majority of the customers use e-banking facilities for bill payment.

Testing of hypothesis

Hypothesis- i

Ho: there is no significant difference between scheduled private sector bank and public sector bank customers with regards to level of awareness regarding e- banking security.

Test static used: independent sample t- test.

Table 3.3

Variables	Public sector banks			Scheduled private sector banks			T value	P value
	N	Mean	Sd	N	Mean	Sd		
Change password frequently	30	4.9	0.403	30	4.83	0.461	0.597	0.27
Keep os up to date	30	2.73	1.311	30	4.33	0.606	6.066	0.001
Use different password for all ebanking accounts	30	3.6	1.522	30	4.53	0.507	3.186	0.001
Don't disclose password to anyone	30	4.07	1.048	30	3.17	1.487	2.709	0.049
Use channels with antivirus and firewall for ebanking	30	3.7	1.351	30	3.97	0.75	0.945	0.065
Verify accounts regularly	30	4.3	0.466	30	3.67	0.802	3.739	0.001
Always logout when exit the portal	30	4.73	0.583	30	4.27	0.828	2.524	0.082
Check url of bank site	30	4.73	0.583	30	4.43	0.86	1.405	0.042

The null hypothesis is rejected as most of the p-values fall within the critical region.

Hypothesis- ii

Ho: there is no significant difference between public sector bank and scheduled private sector bank customers with regards to problems in e banking.

Test static used: independent sample t- test

Table 3.4

Bank	N	Mean	S.d	T -value	P -value
Public sector banks	30	25	5.301		
Schedule private banks	30	25.4	6.968	0.397	0.273

The hypothesis is rejected at 5% level of significance.

Hypothesis- iii

Ho: there is no significant difference between mean ranks towards problems faced by customers of public sector banks in using e-banking services

Test static used: friedman test

Table 3.5

Problems	**Mean rank**	**Chi-square**	**P-value**
Transaction errors	5.13		

Security issues	5.8	64.35	0.001
Necessity of internet	3.43		
Lack of knowledge	3.73		
Unable to get otp	5.63		
High charges	4.27		
Lack of customer care services	5.07		
Forgetting password	2.93		

The hypothesis is rejected at 1% level of significance.

Hypothesis- iv

Ho: there is no significant difference between mean ranks towards problems faced by customers of scheduled private sector banks in using e- banking services

Test static used: friedman test

Table 3.6

Problems	Mean rank	Chi-square	P-value
Transaction errors	4.8	44.335	0.001
Security issues	5.87		
Necessity of internet	3.53		
Lack of knowledge	2.35		
Unable to get otp	5.68		
High charges	4.43		
Lack of customer care services	5.47		
Forgetting password	3.87		

the hypothesis is rejected at 1% level of significance.

Hypothesis- v

Ho: there is no significant difference between public sector bank and scheduled private sector bank customers with regards to level of satisfaction regarding e-banking.

Test static used: independent sample t- test

Table 3.7

Variables	Private sector banks			Schedule private sector banks			T-value	P-value
	N	Mean	Sd	N	Mean	Sd		
Privacy/security	30	3.33	1.155	30	3.7	1.07	1.506	0.001
Responsiveness	30	4.1	1.067	30	4.22	0.925	0.812	0.043
Ease of use	30	4.27	0.944	30	4.47	0.819	0.389	0.033
Updates/modifications	30	3.87	1.13	30	3.9	0.923	1.34	0.001
Compensations	30	4.43	0.669	30	4.57	0.626	2.34	0.022
Convenience	30	4	1.017	30	4.2	0.887	0.876	0.073
Problem solving	30	3.33	1.157	30	3.7	0.952	0.001	0.751
Fulfilling of requirements	30	3.17	1.085	30	3.8	0.997	0.399	0.696

The hypothesis is rejected at 1% level of significance.

Findings and suggestions

Major findings:

1. Study reveals that majority of the public sector bank customers and scheduled private sector bank customers are most frequently use their savings account. Minority of the public sector bank customers were most frequently use recurring deposit and minority of the scheduled private sector bank customers are most frequently use their recurring current account.
2. Study reveals that most of the (86.6%) public sector bank customers and 80% of scheduled private sector bank customers have 5-10 years' experience with e-banking.
3. Analysis of data reveals that most of the (43.3%) public sector bank customers prefer traveling time for using e-banking but most of the (40%) scheduled private sector bank customers prefer house for using e-banking.
4. Study reveals that most of the (40%) public sector bank customers and 46.66% of the scheduled private sector bank customers are used mobile phones as the channel for using e-banking.
5. Study reveals that majority of the (56.6%) public sector bank customers and 40% of the scheduled private sector bank customers use e-banking on a weekly basis.
6. Study reveals that majority of the (53.33%) public sector bank customers and 56.66% of the scheduled private sector bank customers used e-banking for their bill payments and minority of the (3.35%) scheduled private sector bank

customers use e-banking for their loan procedures.

7. Analysis of data reveals that most of the (36.6%) public sector bank customers and 40% of scheduled private sector bank customers use an amount between 5,000-10,000 for their ebanking transactions.

Results of hypothesis testing:

1. P value of the variables of awareness regarding e-banking security 'keep o.s up to date', ' use different password for all e-banking account', ' verify accounts regularly' is lessthan 0.01 and the p value of variables ' don't disclose password to any one' and ' check url of bank website' is less than 0.05. Since majority of the variables p value is in the critical region null hypothesis is rejected i.e. There is significant difference between public sector bank and scheduled private sector bank customers with regards to level of awareness regarding e – banking security.

P value of the variables of awareness regarding e-banking security 'change

Password frequently', 'use channels with anti-virus and firewall for e-banking' and 'always log out when exit the portal' is greater than 0.05 ie. There is no significant difference public and scheduled private sector banks with regards to level of awareness on above mentioned variables of e-banking security.

2. There is no significant difference between public sector bank customers and scheduled private sector bank customers with regards to problems in e-banking.

3. There is significant difference between mean ranks towards problems faced by the customers of scheduled private sector banks in using e-banking services.

4. There is significant difference between mean ranks towards problems faced by the customers of scheduled private sector banks in using e-banking services.

5. P value of the variables of satisfaction regarding e banking usage 'privacy/security' and 'updates and modifications' is less than 0.01 and the p value of variables 'responsiveness', 'ease of use 'and 'compensations' is less than 0.05. Since majority of the variables p value is in the critical region it is failed to accept null hypothesis i.e. There is significant difference between public and scheduled private sector bank customers with regards to level of satisfaction regarding e – banking. P value of the variables of satisfaction regarding e banking usage 'convenience', 'problem solving' and 'fulfilment of requirements' is greater than 0.05 ie. There is no significant difference between public sector bank and scheduled private sector bank customers with regards to level of satisfaction on above mentioned variables of e-banking.

Suggestions

1. Study reveals that majority (63.33%) of the respondents were belongs to the age group of 20-40. So, both public sector bank and scheduled private sector bank should take measures for encouraging all age category for using e-banking.

2. Analysis of data reveals that majority (65%) of respondents are graduate. So, for promoting the usage of e-banking among all customers banks must create their ebanking services in a customer friendly way.

3. Study reveals that majority of the respondents are unaware about keeping o.s up to date. So, both the banks should make them aware about the need of keeping o.s up to date.

4. Study reveals that most of the respondents are unaware about the need of using different password for all e-banking accounts. So both the banks must make them aware about the need of using different password for all e-banking account.

5. Study reveals that security issues are the major problem faced by both public sector bank and scheduled private sector bank customers. So, both the banks should take more security measures for avoiding the security issues.

6. Analysis of data reveals that both the customers are faced difficulty in receiving otp.so, both the banks should take measures for avoiding this problem.

7. Both the customers are unsatisfied in fulfilling requirements for e-banking. So, both public sector bank and scheduled private sector bank should reduce the number of requirements.

8. Study reveals that both customers are unsatisfied in security measures. So, both public sector bank and scheduled private sector bank should take good security measures for improving customer's satisfaction in security.

Conclusion

From this study we conclude that both customers are equally aware about e-banking security. E-banking security issues are the major problem faced by them and scheduled private sector bank customers are more satisfied in e-banking transactions than public sector bank customers. So we can conclude that banks should provide better e-banking security and services using new technology to popularise its use.

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