

Chapter - 05

Data Presentation and Analysis

5.1 Introduction

This chapter presents the data analysis and it is developed step by step from univariate to multivariate along with hypothesis testing. In general, it includes measures to summarize the collected data such as descriptive statistics, measures of relationship, correlation statistics and regression techniques. The SPSS for Windows (Version 14) (SPSS.com) is used for the statistical calculation of data in this research study.

5.2 Data Presentation – Customer’s Perspective

Data for this study were collected from the e-banking customers attached to the selected banks in Sri Lanka. Questionnaires were originally delivered to 500 bank customers and 300 responses were received which accounts for 60% and used for this analysis. These responses were received within 3 to 5 months. Data collection took place from November 2005 to mid-March of year 2006.

5.2.1 Personal Profiles of E-banking Customers

Data on personal profiles of each respondent was recorded during the survey. The personal profiles of the key respondents are summarized as their age, level of education, occupation and respondents’ monthly income. Table 5.1 and Figure 5.1 show this information.

Table 5.1 Personal profiles

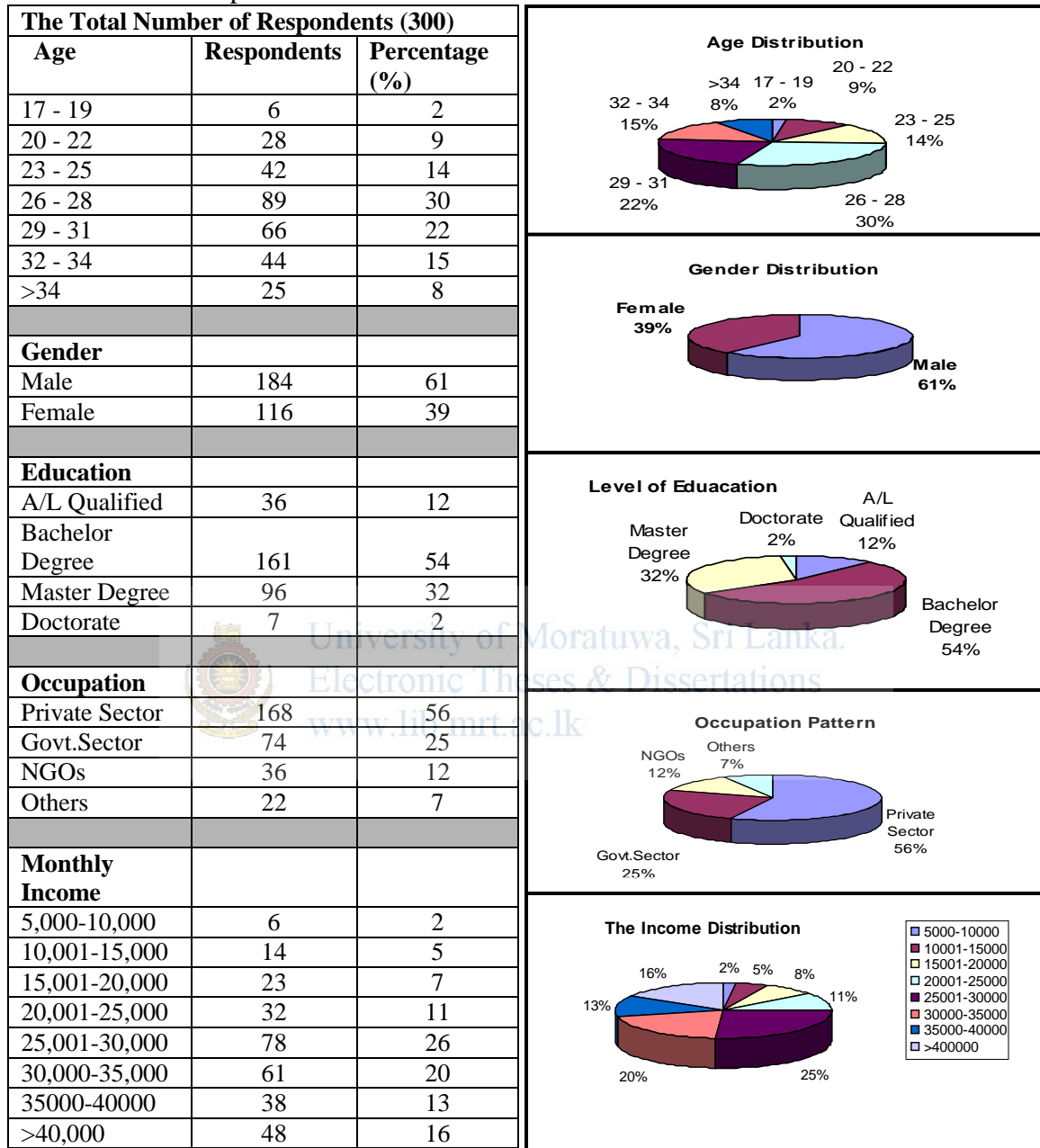


Figure 5.1 Personal profiles

Considering the above sample, there were 184 males and 116 females. In terms of educational background of the respondents, 36 were A/L qualified, 257 were degree holders (both bachelor and master degree holders) and 7 were doctorates.

5.2.2 Client of Banks

Table 5.2 Client of banks

Number of banks	Number of Respondents	Percentage (%)
1	20	7
2	40	13
3	125	42
4	56	19
5	34	11
More than 5	25	8
Total	300	100

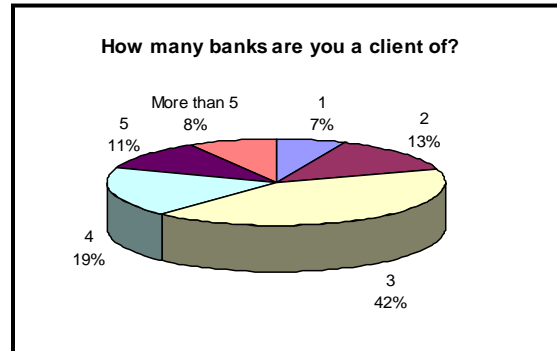


Figure 5.2 Client of banks

5.2.3 Customer Usage of E-banking Services

Table 5.3 Customers usage of e-banking services

Banks	Number of Respondents	Percentage (%)
Bank1	74	25
Bank2	61	20
Bank3	47	16
Bank4	31	10
Bank5	40	13
Bank6	26	9
Bank7	21	7
Total	300	100

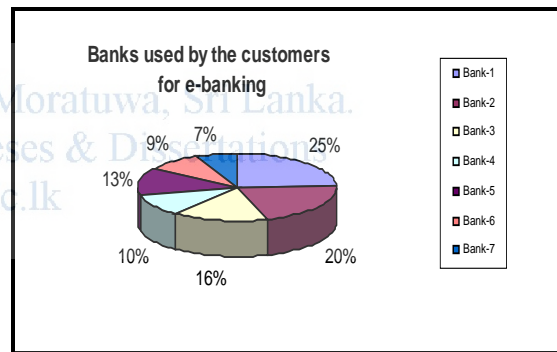


Figure 5.3 Customers usage of e-banking services

5.2.4 Banking Services Used by the Customers Based on Frequency of Usage

Table 5.4 Types of channel

Type of channel	(1 for very rare, 5 for most frequent)					No response	Total
	1	2	3	4	5		
Branch counter	110	34	142	06	8	00	300
ATM	38	77	35	32	118	00	300
Phone banking	36	40	43	76	78	27	300
E-banking with PC/notebook access	77	84	41	46	52	00	300
E-banking with mobile phone access	14	49	23	126	53	35	300

5.2.5 E-banking Products Being Used Currently

To investigate the e-banking customer's usage on what products are currently used by them over the e-banking, 13 products were chosen. Services with higher total frequency would be the most frequently used e-banking services in Sri Lanka. Table 5.5 shows these information in a summarized manner.

Table 5.5 E-banking products being used currently

#	E-banking Products	Total Frequency
01.	Send or receive messages/ obtain information about bank, accounts and its products/ e-mail inquiries/web based correspondents/banking news through mail box	273
02.	Access your accounts/real time balance/transaction history	268
03.	Transfer funds(both locally and globally)	168
04.	Establishes standing orders	159
05.	Online utility bills and other payments	157
06.	Statement and advice(about accounts/payment status)	137
07.	Information-interest rates, exchange rates/currency rates/treasury bills and bonds	120
08.	Open foreign currency deposits	95
09.	Open accounts(savings/current/fixed)	81
10.	Stop cheques/request/payments and cheques book request	74
11.	Credit cards services	73
12.	Request to purchase treasury bill/bonds	57
13.	Job vacancies	38

5.2.6 Tentative Usage of E-banking Products that (Next Six Months)

Table 5.6 Tentative usage of e-banking products (Next six months)

#	E-banking Future Products	Total Frequency
01.	Apply for loan	201
02.	Special offers for online users only	168
03.	Additional services	163
04.	Sales and purchase of shares	57
05.	Real time securities quote	56
06.	Market commentary/analysis reports	50
07.	Apply for insurance	46
08.	Overdraft	43
09.	Apply for mortgages	42
10.	Pledge and custody of shares	39
11.	Foreign currency deposit	34
12.	Apply for credit cards	33
13.	Job vacancies/career opportunities	27
14.	Online calculators	09

To investigate the e-banking customer's expectation on what products are they willing to use in the future over the e-banking, the 14 products were chosen for the selection. Table 5.6 shows, some services with the highest total frequency are as follows: (1) apply for loan; (2) special offers for online users only; (3) additional services; (4) sales and purchase of shares.

5.2.7 The Length of Usage of E-banking Services

Table 5.7 The length of usage of e-banking services

Duration	Number of respondents	Percentage (%)
Less than 01 month	38	13
01 – 06 months	36	12
07 – 12 months	76	25
More than 01 year	150	50
Total	300	100

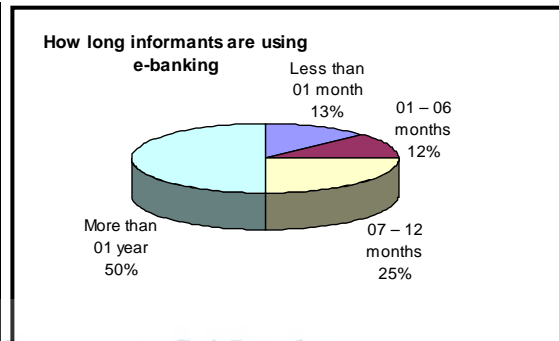


Figure 5.4 The length of usage of e-banking services

5.2.8 The Influences on Adoption of E-banking Services

Table 5.8 Influence to adopt e-banking

Influences	Score
My bank's promotion about e-banking	47
My friends	65
My family/relatives	61
My colleagues/peers	67
Because of credit card usage	144
Other, please specify(agency)	01

5.3 Factors Contributing for Effectiveness of E-banking– Customer’s Perspective

5.3.1 Customer Attitude Towards E-banking (ATE)

Table 5.9 Customer attitude towards e-banking

#	Items	Mean	SD	Frequency Distribution									
				1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
				#	%	#	%	#	%	#	%	#	%
Q01.	Customer's Trust	3.15	1.17	00	00	139	46.3	24	8.0	90	30	47	15.7
Q02.	Benefits	3.95	.89	00	00	34	11.3	26	8.7	160	53.3	80	26.7
Q03.	Loyalty	3.16	.76	00	00	66	22.0	119	39.7	114	38.0	01	0.3
	Trust	3.42	.59										
Q04.	Language	2.67	.48	00	00	101	33.7	197	65.7	02	0.7	00	00
Q05.	Acceptance	4.12	.65	00	00	00	00	49	16.3	166	55.3	85	28.3
Q06.	Easiness	4.49	.71	00	00	00	00	39	13.0	74	24.7	187	62.3
Q07.	Tendency	3.79	.70	00	00	02	0.7	106	35.3	144	48.0	48	16.0
	Customer acceptance	3.76	.34										
Q08.	Promotional Campaign	3.04	.48	00	00	26	8.7	237	79.0	34	11.3	03	1.0
Q09.	Bank's efforts	2.59	.49	00	00	123	41.0	176	58.7	01	0.3	00	00
Q10.	Influence	3.99	.76	00	00	02	0.7	82	27.3	132	44.0	84	28.0
	Promotional activities of e-banking by Banks	3.21	.32										
	Customer attitude towards e-banking (ATE)	3.46	.29										

In order to measure the customer attitude towards e-banking (ATE), three variables have been considered: trust, customer acceptance and promotional activities of e-banking by banks. These three variables are represented by 10 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.9.

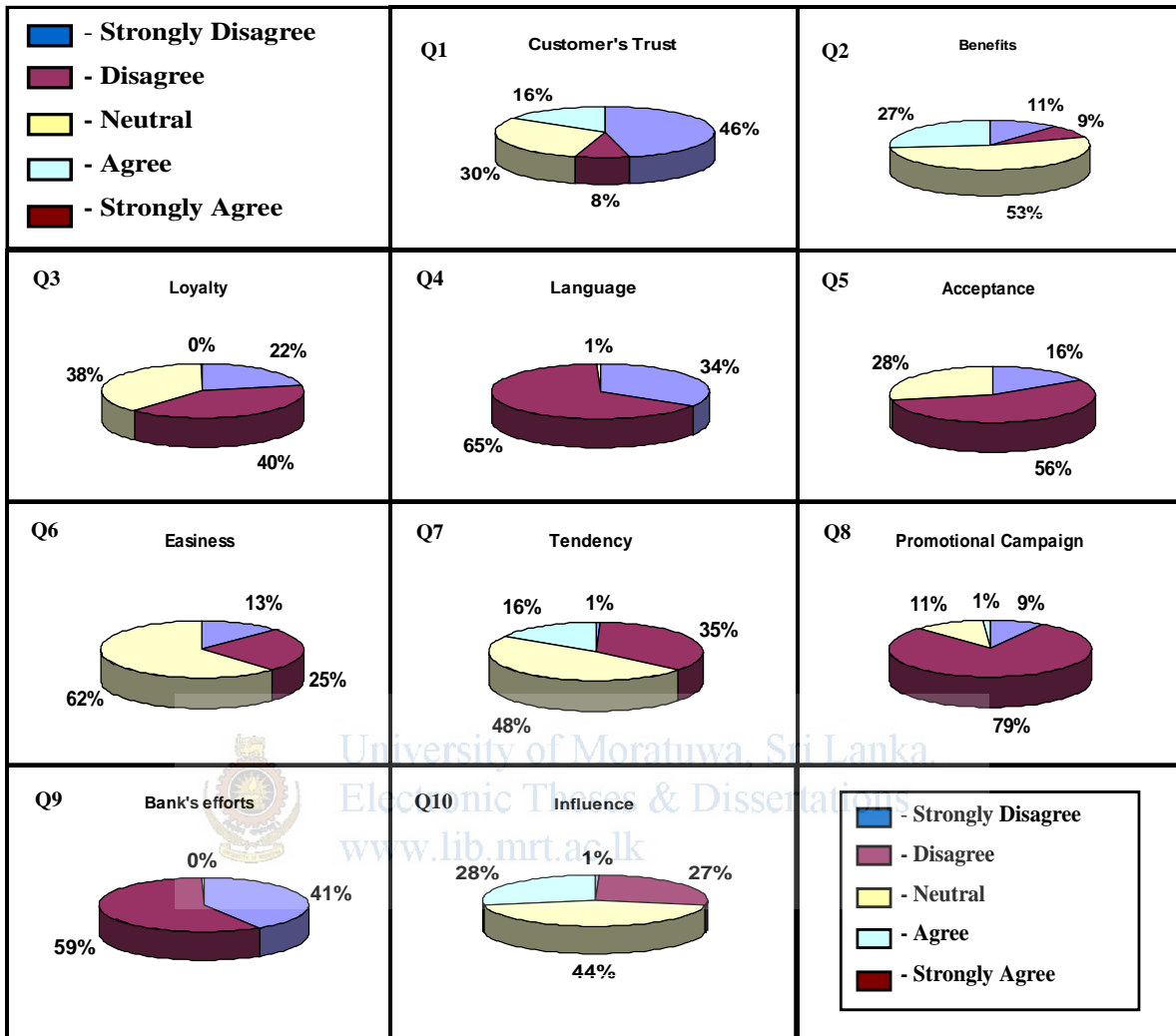


Figure 5.5 Customer attitudes towards e-banking

5.3.2 Scope of E-banking Applications (SEA)

Table 5.10 Scope of e-banking applications

#	Items	Mean	SD	Frequency Distribution									
				1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
				#	%	#	%	#	%	#	%	#	%
Q11.	Comprehensiveness	2.52	.66	27	9.0	90	30.0	181	60.3	02	0.7	00	00
Q12.	Service Range	2.63	.66	00	00	142	47.3	126	42.0	32	10.7	00	00
	Scope of e-banking applications (SEA)	2.58	.56										

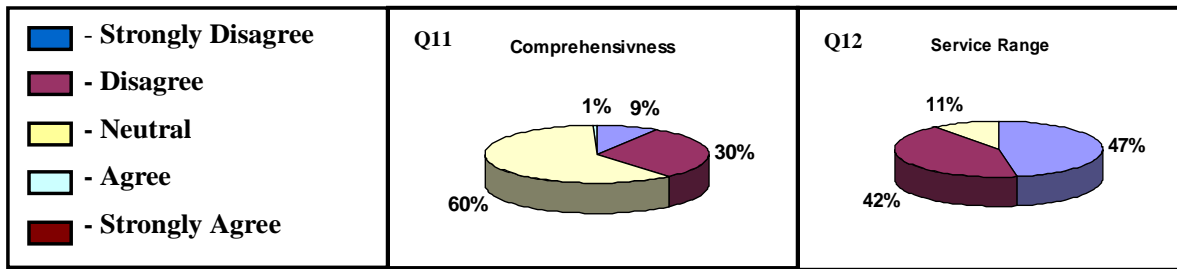


Figure 5.6 Scope of e-banking applications

In order to measure the scope of e-banking applications (SEA), the two variables have been considered. These two variables are represented by 2 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.10.

5.3.3 Level of E-banking Service Quality

Table 5.11 Level of e-banking service quality (ESQ)

#	Items	Mean	SD	Frequency Distribution									
				1		2		3		4		5	
				Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree					
#	%	#	%	#	%	#	%	#	%				
Q13.	Time and cost savings	4.59	.51	00	00	00	00	04	1.3	114	38.0	182	60.7
Q14.	Efficient Management	3.98	.64	00	00	00	00	65	21.7	175	58.3	60	20.0
	Efficiency	4.28	.39										
Q15.	Good quality	4.42	.55	00	00	00	00	09	3.0	156	52.0	135	45.0
Q16.	Reliable banking system	4.69	.49	00	00	00	00	05	1.7	81	27.0	241	71.3
Q17.	Greater control	4.30	.61	00	00	02	0.7	18	6.0	166	55.3	114	38.0
	Reliability	4.47	.35										
Q18.	Easy to conduct	4.73	.52	00	00	00	00	12	4.0	55	18.3	233	77.7
Q19.	Faster way to conduct	3.77	.68	00	00	00	00	112	37.3	143	47.7	45	15.0
Q20.	More user-friendly	4.34	.78	00	00	00	00	58	19.3	80	26.7	162	54.0
	Responsiveness	4.28	.33										
	Level of e-banking service quality (EQS)	4.34	.25										

In order to measure the level of e-banking service quality (ESQ), three variables have been considered. These three variables are represented by 8 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.11.

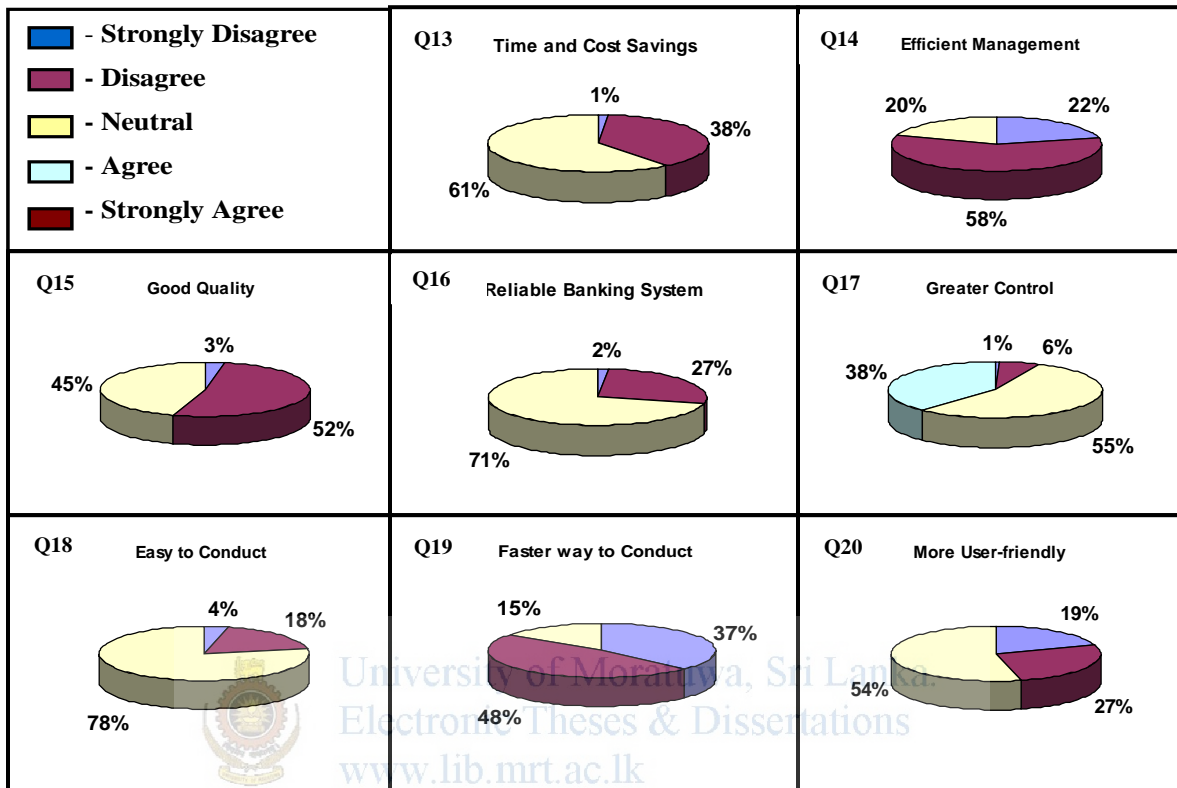


Figure 5.7 Level of e-banking service quality

5.3.4 Security of E-banking

In order to measure the security of e-banking (SEB), three variables have been considered. These three variables are represented by 7 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.12.

Table 5.12 Security of e-banking

#	Items	Mean	SD	Frequency Distribution									
				1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
				#	%	#	%	#	%	#	%	#	%
Q21.	Awareness about privacy	3.48	1.42	30	10.0	60	20	61	20.3	33	11.0	116	38.7
Q22.	Awareness about privacy policy	2.28	.88	60	20	120	40	94	31.3	26	8.7	00	00
Q23.	Tampering	3.48	1.19	00	00	91	30.3	60	20	63	21	86	28.7
	Privacy	3.08	.91										
Q24.	Integrity aspects	3.70	.64	00	00	00	00	121	40.3	148	49.3	31	10.3
	Integrity	3.70	.64										
Q25.	Security related past experience	4.08	.82	00	00	00	00	90	30	94	31.3	116	38.7
Q26.	Confident in security technology	4.20	.60	00	00	00	00	31	10.3	178	59.3	91	30.3
Q27.	Transaction safety	3.68	.64	00	00	00	00	124	41.3	146	48.7	30	10
	Authentication	3.99	.39										
	Security of e-banking (SEB)	3.59	.45										

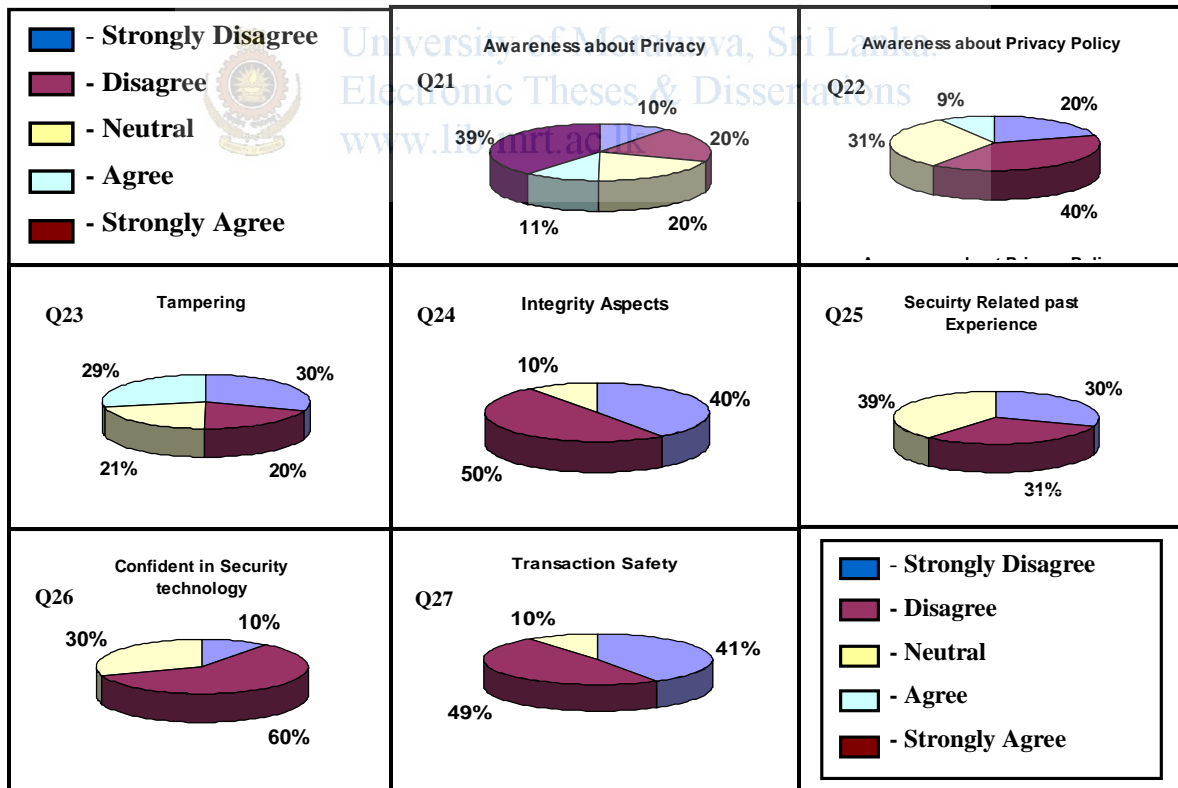


Figure 5.8 Security of e-banking

5.4 Level of Effectiveness of E-banking – Customer’s Perspective

Table 5.13 Level of effectiveness of e-banking – Customer’s perspective

No	Items	Mean	SD	Frequency Distribution									
				1 Very Low		2 Low		3 Moderate		4 High		5 Very High	
				#	%	#	%	#	%	#	%	#	%
Q28	Overall satisfaction	4.03	.72	00	00	00	00	73	24.3	144	48.0	83	27.7
Q29	Overall cost and time savings	4.05	.73	00	00	00	00	73	24.3	139	46.3	88	29.3
Q30	Overall usefulness	4.13	.68	00	00	00	00	53	17.7	153	51.0	94	31.3
Q31	Overall range of services	3.67	.65	00	00	01	0.3	127	42.3	142	47.3	30	10
Q32	Overall security and reliability	3.97	.70	00	00	00	00	78	26.0	152	50.7	70	23.3
	Level of e-banking effectiveness (LEE – CP)	3.97	.55										

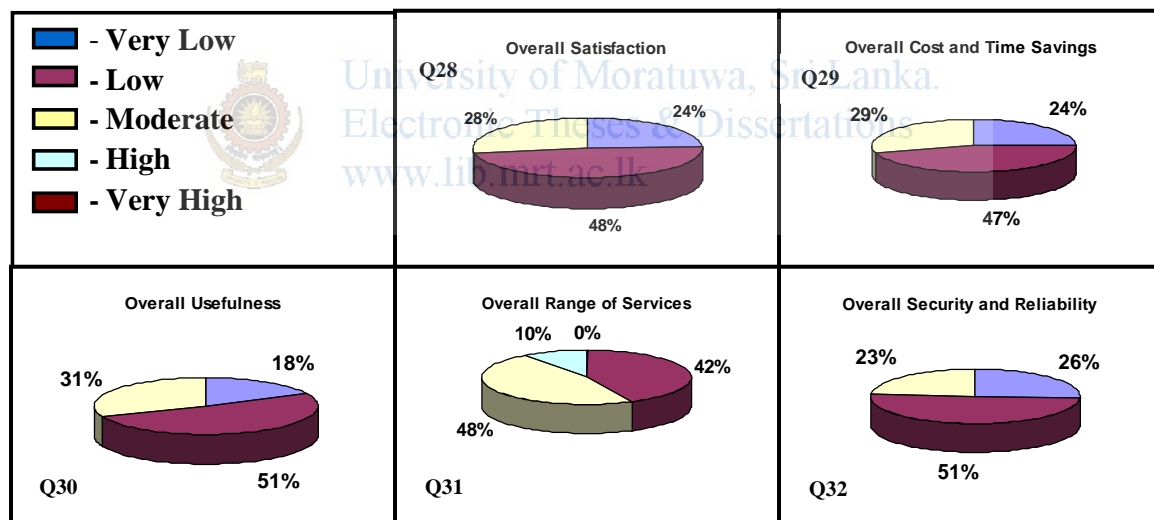


Figure 5.9 Level of effectiveness of e-banking – Customer’s perspective

In order to measure the overall level of effectiveness of e-banking (LEE-CP), five variables have been considered. These five variables are represented by using 5 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.13. At the same time level of agreement of each question (very low, low, moderate, high and very high) also presented by using numbers and percentage.

5.5 Correlation Analysis - Customer's Perspective

Observing the correlation of each of the independent variables (ATE, SEA, ESQ and SEB) with the dependent variable (LEE-CP) can be summarized as follows.

Table 5.14 Correlations - Customer's perspective

		Customer attitude towards e-banking (ATE)	Scope of e-banking applications (SEA)	Level of e-banking service quality (ESQ)	Security of e-banking (SEB)
Level of e-banking effectiveness (LEE-CP)	Correlation Coefficient	.503(**)	.618(**)	.707(**)	.720(**)
	Sig. (1-tailed)	.000	.000	.000	.000
	N	300	300	300	300

** Correlation is significant at the 0.01 level (1-tailed).

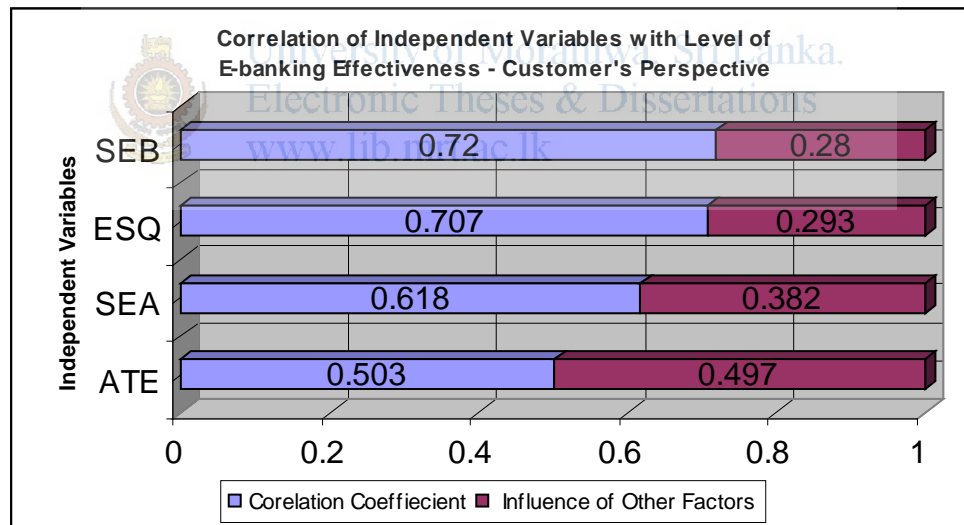


Figure 5.10 Correlation of independent variables with level of e-banking effectiveness – Customer's Perspective

5.6 Multiple Regression Analysis - Customer's Perspective

Stepwise multiple regression analysis was carried out to find the relationship between the independent variables ATE, SEA, ESQ, SEB and the single dependent variable LEE-CP.

The results found are tabulated below:

Table 5.15 Multiple regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	Sig. F Change
1	.698(a)	.488	.486	.39963	.488	283.911	.000
2	.806(b)	.649	.646	.33149	.161	136.114	.000
3	.811(c)	.658	.655	.32763	.009	8.047	.005
4	.815(d)	.665	.660	.32502	.007	5.771	.017

a Predictors: (Constant), Security of e-banking

b Predictors: (Constant), Security of e-banking, E-banking service quality

c Predictors: (Constant), Security of e-banking, E-banking service quality, Scope of e-banking applications

d Predictors: (Constant), Security of e-banking, E-banking service quality, Scope of e-banking applications, Attitude towards e-banking

In considering customers' perspective about the effectiveness of e-banking, there are two analysis involved in this research: factors contributing to the effectiveness of e-banking and the overall level of e-banking effectiveness.

When analysing the factors contributing to the effectiveness of e-banking, in the customer's point of view, four key variables have been used in this research. They are security of e-banking, service quality of e-banking, scope of e-banking applications and attitude towards e-banking. As shown in Table 5.14 among these variables, the correlation between security of e-banking and level effectiveness of e-banking was 0.720. The correlation between service quality and effectiveness of e-banking was 0.707, the correlation between scope of e-banking and effectiveness of e-banking was 0.618 and the correlation between attitude towards e-banking and effectiveness of e-banking was 0.503.

Analysing the four variables individually, as shown in Table 5.15, the security of e-banking alone contributed 48.8% to the level of e-banking effectiveness, security of e-banking and service quality of e-banking jointly contributed 64.9%. The above Table 5.15 also shows service quality of e-banking contributes 16.1% to the effectiveness of e-banking. Security of e-banking, service quality and scope of e-banking jointly have contributed 65.8 %. Finally all the above four variables totally contribute 66.5% to the level of effectiveness of e-banking.

In analyzing the significance of the above mentioned four key variables, which are affecting effectiveness of e-banking was: security of e-banking and service quality of e-banking has significant impact at 99% confidence level on effectiveness of e-banking according to this research. They have taken 0.486 and 0.161 values for R squares changes respectively. The scope of e-banking has a small impact of 0.009 at 99% confidence level. Finally, the impact of attitudes towards e-banking on effectiveness of e-banking was 0.007; this indicated there is only little impact of attitudes towards e-banking on level of e-banking effectiveness.

In the Table 5.15 column number 6 shows the R square changes of these variables. It indicates the extent to which these individual variables have contributed separately to the overall effectiveness of e-banking. Among these variables, security of e-banking has an impact on 48.8%, service quality has an impact on effectiveness of e-banking was 16.1%, scope of e-banking as an impact of 0.9% and attitudes towards e-banking has an impact of 0.7% on effectiveness of e-banking.



5.7 Hypothesis Testing – Customer’s Perspective

In accordance with the hypothesis testing procedures given under the section 4.6 in the chapter four, the following hypotheses are tested.

5.7.1 Test of Hypothesis 1

Hypothesis 1 states as follows:

“The greater the perceived customer attitude towards e-banking, the higher the level of e-banking effectiveness”.

Correlation analysis explained a modest positive relationship between ATE-LEE-CP ($r = 0.503$, $p = 0.000$) at 99% confidence level.

Hence, Reject H_0 since $r \neq 0$, and $p < 0.05$

Accept H_1

Decision:

There is evidence that the greater the perceived customer attitude towards e-banking, the higher the level of e-banking effectiveness at 99% confidence level.

5.7.2 Test of Hypothesis 2

Hypothesis 2 states as follows:

“The greater the scope of e-banking applications, the higher the level of e-banking effectiveness”.

Correlation analysis explained the above moderate positive relationship between SEA-LEE-CP ($r = 0.618$, $p = 0.000$) at 99% confidence level.

Hence, Reject H_0 since $r \neq 0$ and $p < 0.05$

Accept H_2

Decision:

There is evidence that the greater the scope of e-banking applications, the higher the level of e-banking effectiveness at 99% confidence level.

5.7.3 Test of Hypothesis 3

Hypothesis 3 states as follows:

“The greater the service quality of e-banking, the higher the level of e-banking effectiveness”.

Correlation analysis explained a fairly strong positive relationship between ESQ-LEE ($r = 0.707$, $p = 0.000$) at 99% confidence level.

Hence, Reject H_0 since $r \neq 0$ and $p < 0.05$

Accept H_3

Decision:

There is evidence that the greater the service quality of e-banking, the higher the level of e-banking effectiveness at 99% confidence level.

5.7.4 Test of Hypothesis 4

Hypothesis 4 states as follows:

“The higher the level of security of e-banking, the higher the level of e-banking effectiveness”.

Correlation analysis explained a fairly strong positive relationship between SEB-LEE-CP ($r = 0.720$, $p = 0.000$) at 99% confidence level.

Hence, Reject H_0 since $r \neq 0$, and $p < 0.05$

Accept H_4

Decision:

There is evidence that the higher the level of security of e-banking, the higher the level of e-banking effectiveness at 99% confidence level.



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5.8 Data Presentation – Bank’s Perspective

Data for this study were collected from the banks which are providing e-banking services to their customers in Sri Lanka. Questionnaires were originally delivered to 85 e-banking related key informants from each selected bank and 70 responses were received which accounts for 82% and used for this analysis. These responses were received within 3 to 5 months. Data collection took place from November 2005 to mid-March of year 2006.

5.8.1 Banks’ E-banking Profile

Among data collected from selected banks, primary data include banks, website address, the year they launched web site and the year they launched e-banking services in Sri Lanka. The following Table 5.16 summaries these information.

Table 5.16 Banks' e-banking profile

#	Bank Name	The Year They Launched Web site	The Year They Launched E-banking
01.	Bank - 1	1991	1994
02.	Bank - 2	1998	2000
03.	Bank - 3	1998	2000
04.	Bank - 4	2002	2004
05.	Bank - 5	2001	2004
06.	Bank - 6	2001	2003
07.	Bank - 7	2002	2004

5.8.2 Main Reasons for Introduced E-banking

The main reasons for introduced e-banking in Sri Lanka are summarized in Table 5.17. According to this table, generally, the most common root cause to introduce e-banking is to provide excellent service to their customers and through that to get competitive advantages.

Table 5.17 Main reasons for introducing e-banking

Bank	Main reasons for introduced e-banking
Bank - 1	<ul style="list-style-type: none"> ▪ To provide global access to our local customers. ▪ Due to the banking and technology innovation. ▪ One of the major channel distributions nowadays.
Bank - 2	<ul style="list-style-type: none"> ▪ To increase the productivity and customer care. ▪ To provides a comprehensive range of banking services - without visiting the bank. ▪ To offers value-added services.
Bank - 3	<ul style="list-style-type: none"> ▪ To offer convenience banking services to all our customers. They can reach us from anywhere and anytime. ▪ To deliver optimum value to our customers.
Bank - 4	<ul style="list-style-type: none"> ▪ To delivering innovative solutions to our customers. ▪ To provide the most convenient, economic and comprehensive solutions. ▪ To enhance the value.
Bank - 5	<ul style="list-style-type: none"> ▪ To create additional value. ▪ Due to the e-commerce environment. ▪ To offer convenience to manage and control your banking and finance – when you what to, where you want to.
Bank - 6	<ul style="list-style-type: none"> ▪ To provide proactive responses beyond expectation to customers' needs. ▪ To deliver fast and easy service to our customers. ▪ To gain competitive advantages. ▪ To offer better value to the customers

Bank - 7	<ul style="list-style-type: none"> ▪ To offer superlative service to our customers. ▪ To cater different financial needs of the customer. ▪ To achieve greater market growth (Bank's strategy). ▪ To cater the entire gamut of banking needs of customers (To provide fully fledged banking services). ▪ To provide innovative and strong financial products ▪ To enhance customer service levels and further centralizing of “back office” type activities from the branches, in order that branch staff have more time for servicing customers.
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5.8.3 Banking Service Mode Based on Frequency of Usage by the Banks Customers

Table 5.18 Type of channel

Type of channel	Bank - 1	Bank - 2	Bank - 3	Bank - 4	Bank - 5	Bank - 6	Bank - 7
Branch counter	2	5	5	5	4	5	5
ATM	5	4	4	4	1	4	4
Phone banking	1	3	3	1	5	3	3
E-banking with PC/notebook access	3	1	2	2	3	2	2
E-banking with Mobile phone access	4	2	1	3	2	1	1
(1 for very rare, 5 for most frequent)							

The following Table 5.19 summarizes the above information:

Table 5.19 Type of channel (Summary)

Type of channel	(1 for very rare, 5 for most frequent)					Total
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	
Branch counter	0	1	0	1	5	07
ATM	1	0	0	5	1	07
Phone banking	2	0	4	0	1	07
E-banking with PC/notebook access	1	4	2	0	0	07
E-banking with mobile phone access	3	2	1	1	0	07

Table 5.19 compares five banking channels based on the frequency of usage by the respective banks customers. According to the banks view, branch counters are the mostly used by the customers. Almost all banking services can be performed through the bank branch counters. ATM was the second most popular channel used by the customers to perform banking transaction in the view of the banks.

5.8.4 E-banking Products which are Currently Offering to the Customers by the Selected Banks

Table 5.20 E-banking services in Sri Lanka

#	E-banking products/services	Bank - 1	Bank - 2	Bank - 3	Bank - 4	Bank - 5	Bank - 6	Bank - 7
01.	Send or receive messages/ obtain information about bank, accounts and its products/ e-mail inquiries/web based correspondents/banking news through mail box	√	√	√	√	√	√	√
02.	Transfer funds(both locally and globally)	√	√	√	√	√	√	√
03.	Credit cards services	√	√	√	√	√	√	√
04.	Online utility bills and other payments	√	√	√	√	√	√	√
05.	Open accounts(savings/current/fixed)	√	√	√	√	√	√	√
06.	Open foreign currency deposits	√				√		√
06.	Statement and advice(about accounts/payment status)	√	√	√	√	√	√	√
07.	Stop cheques/request/payments and cheque book request	√	√	√	√		√	√
08.	Establishes standing orders	√	√	√	√		√	√
09.	Access your accounts/real time balance/transaction history	√	√	√	√	√	√	√
10.	Job vacancies	√				√	√	
11.	Information-interest rates, exchange rates/currency rates/treasury bills and bonds		√			√	√	√
12.	Request to purchase treasury bill/bonds		√					
13.	On-line share market information/payments		√	√		√		
14.	Letter of credit		√	√	√		√	
15.	Order suppliers			√				
16.	Unrealized funds			√				√
17.	Loan services(forms/other information)				√	√		√
18.	On-line calculators		√					√

As Table 5.20 shows, the e-banking services in Sri Lanaka. Generally, almost all selected banks are providing important e-banking services to their customers. Some banks are providing certain unique services to their customers; for example, only bank - 3 provides ordering supplier over the e-banking.

5.8.5 Information about Customers Who Use E-banking

Table 5.21 E-banking customers' profile – Bank's view

E-banking customers' profile – bank's view	Bank - 1	Bank - 2	Bank - 3	Bank - 4	Bank - 5	Bank - 6	Bank - 7
Gender-wise(M/F)	More male but considerable amount of female	More male	More male	More male	More male	More male	More male
Age group(s)	25-50	25-40	24-more	22 - more	20-36	25 -more	20-45
Geographic Location(s)	Colombo District	Colombo, Kandy, Ampara, Galle, Gampaha	Colombo and Kandy	Colombo City and Colombo South	Colombo city	Colombo-Western and Central Province	Colombo metropolitan area, Kandy, Kurnegala

According to the data collected from the banks also, male respondents are accounted for more participation in e-banking than female participation in Sri Lanka. Among the selected seven banks only Bank - 1 had confirmed considerable amount of female participation in e-banking. Other banks have reported more male participation in e-banking in Sri Lanka.

The age group of e-banking customers had fallen under the age group of 20 - 45. According to the banks, customers of e-banking in Sri Lanka are not widely scattered around the island. Table 5.21 shows that the customers of e-banking are scattered around the certain main cities in Sri Lanka, such as Colombo, Kandy, Galle, Gampaha, Kurnegala and Ampara.

5.8.6 Special Facilities Provided by the Banks to Promote E-banking Habits Among Customers

Table 5.22 Special facilities

Banks	Special Facilities
Bank - 1	<ul style="list-style-type: none"> • Free of charge, more secure and convenient. • Easy pay machines facilities can be operated in Sinhala, Tamil and English. • Manage customer's personal details and banking news through customer's mail box.

Bank - 2	<ul style="list-style-type: none"> • Offers value –added service you do not normally enjoy at the banking counter in most customers friendly. • Transactions- absolutely free, adding a nominee accounts – absolutely free, non-financial transactions - absolutely free • Scheduling utility bill payments for a future date • Fund transfer scheduling on a future date • Request to purchase treasury bills/ treasury bonds • Online settlements to selected share brokers • Settlement of bank - 2 master card bills. • E-channeling facility to consult doctors
Bank - 3	<ul style="list-style-type: none"> • Provide terminal to the customers • Reloading money in the cards
Bank - 4	<ul style="list-style-type: none"> • E-channeling facilities • Online shopping facilities
Bank - 5	<ul style="list-style-type: none"> • Free of charge for e-banking • Quick market guide will be provided- It contains essential information about each market. • Links to various regulatory bodies and website • More safe, easy , fast and worldwide access • There is no extra charge for using e-banking services however, normal product fees and charges continue to apply.
Bank - 6	<ul style="list-style-type: none"> • When traveling overseas we offer you traveler's cheques and foreign exchange (subject to exchange control regulations) at very competitive rates. • Free access • Sign up for online banking and you'll be able to manage your money when it suits you. • You won't have to queue at a branch to pay bills, transfer money or check statements. • You can still use your branch, the phone and cash machines. • Business online banking puts you in control of your business finances day and night, seven days a week, 365 days a year. • Log on and you can check your accounts, pay bills and suppliers and move funds between accounts with just a few clicks of the mouse.

Bank - 7	<ul style="list-style-type: none"> • Providing special rewards and other benefits based on usage duration and performance(most valued clients) • All our valuable customers could use the facility on request. • Free of charge
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According to the banks' view, e-banking itself, they considered as a special facilities to their customers. Based on information provided by the banks, we can see that Bank - 1, Bank - 5 and Bank -7 are providing e-banking service free of charge. But other commercial banks charge fees from customers annually as a rent or deposit. Some banks are providing certain unique facilities, to differentiate their e-banking service from those of the other banks.

5.9 Factors Contributing for Effectiveness of E-banking – Bank’s Perspective

5.9.1 Profitability of E-banking

Table 5.23 Profitability of e-banking

#	Items	Mean	SD	Frequency Distribution									
				1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
				#	%	#	%	#	%	#	%	#	%
Q1.	New customers	3.57	.73	00	00	05	7.1	25	35.7	35	50	05	7.1
Q2.	Financial benefits	3.54	.71	00	00	02	2.9	35	50	26	37.1	07	10
Q3.	Sustainability	3.61	.70	00	00	03	4.3	27	38.6	34	48.6	06	8.6
Q4.	Values	3.58	.77	00	00	05	7.1	26	37.1	32	45.7	07	10
Q5.	Return on Assets (ROA)	3.34	.86	00	00	13	18.6	25	35.7	27	38.6	05	7.1
	Revenue growth	3.53	.50										
	Profitability of e-banking	3.53	.50										

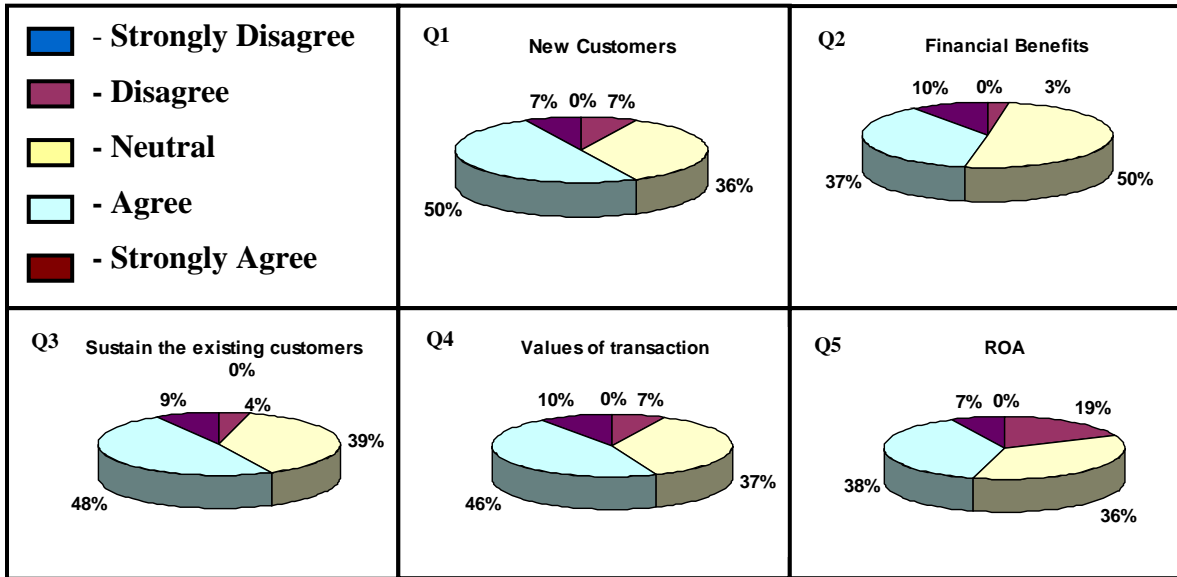


Figure 5.11 Profitability of e-banking

In order to measure the profitability of e-banking (PEB), the variable, revenue growth of e-banking is considered. This variable is represented by 05 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.23.

5.9.2 Considering E-banking as a Strategic Tool

In order to measure, the extent to which e-banking is considered a strategic tool (EST), two variables have been considered. They are competitive strategy and distribution channel strategy. These two variables are represented by 08 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.24.

Table: 5.24 Considering e-banking as a strategic tool

#	Items	Mean	SD	Frequency Distribution									
				1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
				#	%	#	%	#	%	#	%	#	%
Q06.	Competitiveness	3.71	.72	00	00	02	2.9	25	35.7	34	48.6	09	12.9
Q07.	Product differentiations	3.90	.74	00	00	02	2.9	17	24.3	37	52.9	14	20
Q08.	Market share	3.35	1.04	03	4.3	13	18.6	18	25.7	28	40.0	08	11.4
	Competitive strategy	3.65	.63										
Q09.	Channel	3.97	.72	00	00	00	00	19	27.1	34	48.6	17	24.3
Q10.	Global	3.77	.93	00	00	06	8.6	22	31.4	24	34.3	18	25.7
Q11.	Comprehensiveness	2.47	.77	05	7.1	33	47	27	38.6	04	5.7	01	1.4
Q12.	Distribution	3.72	.75	00	00	04	5.7	20	28.6	37	52.9	09	12.9
Q13.	Separation	3.11	.87	00	00	19	27.1	28	40.0	19	27.1	04	5.7
	Distribution channel strategy	3.41	.49										
	E-banking as a strategic tool	3.53	.50										

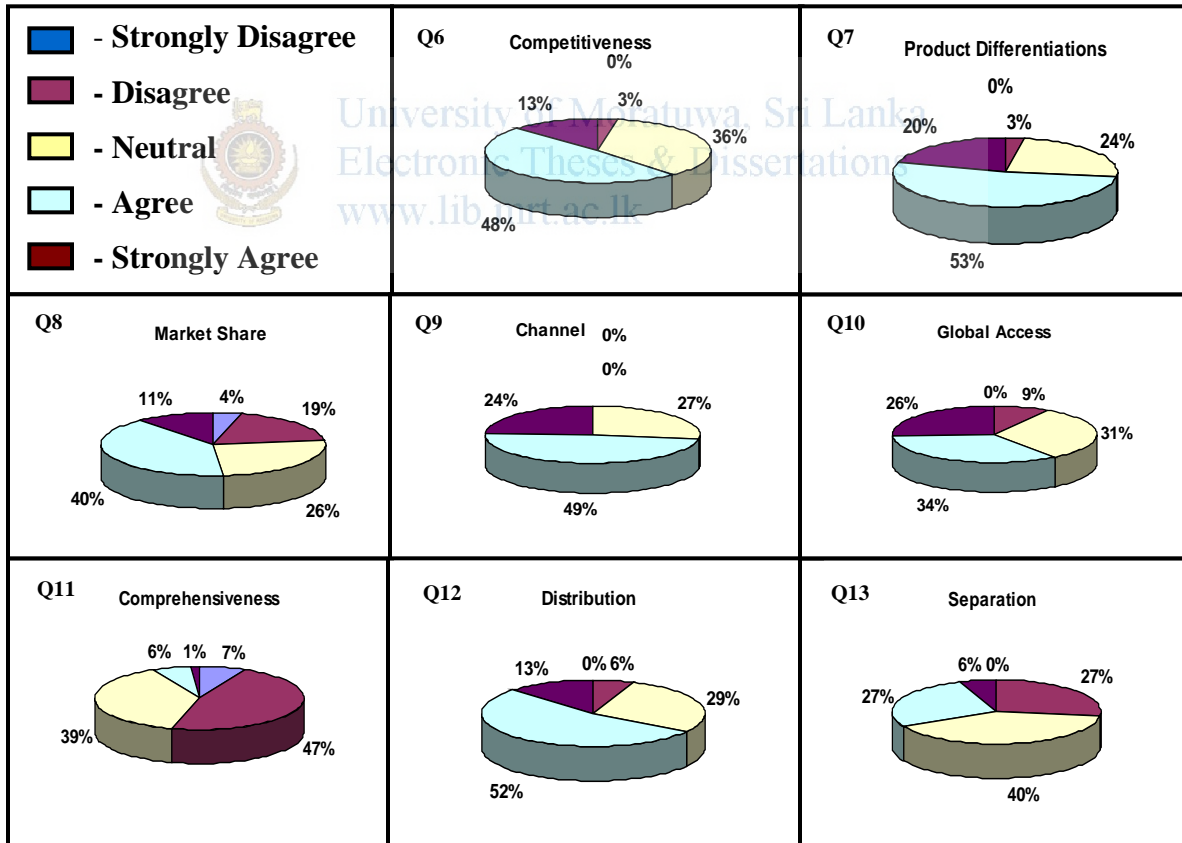


Figure 5.12 Considering e-banking as a strategic tool

5.9.3 Level of Customer Relationship Management

Table: 5.25 Level of customer relationship management

#	Items	Mean	SD	Frequency Distribution									
				1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
				#	%	#	%	#	%	#	%	#	%
Q14.	Relationship	3.82	.83	00	00	03	4.3	22	31.4	29	41.4	16	22.9
Q15.	All transactions	2.30	.74	09	12.9	34	48.6	24	34.4	03	4.3	00	00
Q16.	Customers loyalty	3.77	.61	00	00	01	1.4	20	28.6	43	61.4	06	8.6
Q17.	Interaction	3.72	.70	00	00	02	2.9	23	32.9	37	52.9	08	11.4
	Interaction	3.40	.45										
Q18.	Access	3.88	.64	00	00	02	2.9	13	18.6	46	65.7	09	12.9
Q19.	Feedback	3.08	.84	02	2.9	16	22.9	26	37.1	26	37.1	00	00
Q20.	Direct contact	3.47	.79	00	00	10	14.3	20	28.6	37	52.9	03	4.3
Q21.	Preconditions	3.45	.82	01	1.4	07	10.0	26	37.1	31	44.3	05	7.1
	Accessibility	3.47	.42										
	Level of Customer relationship management (CRM)	3.44	.39										

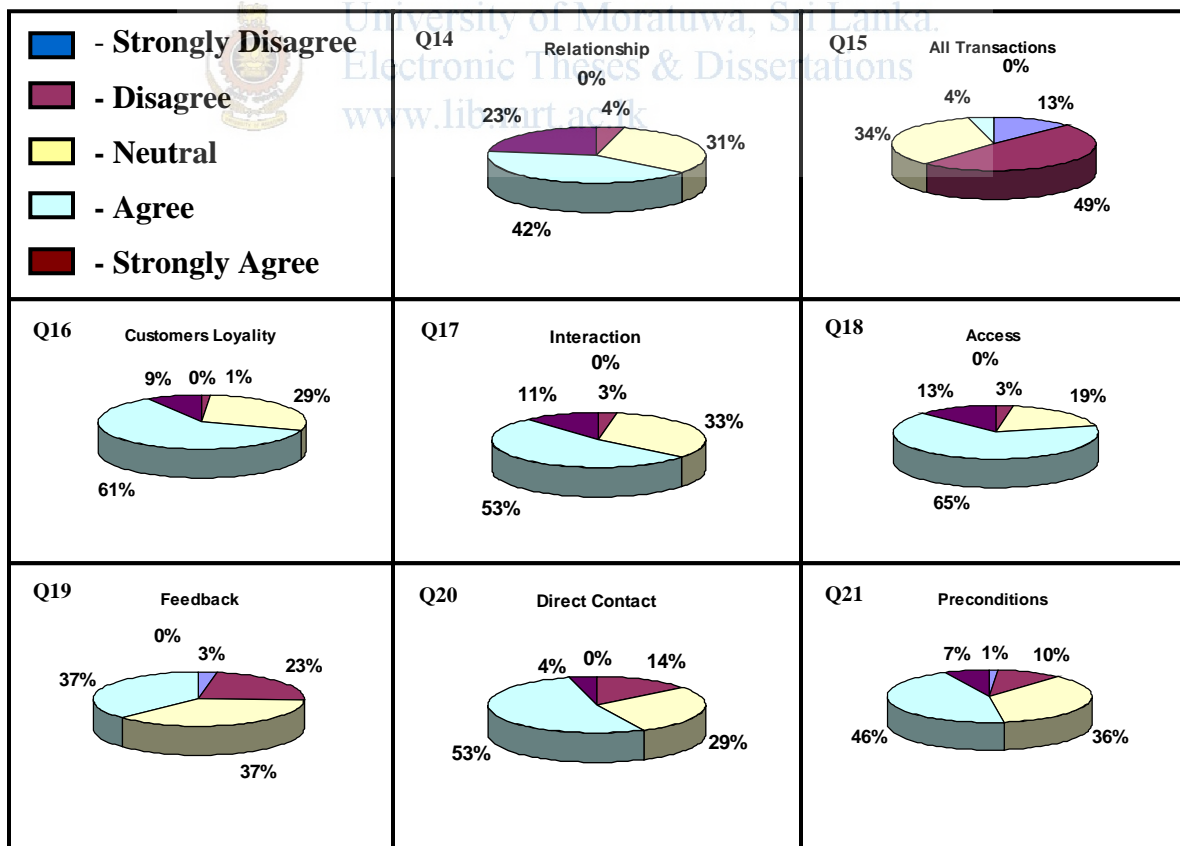


Figure 5.13 Level of customer relationship management

In order to measure, the extent to which e-banking promotes customer relationship with the bank (CRM), two variables have been considered. They are interaction and accessibility. These two variables are represented by 08 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.25.

5.9.4 Operational Efficiency Though E-banking

Table 5.26 Operational efficiency

#	Items	Mean	SD	Frequency Distribution									
				1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
				#	%	#	%	#	%	#	%	#	%
Q22.	Operational expenses	3.97	.63	00	00	00	00	15	21.4	42	60	13	18.6
Q23.	Branch reduction	4.01	.62	00	00	00	00	13	18.6	43	61.4	14	20
	Cost reduction	3.99	.52										
Q24.	Efficiency	4.24	.84	00	00	05	7.1	03	4.3	32	45.7	30	42.9
Q25.	Productivity	4.15	.47	00	00	00	00	03	4.3	53	75.7	14	20.0
Q26.	Promotional efforts	4.02	.72	00	00	00	00	17	24.3	34	48.6	19	27.1
	Increase productivity and Speed	4.14	.53										
	Operational efficiency though e-banking (EOE)	4.06	.41										

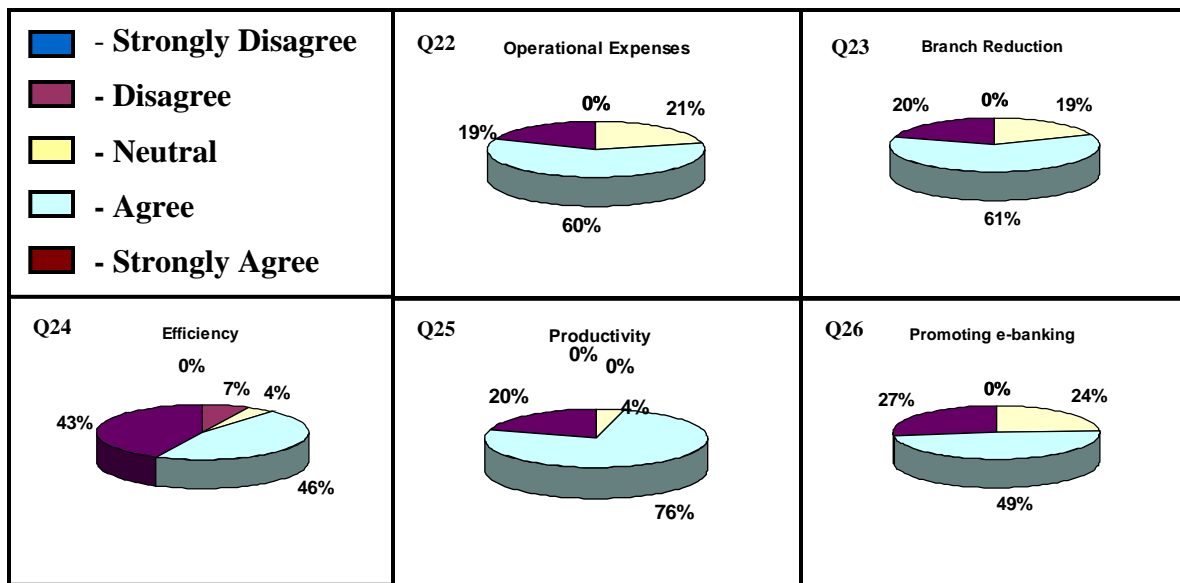


Figure 5.14 Operational efficiency

In order to measure the extent to which e-banking increase operational efficiency (EOE), two variables have been considered. They are (i) cost reduction, (ii) increase productivity and speed. These two variables are represented by 05 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.26.

5.10 Level of Effectiveness of E-banking – Bank’s Perspective

Table 5.27 Level of effectiveness of e-banking - Bank’s perspective

#	Items	Mean	SD	Frequency Distribution									
				1 Very Low		2 Low		3 Moderate		4 High		5 Very High	
				#	%	#	%	#	%	#	%	#	%
Q27.	Short-term contribution	3.75	.46	00	00	00	00	18	25.7	51	72.9	01	1.4
Q28.	Long-term contribution	4.22	.64	00	00	00	00	08	11.4	38	54.3	24	34.3
Q29.	Overall cost savings	3.05	.88	00	00	23	32.9	22	31.4	23	32.9	02	2.9
Q30.	Overall time savings	4.30	.62	00	00	00	00	06	8.6	37	52.9	27	38.6
Q31.	Overall usefulness	3.84	.77	00	00	03	4.3	18	25.7	36	51.4	13	18.6
Q32.	Overall strategic view	3.87	.72	00	00	00	00	23	32.9	33	47.1	14	20.0
Q33.	Overall relationships	3.90	.70	00	00	01	1.4	18	25.7	38	54.3	13	18.6
	Level of Effectiveness (LEE – BP)	3.64	.32										

In order to measure the overall level of effectiveness of e-banking (LEE-BP), seven variables have been considered. These seven variables are represented by 7 questions in the questionnaire. Means and standard deviation (SD) of each variable and question are shown in the Table 5.27.

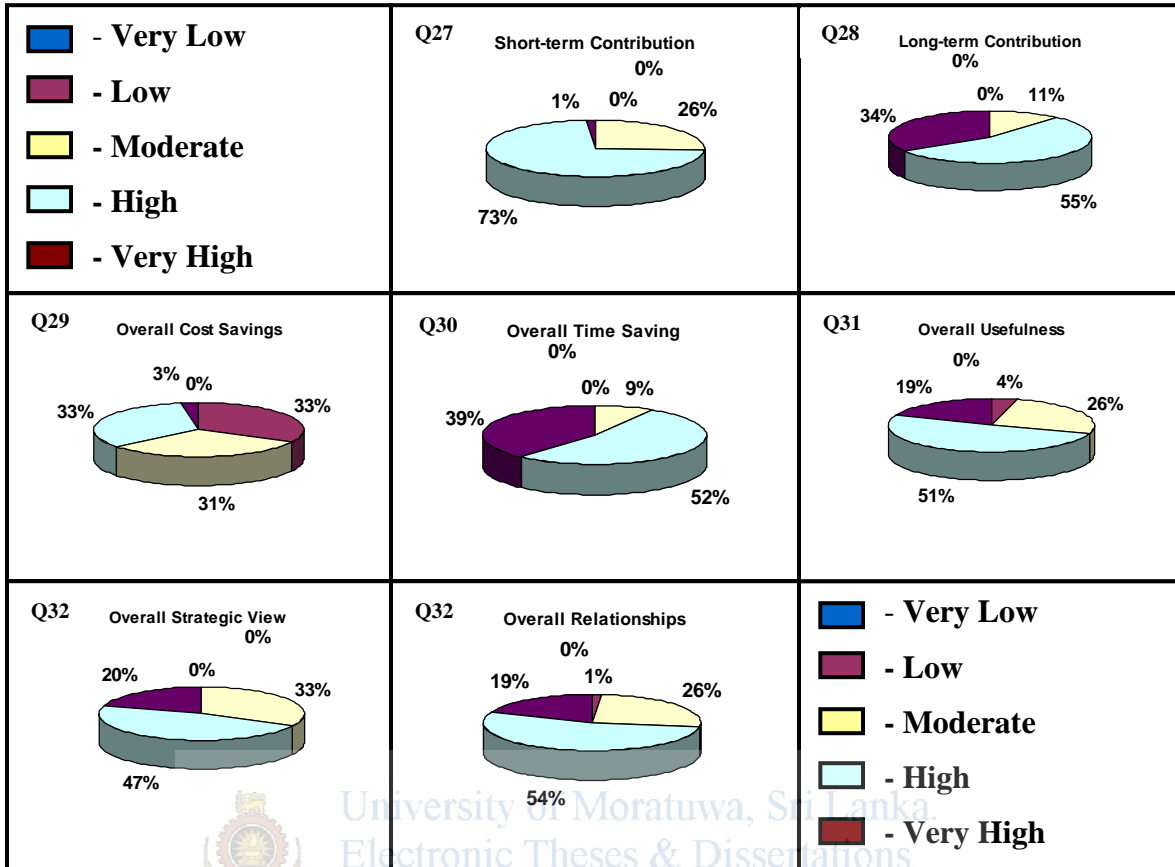


Figure 5.15 Level of effectiveness of e-banking - Bank's perspective

5.11 Correlation Analysis - Bank's Perspective

The correlation of each of the independent variable (PEB EST, CRM and EOE) with the dependent variable (LEE-BP) can be summarized as follows.

Table 5.28 Correlations - Bank's perspective

		Profitability of e-banking (PEB)	Considering e-banking as a strategic Tool (EST)	level of customer relationship management (CRM)	Operational efficiency of e-banking (EOE)
Overall level of e-banking effectiveness (LEE-BP)	Correlation Coefficient	.407(**)	.604(**)	.567(**)	.350(**)
	Sig. (1-tailed)	.000	.000	.000	.000
	N	70	70	70	70

** Correlation is significant at the 0.01 level (1-tailed).

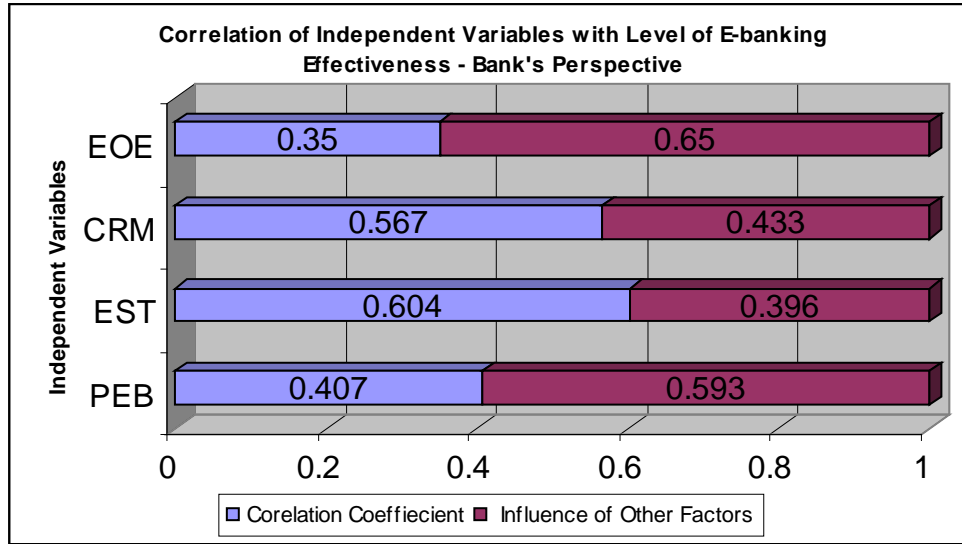


Figure 5. 16 Correlation of independent variables with level of e-banking effectiveness – Bank's perspective

5.12 Multiple Regression Analysis – Bank's Perspective

Stepwise multiple regression analysis was carried out to find the relationship between the independent variables PEB, EST, CRM, EOE and the single dependent variable LEE-PB. The results found are tabulated below in Table 5.29.

Table 5.29 Multiple regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	Sig. F Change
1	.617(a)	.381	.372	.26111	.381	41.813	.000
2	.649(b)	.421	.403	.25441	.040	4.629	.035
3	.650(c)	.422	.396	.25602	.001	.164	.687
4	.683(d)	.466	.433	.24800	.044	5.336	.024

a Predictors: (Constant), Strategic Tool

b Predictors: (Constant), Strategic Tool, Customer Relationship

c Predictors: (Constant), Strategic Tool, Customer Relationship, Profitability of e-banking

d Predictors: (Constant), Strategic Tool, Customer Relationship, Profitability of e-banking, Operational Efficiency

In considering banks' perspective about the effectiveness of e-banking, there are two analysis involved in this research: factors contributing to the effectiveness of e-banking and the overall level of e-banking effectiveness.

When analysing the factors contributing to the effectiveness of e-banking, in the bank's point of view, four key variables have been used in this research. They are: e-banking as a strategic tool, customer relationship management, profitability of e-banking and operational efficiency of e-banking. As shown in Table 5.28, among these variables, the correlation between e-banking as a strategic tool and level effectiveness of e-banking was 0.604. The correlation between customer relationship management and effectiveness of e-banking was 0.567, the correlation between profitability of e-banking and effectiveness of e-banking was 0.407 and the correlation between operational efficiency of e-banking and effectiveness of e-banking was 0.350.

As shown in Table 5.29, analysing the four variables individually, considering e-banking as a strategic tool alone contributed 38.1% to the overall level of e-banking effectiveness, e-banking as a strategic tool and customer relationship management jointly contributed 42.1%. The above Table 5.29 shows the customer relationship management contributes 4% to the effectiveness of e-banking. E-banking as a strategic tool, customer relationship management and profitability of e-banking jointly have contributed 42.2%. Finally all the above four variables totally contribute 46.6% to the overall level of e-banking effectiveness.

In analysing the significance of the above mentioned four key variables, which are affecting effectiveness of e-banking was: considering e-banking as a strategic tool has significant impact at 99% confidence level on effectiveness of e-banking. It has taken 0.372 values for R squares change. The impact of customer relationship management on effectiveness of e-banking was 0.040 at 99% confidence level. The impact of profitability of e-banking on effectiveness of e-banking was 0.001 at 99% confidence level. Finally, the impact of operational efficiency of e-banking on effectiveness of e-banking was 0.044.

In the Table 5.29 column number 6 shows the R square changes of these variables. It shows the extent to which these individual variables have contributed separately to the overall effectiveness of e-banking. Among these variables, considering e-banking as a strategic tool alone contributed 38.1%.

5.13 Hypothesis Testing – Bank’s Perspective

In accordance with the hypothesis testing procedures given under the section 4.6 in the chapter four, the following hypotheses are tested.

5.13.1 Test of Hypothesis 5

Hypothesis 5 states as follows:

“The higher the profitability of e-banking, the higher the level of e-banking effectiveness”.

Correlation analysis explained a weak positive relationship between PEB-LEE-PB ($r = 0.407$, $p = 0.000$) at 99% confidence level.

Hence, Reject H_0 since $r \neq 0$, $B \neq 0$ and $p < 0.05$

Accept H_5

Decision:

There is evidence that the higher the profitability of e-banking, the higher the level of e-banking effectiveness at 99% confidence level.

5.13.2 Test of Hypothesis 6

Hypothesis 6 states as follows:

“The greater the degree to which e-banking is considered as a strategic tool, the higher the level of e-banking effectiveness”.

Correlation analysis explained the above moderate positive relationship between EST-LEE-PB ($r = 0.604$, $p = 0.000$) at 99% confidence level.

Hence, Reject H_0 since $r \neq 0$, $B \neq 0$ and $p < 0.05$

Accept H_6

Decision:

There is evidence that the greater the degree to which e-banking is considered as a strategic tool, the higher the level of e-banking effectiveness at 99% confidence level.

5.13.3 Test of Hypothesis 7

Hypothesis 7 states as follows:

“The higher the level of customer relationship through the e-banking, the higher the level of e-banking effectiveness”.

Correlation analysis explained a modest positive relationship between CRM-LEE –PB ($r = 0.567$, $p = 0.000$) at 99% confidence level.

Hence, Reject H_0 since $r \neq 0$, $B \neq 0$ and $p < 0.05$

Accept H_7

Decision:

There is evidence that the higher the level of customer relationship through the e-banking, the higher the level of e-banking effectiveness at 99% confidence level.

5.13.4 Test of Hypothesis 8

Hypothesis 8 states as follows:

“The higher the level of operational efficiency of e-banking, the higher the level of e-banking effectiveness”.

Correlation analysis explained a very weak positive relationship between EOE-LEE-BP ($r = 0.350$, $p = 0.000$) at 99% confidence level.

Hence, Reject H_0 since $r \neq 0$, $B \neq 0$ and $p < 0.05$

Accept H_8

Decision:

There is evidence that the higher the level of operational efficiency of e-banking, the higher the level of e-banking effectiveness at 99% confidence level.



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