PART V: DATA ANALYSIS

Data interpretation and analysis means to bring out the meaning of the data, to convert mere data into interpretation. The whole investigation culminates in drawing inferences that lead to conclusions.

5.1 Main Focus of the study

The research work for this thesis was started at a time when the banks in India had just started introducing or seeing the impact of technology based service offering to their customers. Hence, it was important to understand the outcomes as a result of these initiatives. The questions to the respondents targeted towards collecting their views, opinions and facts and their expectations and plans for the future.

The major challenge was to touch the four different categories of banks namely Public sector, Private sector, Cooperatives and the Multinational banks. Although, secondary research showed and had established the belief that the private and multinational banks were ahead in implementing the technology based CRM applications, it was important to measure customer satisfaction for these initiatives for all the sectors of the banks and hence identifying the parameters that are most critical for retaining the existing loyal customers, acquiring new customers and also preventing loss of loyal customers. Customer satisfaction does not depend only on technology based CRM efforts by banks but also on the non technology based service offerings. Hence identifying the optimal mix of both kinds of service offerings for all the four sectors of the banks has been

considered to understand what drives customer satisfaction for the various categories of banks in India.

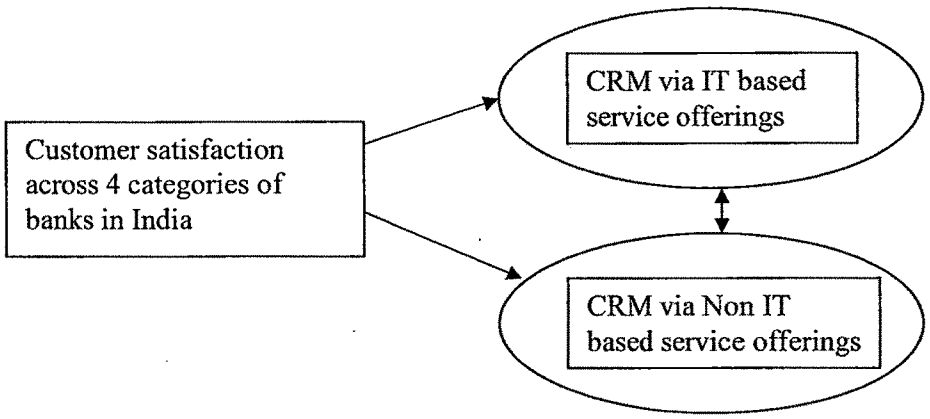


Figure 5.1 – Focus of the study

GOAL OF DATA ANALYSIS: To identify whether IT based service offerings are contributing significantly towards customer satisfaction in banks in India. Hence identify the role (status) of the Non IT based service offerings by the banks and further establish the findings for the 4 different categories of banks in India.

In order to attain the goal, the following objectives have been identified. The effort has been to perform an exploratory research because at the time when work started on this research, the banks were at their nascent stage in implementing technology based CRM initiatives. Hence the effort has been to provide specific inputs from empirical findings. The result of this study should help to develop more concrete views of technology's role in CRM in Indian Banking Industry.

After identifying the objectives of the thesis work, the researcher has created an Overall Project Plan, as mentioned in Part IV, to first identify a set of categories that better define

each of the objectives and hence map them to a set of research questions that can help address the objectives. The 4 Questionnaires as mentioned in Part IV were designed to create specific open ended and close ended questions for the chosen set of respondents.

5.2 Research questions

In order to address the objectives of the study, the following research questions have been addressed against each Category identified within each of the Objectives:

5.2.1 OBJECTIVE 1: Determining the role of Technology to improve the repertoire of knowledge regarding customer preferences.

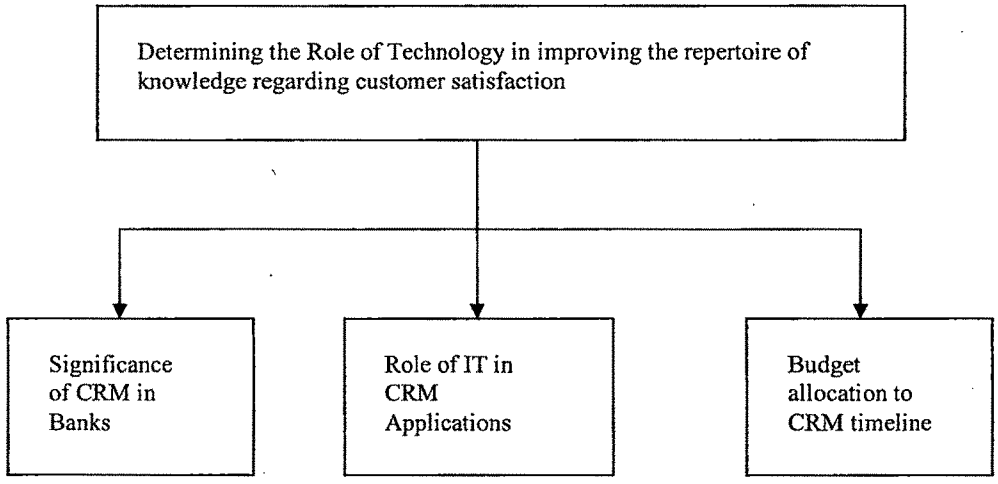


Figure 5.2 Determining the role of technology in improving the repertoire of knowledge regarding customer satisfaction

5.2.1.1 Objective 1 - Category 1: Significance of CRM in Banks

Q. What are the current approaches to collecting customer information?

ANALYSIS

Question has been asked to the banks' 44 business unit heads about the methods used by the bank to interact with their customers to capture customer information. Choices have been provided to the respondent and he/she has been asked to select the ones that are applicable and state the method's percentage contribution in collecting customer information, amounting to a total of 100%. The methods mentioned are all technology based except one that is the "Face to Face" interaction.

Analysis has been conducted in two parts:

1. Frequency count of the various methods used by the bank for gathering customer information have been performed based on the number of responses and hence the most popular ones across the 4 categories of the banks have been identified. This will give us an understanding about the use of technology based services both by the banks and the customers for the 4 categories of banks.
2. Chi-square test of independence in the contingency tables of the various technology based methods used by the banks for collecting customer information. The Public and the Cooperative banks have been clubbed under one group and the Private and Multinational banks have been kept under the second group. The reason for doing so is because they are similar in terms of management processes, structure, customer profile and origin respectively.

FINDINGS OF THE FREQUENCY COUNT AND PLOT

1. The methods used by the banks have received responses in percentile. The percentage total for all the choices by a particular respondent has been considered equal to 100. All responses below or at 25% have been considered as "low" and all above 25% have been considered as "high". The findings have been shown in table 5.1.

TABLE 5.1

SIGNIFICANCE OF CRM IN BANKS

LOW AND HIGH DEFINITIONS	Low	High
E-mail for Business transaction	Zero = 0 0-25% = 1	26-50% = 2 51-75% = 3 76-100 = 4
E-mail for Customer Service and Complaints	Zero = 0 0-25% = 1	26-50% = 2 51-75% = 3 76-100 = 4
Customer Service by Phone	Zero = 0 0-25% = 1	26-50% = 2 51-75% = 3 76-100 = 4
Credit card and Debit card	Zero = 0, 0-25% = 1	26-50% = 2 51-75% = 3 76-100 = 4
ATM	Zero = 0 0-25% = 1	26-50% = 2 51-75% = 3 76-100 = 4
Internet	Zero = 0 0-25% = 1	26-50% = 2 51-75% = 3 76-100 = 4
Face to Face	Zero = 0 0-25% = 1 26-50% = 2	51-75% = 3 76-100 = 4

FOR PUBLIC SECTOR	Low	High
E-mail for Business transaction	13	6
E-mail for Customer Service and Complaints	16	3
Customer Service by Phone	11	8
Credit card and Debit card	15	4
ATM	16	3
Internet	17	2
Face to Face	7	12

FOR PRIVATE SECTOR	Low	High
E-mail for Business transaction	8	6
E-mail for Customer Service and Complaints	11	3
Customer Service by Phone	11	3
Credit card and Debit card	14	0
ATM	3	11
Internet	11	3
Face to Face	14	0

FOR COOPERATIVE SECTOR	Low	High
E-mail for Business transaction	6	0
E-mail for Customer Service and Complaints	6	0
Customer Service by Phone	0	6
Credit card and Debit card	6	0
ATM	4	2
Internet	6	0
Face to Face	0	6

FOR MULTINATIONAL SECTOR	Low	High
E-mail for Business transaction	5	0
E-mail for Customer Service and Complaints	5	0
Customer Service by Phone	2	3
Credit card and Debit card	3	2
ATM	3	2
Internet	5	0
Face to Face	0	5

The above table has been plotted in the charts below:

Chart 5.1: PUBLIC SECTOR BANKS- % contribution of Technology based service offerings by Banks towards collecting Customer data

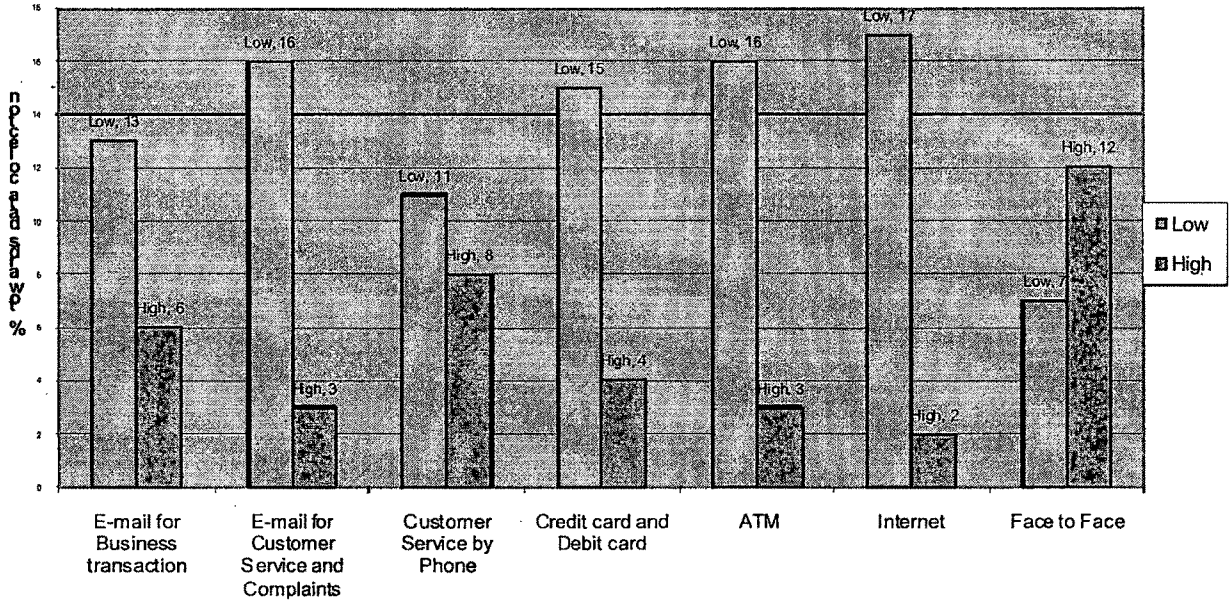


Chart 5.1

- From chart 5.1 above we observe that for Public sector banks, "Face to Face" interaction is the most preferred choice for gathering customer information and interaction, closely followed by "customer service by phone". "Internet" usage scores the lowest.

Chart 5.2: PRIVATE SECTOR BANKS - % contribution of Technology based service offerings by Banks towards collecting Customer data

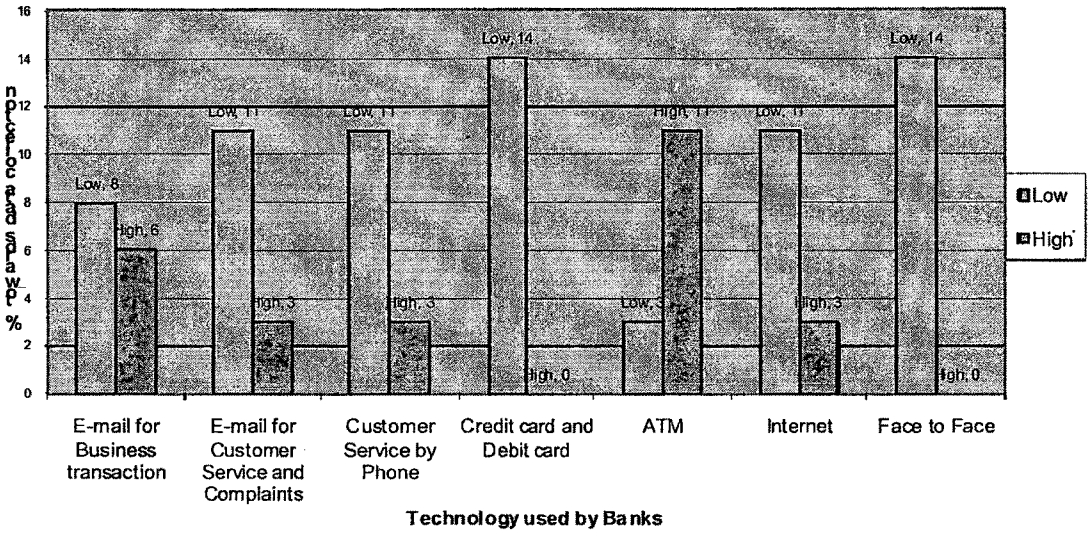


Chart 5.2

- From chart 5.2 above we observe that for Private sector banks, "ATM" interaction is the most preferred choice for gathering customer information and interaction, closely followed by "E-mail for business transaction". Interestingly "Credit Card and Debit card" and "Face to Face" have scored nil.

Chart 5.3: COOPERATIVE BANKS - % contribution of Technology based service offerings by Banks towards collecting Customer data

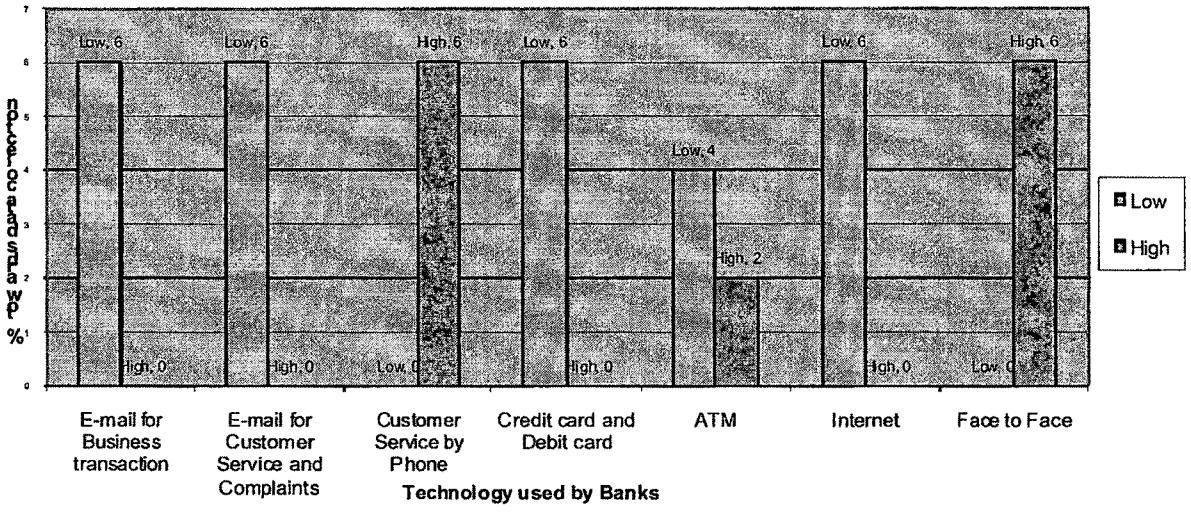


Chart 5.3

- From chart 5.3 above we observe that for Cooperative sector banks, "Face to Face" interaction is the most preferred choice for gathering customer information and interaction, with similar score by "customer service by phone". "Internet" usage and all other technology based service offerings have scored the lowest.

Chart 5.4: MULTINATIONAL BANKS - % contribution of Technology based service offerings by Banks towards collecting Customer data

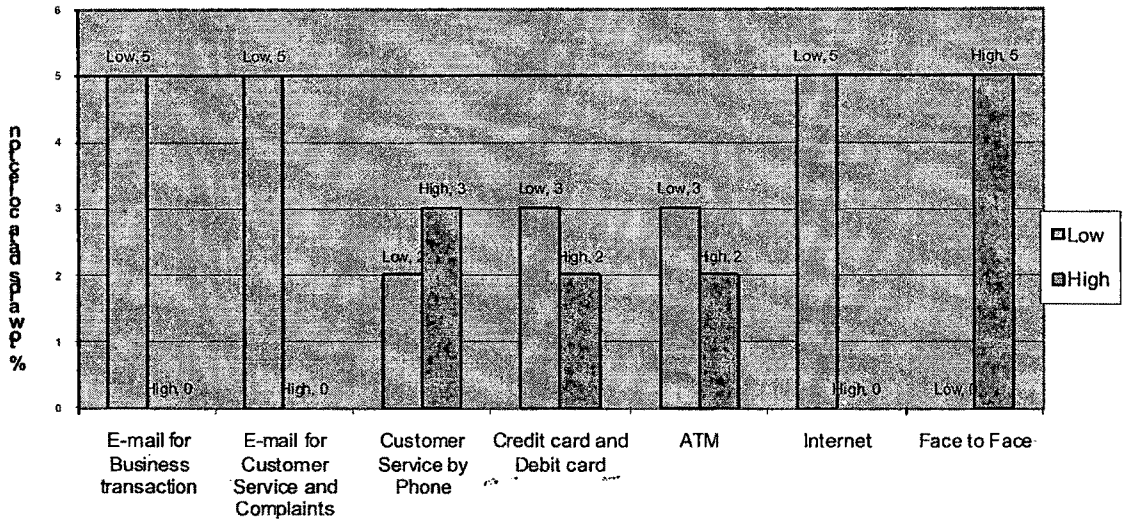


Chart 5.4

- From chart 5.4 we observe that for Multinational sector banks, "Face to Face" interaction is the most preferred choice for gathering customer information and interaction. "Internet" and "E-mail" usage score the lowest.

INFERENCES OF THE FREQUENCY COUNT AND PLOT

The following inferences can be made from the results above:

The frequency count for the contribution of each of the methods used by the banks as mentioned above towards collecting customer information reveal the following:

- For Public sector banks, in spite of their efforts of providing a large number of technology based service offerings to their customers, "Face to

Face" interaction with the bank representatives is preferred by majority of the customers, closely followed by "Customer service by phone". The reasons could be because, given the varied large customer base, the learning curve for technology based service offerings is slow, especially in areas where people are not literate. This can also be attributed towards the lack in efforts by the banks towards creating awareness amongst their customers for the new service offerings and hence the reluctance in using the new services.

- For the Private sector banks, ATM has scored the highest number of responses. Surprisingly, the "Face to Face" interaction has scored nil responses. This can be explained as follows. The responses have been collected from the head of the business units of the banks whose target is to promote technology based offerings and reduce face to face interaction as much as possible. Hence this does not show up as a significant component at all.
- For the Cooperative banks, "Face to Face" scores the highest responses because most of these banks are local banks and customers prefer to walk to the banks instead of using other services. Internet usage has scored points mainly because of the Kalupur bank efforts.
- For Multinational banks, "Face to Face" is significant. The reason can be explained as follows. Most MNC banks in India have fewer number of branches compared to the Public and Private sector banks, and have customers maintaining and doing salary based transactions. Global

organizations prefer to have their employee salaried deposited in Multinational banks. Hence, customers prefer to visit the bank personally for resolving queries or doing transactions. It can be observed from the findings that the technology based offerings have also scored well indicating that there is a group of customers who also use these service offerings by the banks.

FINDINGS FROM CHI-SQAURE TEST

The Chi-square test results have been matched to the value in the table at alpha = 0.05 and degrees of freedom = 1. The critical value of chi-square thus obtained from the table is .0039.

- From table 5.2 below, Null Hypothesis H_o = There is no difference in behavior between the usage of "E-mail for business transaction" as a method for collecting customer information and interaction with customers between Public+Cooperative banks compared to Private+Multinational banks. We observe that the calculated value of Chi-square (.298) is slightly higher than the critical value (.0039).

TABLE 5.2

E-mail for business transaction

The FREQ Procedure
1 = Public, 2 = Private, 3 = Cooperative, 4 = Multinational Bank

Frequency / Percent	Table of sect by q611(Email for business transaction)				
	sect(sect)	q611(q611)			Total
		0	1	2	
	1	4	9	6	19
		9.09	20.45	13.64	43.18
	2	0	8	6	14
		0	18.18	13.64	31.82
	3	4	2	0	6
		9.09	4.55	0	13.64
	4	0	5	0	5
		0	11.36	0	11.36
	Total	8	24	12	44
		18.18	54.55	27.27	100

	Low	High
Public + Coop	19 Actual is 13/44 = 43.2% Estimated is .568*.727= 41.3% (18.2)	6 Actual is 6/44 = 13.6% Estimated is .568*.273= 15.5% (6.8)
Others	13 Actual is 13/44 = 29.5% Estimated is .432*.727= 31.4% (13.8)	6 Actual is 6/44 = 13.6% Estimated is .432*.273= 11.8% (5.2)
	32 which is 72.7%	12 which is 27.3%

$$\chi^2 = \frac{(13-13.8)^2}{13.8} + \frac{(19-18.2)^2}{18.2} + \frac{(6-5.2)^2}{5.2} + \frac{.8*.8}{13.8} + \frac{.8*.8}{18.2} + \frac{.8*.8}{5.2} = 0.298$$

- From table 5.3 below, Null Hypothesis H_o = There is no difference in behavior

TABLE 5.3

E-mail for customer service including complaints

Frequency / Percent	Table of sect by q622 (Email for customer service including complaints)				
	sect(sect)	q622(q622)			Total
		0	1	2	
	1	6	10	3	19
		13.64	22.73	6.82	43.18
	2	0	11	3	14
		0	25	6.82	31.82
	3	4	2	0	6
		9.09	4.55	0	13.64
	4	0	5	0	5
		0	11.36	0	11.36
	Total	10	28	6	44
		22.73	63.64	13.64	100

	Low	High
Public + Coop	22 Actual is 22/44 = 40% Estimated is .568*.864= 49% (21.6)	3 Actual is 3/44 = 6.8% Estimated is .568*.136= 7.7% (3.4)
Others	16 Actual is 16/44 = 36.4% Estimated is .432*.864= 37.3% (16.4)	3 Actual is 3/44 = 6.8% Estimated is .432*.136= 5.9% (2.6)
	38 which is 86.4%	6 which is 13.6%

$$x^2 = \frac{(16 - 16.4)^2}{16.4} + \frac{(22 - 21.6)^2}{21.6} + \frac{(3 - 2.6)^2}{2.6}$$

$$\frac{.4 * .4}{16.4} + \frac{.4 * .4}{21.6} + \frac{.4 * .4}{2.6}$$

.009 + .007 + .062 + .047 = 0.125

between the usage of "E-mail for customer service including complaints" as a method for collecting customer information and interaction with customers between Public+Cooperative banks compared to Private+Multinational banks. We observe

that the calculated value of Chi-square (.125) is slightly higher than the critical value (.0039).

TABLE 5.4

Customer service by phone including complaints

Frequency / Percent / Row Pct / Col Pct	Table of sect by q633 (Customer service by phone including complaints)					
	sect(sect)	q633(q633)				Total
		1	2	3	4	
	1	11	6	0	2	19
		25	13.64	0	4.55	43.18
	2	11	3	0	0	14
		25	6.82	0	0	31.82
	3	0	4	2	0	6
		0	9.09	4.55	0	13.64
	4	2	3	0	0	5
		4.55	6.82	0	0	11.36
	Total	24	16	2	2	44
		54.55	36.36	4.55	4.55	100

	Low	High
Public + Coop	11 Actual is 11/44 = 25% Estimated is .568*.545= 30.9% (13.6)	14 Actual is 14/44 = 31.8% Estimated is .568*.455= 25.8% (11.4)
Others	13 Actual is 13/44 = 29.5% Estimated is .432*.545= 23.5% (10.4)	6 Actual is 6/44 = 13.6% Estimated is .432*.455= 19.6% (8.6)
	24 which is 54.5%	20 which is 45.5%

$$\chi^2 = \frac{(11-13.6)^2}{13.6} + \frac{(13-10.4)^2}{10.4} + \frac{(6-8.6)^2}{8.6}$$

$$\frac{2.6*2.6}{10.4} + \frac{2.6*2.6}{13.6} + \frac{2.6*2.6}{8.6}$$

.65 + .5 + .8 + .6 = 2.55

- From table 5.4 above, Null Hypothesis H_o = There is no difference in behavior between the usage of "Customer Service by Phone including complaints" as a method for collecting customer information and interaction with customers between Public+Cooperative banks compared to Private+Multinational banks. We observe that the calculated value of Chi-square (2.55) is slightly higher than the critical value (.0039).

TABLE 5.5

Credit and debit card payments

Frequency / Percent	Table of sect by q644 (Credit and debit card payments)				
	sect(sect)	q644(q644)			Total
		0	1	2	
	1	7	8	4	19
		15.91	18.18	9.09	43.18
	2	5	9	0	14
		11.36	20.45	0	31.82
	3	6	0	0	6
		13.64	0	0	13.64
	4	0	3	2	5
		0	6.82	4.55	11.36
	Total	18	20	6	44
		40.91	45.45	13.64	100

	Low	High
Public + Coop	21 Actual is 21/44 = 48% Estimated is .568*.864= 49% (21.6)	4 Actual is 4/44 = 9% Estimated is .568*.136= 7.7% (3.4)
Others	17 Actual is23/44 = 52.3% Estimated is .432*.864= 37.3% (16.4)	2 Actual is 2/44 = 4.5% Estimated is .432*.136= 5.9% (2.6)
	38 which is 86.4%	6 which is 13.6%

$$\chi^2 = \frac{(17-16.4)^2}{16.4} + \frac{(21-21.6)^2}{21.6} + \frac{(2-2.6)^2}{2.6} + \frac{.6*.6}{16.4} + \frac{.6*.6}{21.6} + \frac{.6*.6}{2.6}$$

$$0 + 0 + .12 + .1 = .22$$

- From table 5.5 above, Null Hypothesis H_o = There is no difference in behavior between the usage of "Credit and Debit card payments" as a method for collecting customer information and interaction with customers between Public+Cooperative banks compared to Private+Multinational banks. We observe that the calculated value of Chi-square (.22) is slightly higher than the critical value (.0039).

TABLE 5.6

Internet as the medium

Frequency / Percent	Table of sect by q666 (Internet)				
	sect(sect)	q666(q666) 0	1	2	Total
	1	6	11	2	19
		13.64	25	4.55	43.18
	2	0	11	3	14
		0	25	6.82	31.82
	3	6	0	0	6
		13.64	0	0	13.64
	4	0	5	0	5
		0	11.36	0	11.36
	Total	12	27	5	44
		27.27	61.36	11.36	100

	Low	High
Public + Coop	23 Actual is 23/44 = 52.3% Estimated is .886*.568= 50.3% (22.2)	2 Actual is 2/44 = 4.5% Estimated is .114*.568= 6.5% (2.8)
Others	16 Actual is 16/44 = 36.4% Estimated is .886*.432= 38.3% (16.8)	3 Actual is 3/44 = 6.8% Estimated is .114*.432= 4.9% (2.2)
	39 which is 88.6%	5 which is 11.4%

$$\chi^2 = \frac{(16 - 16.8)^2}{16.8} + \frac{(23 - 22.2)^2}{22.2} + \frac{(3 - 2.2)^2}{2.2} + \frac{.8 * .8}{16.8} + \frac{.8 * .8}{22.2} + \frac{.8 * .8}{2.2}$$

$$0 + 0 + .3 + .23 = .53$$

From table 5.6 above, Null Hypothesis H_o = There is no difference in behavior between the usage of "Internet" as a method for collecting customer information and interaction with customers between Public+Cooperative banks compared to Private+Multinational banks. We observe that the calculated value of Chi-square (.53) is slightly higher than the critical value (.0039).

TABLE 5.7

ATM as the medium

Frequency / Percent / Row Pct / Col Pct	sect(sect)	q655(q655) 0	1	2	Total
	1	6	10	3	19
		13.64	22.73	6.82	43.18
	2	0	3	11	14
		0	6.82	25	31.82
	3	4	0	2	6
		9.09	0	4.55	13.64
	4	0	3	2	5
		0	6.82	4.55	11.36
	Total	10	16	18	44
		22.73	36.36	40.91	100

	Low	High
Public + Coop	20 Actual is 20/44 = 45.5% Estimated is .568*.59= 33.5% (14.8)	5 Actual is 5/44 = 11.4% Estimated is .41*.568= 23.3% (10.2)
Others	6 Actual is 6/44 = 13.6% Estimated is .432*.59= 25.5% (11.2)	13 Actual is 13/44 = 30% Estimated is .432*.41= 17.7% (7.8)
	26 which is 59%	18 which is 41%

$$\chi^2 = \frac{(6-11.2)^2}{11.2} + \frac{(20-14.8)^2}{14.8} + \frac{(13-7.8)^2}{7.8} + \frac{5.2*5.2}{11.2} + \frac{5.2*5.2}{14.8} + \frac{5.2*5.2}{7.8}$$

$$2.4 + 1.8 + 3.5 + 2.7 = 10.4$$

- From table 5.7 above, Null Hypothesis H_o = There is no difference in behavior between the usage of "ATM" as a method for collecting customer information and interaction with customers between Public+Cooperative banks compared to Private+Multinational banks. We observe that the calculated value of Chi-square (10.4) is significantly higher than the critical value (.0039).

TABLE 5.8

Face to face interaction

Frequency / Percent	Table of sect by q677 (Face to Face)				
	sect(sect)	q677(q677)			Total
		2	3	4	
	1	7	6	6	19
		15.91	13.64	13.64	43.18
	2	14	0	0	14
		31.82	0	0	31.82
	3	0	6	0	6
		0	13.64	0	13.64
	4	0	0	5	5
		0	0	11.36	11.36
	Total	21	12	11	44
		47.73	27.27	25	100

	Low	High
Public + Coop	7 Actual is 7/44 = 15.9% Estimated is .478*.568= 27.2% (11.9)	18 Actual is 18/44 = 41% Estimated is .522*.568= 29.6% (13.1)
Others	14 Actual is 14/44 = 31.8% Estimated is .478*.432= 20.6% (9.1)	5 Actual is 5/44 = 11.4% Estimated is .432*.522= 22.6% (9.9)
	21 which is 47.8%	23 which is 52.2%

$$x^2 = \frac{(14-9.1)^2}{9.1} + \frac{(7-11.9)^2}{11.9} + \frac{(5-9.9)^2}{9.9}$$

$$\frac{4.9*4.9}{9.1} + \frac{4.9*4.9}{11.9} + \frac{4.9*4.9}{9.9}$$

2.6 + 2 + 2.4 + 1.8 = 8.8

- From table 5.8 above, Null Hypothesis H_0 = There is no difference in behavior between the usage of "face to face" as a method for collecting customer information and interaction with customers between Public+Cooperative banks compared to Private+Multinational banks. We observe that the calculated value of Chi-square (8.8) is significantly higher than the critical value (.0039).

INFERENCES

The following inferences can be made from the results above:

Chi-square test results: Since the computed value of chi-square (10.4) for "ATM usage" and (8.8) for "face to face" interaction is significantly larger than the critical value (.0039), we conclude that there is a significant difference between the usage of these methods for collecting customer information and interaction with customers between the Public+Cooperative banks and Private+Multinational banks. From the contingency table results we observe that in Public+Cooperative banks, actual (calculated) "ATM usage" is lower that the estimated value and in Private+Multinational banks, it is significantly higher than the estimated value. However, for "face to face" interaction, it is the other way around. We observe from the contingency table that in Public+Cooperative banks, the actual (calculated) value is higher than the estimated value and it is significantly lower for the Private+Multinational banks.

5.2.1.2 Objective 1 - Category 2: Role of IT in CRM Applications

Q. Is the level of success in retaining/ losing loyal customers related to the technology based service offerings by the banks?

ANALYSIS

The Head of the Business Units were asked the questions about investments in technology based CRM service offerings and the planned investment in the next 5 years. The investment question has been broken into 2 parts:

(a) Amount to acquire (buy and implement) new technology and

(b) Amount to maintain (regular service of parts and equipments, wear and tear, warranties, upgrade the current system or its link to newer or existing systems and legacy systems) existing setup

The responses across all the categories of the banks have been studied and chi-square tests have been conducted to identify if there exists a relationship between the investments and performance. Performance has been studied by identifying the gain and loss of loyal customers in 2005 and hence an effort has been made to identify whether lack of technology based CRM solutions plays a role in loss of the loyal customers. A total of 4 questions have been asked on existing and planned investments in technology based CRM. 2 questions have been asked on performance. For the chi-square test, all responses equal to or below 10% have been considered as "Low" and responses above

10% are "High". The chi-square test results have been matched to the value in the table at alpha = 0.05 and degrees of freedom = 1. The value of chi-square obtained from the table is .0039.

FINDINGS

TABLE 5.9

q9: In 2005, what percentage of the banks overall budget was dedicated to acquiring IT based CRM applications?
q13: What is the percentage of increase in loyal customers (customer total share in making specified number of repeated use of a particular service over a finite period of time) in year 2005?

RESPONDENT	sect	q9	-	q13	-
1	1	3	High	5	High
2	1	5	High	2	Low
3	1	3	High	4	High
4	1	1	Low	5	High
5	1	4	High	5	High
6	1	2	Low	4	High
7	1	2	Low	4	High
8	1	5	High	4	High
9	1	4	High	5	High
10	1	2	Low	4	High
11	1	2	Low	4	High
12	1	5	High	4	High
13	1	4	High	3	High
14	1	5	High	3	High
15	2	5	High	3	High
16	2	4	High	4	High
17	2	4	High	2	Low
18	2	3	High	4	High
19	4	3	High	4	High
20	1	5	High	4	High
21	1	4	High	3	High

TABLE 5.9
CONTINUED

RESPONDENT	sect	q9		q13	
22	1	5	High	3	High
23	2	5	High	3	High
24	2	4	High	4	High
25	2	4	High	2	Low
26	2	3	High	4	High
27	1	4	High	3	High
28	1	5	High	3	High
29	2	5	High	3	High
30	2	4	High	4	High
31	2	4	High	2	Low
32	2	3	High	4	High
33	4	3	High	4	High
34	4	3	High	5	High
35	3	2	Low	1	Low
36	3	2	Low	3	High
37	3	2	Low	2	Low
38	2	3	High	3	High
39	4	3	High	4	High
40	4	3	High	5	High
41	3	2	Low	1	Low
42	3	2	Low	3	High
43	3	2	Low	2	Low
44	2	3	High	3	High

1 is None	Low
2 is 1% to 10%	Low
3 is 11% to 20%	High
4 is 21% to 50%	High
5 is 50% or more	High

	Q 13 Low	Q13 High	
Q9 Low	4 Actual is 4/44 = 9% Estimated is .182*.25= 4.6% (2)	7 Actual is 7/44 = 15.9% Estimated is .25*.818= 20.5% (9)	11 which is 25%
Q9 High	4 Actual is 4/44 = 9% Estimated is .75*.182= 13.7% (6)	29 Actual is 29/44 = 65.9% Estimated is .75*.818= 61.4% (27)	33 which is 75%
	8 which is 18.2%	36 which is 81.8%	44 which is 100%

$$x^2 = \frac{(4-2)^2}{2} + \frac{(4-6)^2}{6} + \frac{(7-9)^2}{9} + \frac{(29-27)^2}{27}$$

$$= 2 + .67 + .45 + .15 = 3.27$$

- From table 5.9 above, Null Hypothesis H_o = There is no relationship between the budget for acquiring new IT based CRM applications by banks in 2005 to expected increase in loyal customers in 2005. We observe that the calculated value of Chi-square (3.27) is slightly higher than the critical value (.0039).
- From table 5.10, Null Hypothesis H_o = There is no relationship between the budget for maintaining existing IT based CRM applications by banks in 2005 to expected increase in loyal customers in 2005. We observe that the calculated value of chi-square (6.1) is significantly higher than the critical value (.0039).

TABLE 5.10

q10: In 2005, what percentage of the banks overall budget was dedicated to maintaining IT based CRM applications?

q13: What is the percentage of increase in loyal customers (customer total share in making specified number of repeated use of a particular service over a finite period of time) in year 2005?

RESPONDENT	sect	q10	-	q13	-
1	1	3	High	5	High
2	1	2	Low	2	Low
3	1	4	High	4	High
4	1	2	Low	5	High
5	1	4	High	5	High
6	1	2	Low	4	High
7	1	2	Low	4	High
8	1	4	High	4	High
9	1	4	High	5	High
10	1	2	Low	4	High
11	1	2	Low	4	High
12	1	4	High	4	High
13	1	4	High	3	High
14	1	5	High	3	High
15	2	4	High	3	High
16	2	4	High	4	High

TABLE 5.10
CONTINUED

RESPONDENT	sect	q10		q13	
17	2	4	High	2	Low
18	2	4	High	4	High
19	4	4	High	4	High
20	1	4	High	4	High
21	1	4	High	3	High
22	1	5	High	3	High
23	2	4	High	3	High
24	2	4	High	4	High
25	2	4	High	2	Low
26	2	4	High	4	High
27	1	4	High	3	High
28	1	5	High	3	High
29	2	4	High	3	High
30	2	4	High	4	High
31	2	4	High	2	Low
32	2	4	High	4	High
33	4	4	High	4	High
34	4	4	High	5	High
35	3	2	Low	1	Low
36	3	2	Low	3	High
37	3	2	Low	2	Low
38	2	3	High	3	High
39	4	4	High	4	High
40	4	4	High	5	High
41	3	2	Low	1	Low
42	3	2	Low	3	High
43	3	2	Low	2	Low
44	2	3	High	3	High

1 is None	Low
2 is 1% to 10%	Low
3 is 11% to 20%	High
4 is 21% to 50%	High
5 is 50% or more	High

	Q 13 Low	Q13 High	
Q10 Low	5 Actual is 5/44 = 11.4% Estimated is .273*.182= 5% (2.2)	7 Actual is 7/44 = 15.9% Estimated is .273*.818= 22.3% (9.8)	12 which is 27.3%
Q10 High	3 Actual is 3/44 = 6.8% Estimated is .727*.182= 13.2% (5.8)	29 Actual is 29/44 = 65.9% Estimated is .727*.818= 59.5% (26.2)	32 which is 72.7%
	8 which is 18.2%	36 which is 81.8%	44 which is 100%

TABLE 5.10 CONTINUED				
$\frac{(5-2.2)^2}{2.2}$ +	$\frac{(3-5.8)^2}{5.8}$ +	$\frac{(7-9.8)^2}{9.8}$ +	$\frac{(29-26.2)^2}{26.2}$	=
3.6 + 1.4 + .8 + .3 = 6.1				

- From table 5.11 below, Null Hypothesis H_o = There is no relationship between the budget for acquiring new IT based CRM applications by banks in 2005 to expected loss of loyal customers in 2005. We observe that the calculated value of Chi-square (1.17) is slightly higher than the critical value (.0039).

TABLE 5.11

q9: In 2005, what percentage of the banks overall budget was dedicated to acquiring IT based CRM applications?
q14: What is the percentage of loss in loyal customers (customer total share in making specified number of repeated use of a particular service over a finite period of time) in year 2005?

RESPONDENT	sect	q9	-	q14	-
1	1	3	High	3	High
2	1	5	High	2	Low
3	1	3	High	2	Low
4	1	1	Low	2	Low
5	1	4	High	5	High
6	1	2	Low	2	Low
7	1	2	Low	2	Low
8	1	5	High	2	Low
9	1	4	High	5	High
10	1	2	Low	2	Low
11	1	2	Low	2	Low
12	1	5	High	2	Low
13	1	4	High	2	Low
14	1	5	High	2	Low
15	2	5	High	2	Low
16	2	4	High	2	Low
17	2	4	High	2	Low
18	2	3	High	2	Low
19	4	3	High	2	Low

TABLE 5.11
CONTINUED

RESPONDENT	sect	q9	_	q14	_
20	1	5	High	2	Low
21	1	4	High	2	Low
22	1	5	High	2	Low
23	2	5	High	2	Low
24	2	4	High	2	Low
25	2	4	High	2	Low
26	2	3	High	2	Low
27	1	4	High	2	Low
28	1	5	High	2	Low
29	2	5	High	2	Low
30	2	4	High	2	Low
31	2	4	High	2	Low
32	2	3	High	2	Low
33	4	3	High	2	Low
34	4	3	High	2	Low
35	3	2	Low	2	Low
36	3	2	Low	2	Low
37	3	2	Low	2	Low
38	2	3	High	2	Low
39	4	3	High	2	Low
40	4	3	High	2	Low
41	3	2	Low	2	Low
42	3	2	Low	2	Low
43	3	2	Low	2	Low
44	2	3	High	2	Low

1 is None	Low
2 is 1% to 10%	Low
3 is 11% to 20%	High
4 is 21% to 50%	High
5 is 50% or more	High

	Q 14 Low	Q14 High	
Q9 Low	11 Actual is 11/44 = 25% Estimated is .25*.932= 23.3% (10.2)	0 Actual is 0/44 = 0% Estimated is .25*.068= 1.7% (.8)	11 which is 25%
Q9 High	30 Actual is 30/44 = 68.2% Estimated is .75*.932= 69.9% (30.8)	3 Actual is 3/44 = 6.8% Estimated is .75*.068= 5.1% (2.2)	33 which is 75%

$$\frac{(11-10.2)^2}{10.2} + \frac{(30-30.8)^2}{30.8} + \frac{(0-.8)^2}{0.8} + \frac{(3-2.2)^2}{2.2} =$$

$$.06 + .02 + .8 + .29 = 1.17$$

- From table 5.12 below, Null Hypothesis H_0 = There is no relationship between the budget for maintaining existing IT based CRM applications by banks in 2005 to expected loss of loyal customers in 2005. We observe that the calculated value of Chi-square (1.17) is slightly higher than the critical value (.0039).

TABLE 5.12

q10: In 2005, what percentage of the banks overall budget was dedicated to maintaining IT based CRM applications?
q14: What is the percentage of loss in loyal customers (customer total share in making specified number of repeated use of a particular service over a finite period of time) in year 2005?

RESPONDENT	sect	q10	-	q14	-
1	1	3	High	3	High
2	1	2	Low	2	Low
3	1	4	High	2	Low
4	1	2	Low	2	Low
5	1	4	High	5	High
6	1	2	Low	2	Low
7	1	2	Low	2	Low
8	1	4	High	2	Low
9	1	4	High	5	High
10	1	2	Low	2	Low
11	1	2	Low	2	Low
12	1	4	High	2	Low
13	1	4	High	2	Low
14	1	5	High	2	Low
15	2	4	High	2	Low
16	2	4	High	2	Low
17	2	4	High	2	Low
18	2	4	High	2	Low
19	4	4	High	2	Low
20	1	4	High	2	Low
21	1	4	High	2	Low
22	1	5	High	2	Low
23	2	4	High	2	Low
24	2	4	High	2	Low
25	2	4	High	2	Low
26	2	4	High	2	Low
27	1	4	High	2	Low

TABLE 5.12
CONTINUED

RESPONDENT	sect	q10		q14	
28	1	5	High	2	Low
29	2	4	High	2	Low
30	2	4	High	2	Low
31	2	4	High	2	Low
32	2	4	High	2	Low
33	4	4	High	2	Low
34	4	4	High	2	Low
35	3	2	Low	2	Low
36	3	2	Low	2	Low
37	3	2	Low	2	Low
38	2	3	High	2	Low
39	4	4	High	2	Low
40	4	4	High	2	Low
41	3	2	Low	2	Low
42	3	2	Low	2	Low
43	3	2	Low	2	Low
44	2	3	High	2	Low

1 is None	Low
2 is 1% to 10%	Low
3 is 11% to 20%	High
4 is 21% to 50%	High
5 is 50% or more	High

	Q 14 Low	Q14 High	
Q10 Low	12 Actual is 12/44 = 27.3% Estimated is .273*.932= 25.4% (11.2)	0 Actual is 0/44 = 0% Estimated is .273*.068= 1.8% (.8)	12 which is 27.3%
Q10 High	29 Actual is 29/44 = 65.9% Estimated is .727*.932= 67.7% (29.8)	3 Actual is 3/44 = 6.8% Estimated is .727*.068= 4.9% (2.2)	32 which is 72.7%
	41 which is 93.2%	3 which is 6.8%	20 which is 100%

$$\frac{(12-11.2)^2}{11.2} + \frac{(29-29.8)^2}{29.8} + \frac{(0-.8)^2}{0.8} + \frac{(3-2.2)^2}{2.2} =$$

.06 + .02 + .8 + .29 = 1.17

- From table 5.13 below, Null Hypothesis H_o = There is no relationship between the loss of loyal customers in 2005 to inadequate technology based service offerings in 2005 by the banks. We observe that the calculated value of Chi-square (.012) is slightly higher than the critical value (.0039).

TABLE 5.13

q14: What is the percentage of loss in loyal customers (customer total share in making specified number of repeated use of a particular service over a finite period of time) in year 2005?

1. Was the reason for losing loyal customers (customer total share in making specified number of repeated use of a particular service over a finite period of time) in year 2005 that technology based service offerings were not adequate?

RESPONDENT	sect	q14	-	q151	
1	1	3	High	1	Yes
2	1	2	Low	1	Yes
3	1	2	Low	0	No
4	1	2	Low	1	Yes
5	1	5	High	0	No
6	1	2	Low	0	No
7	1	2	Low	0	No
8	1	2	Low	0	No
9	1	5	High	0	No
10	1	2	Low	0	No
11	1	2	Low	0	No
12	1	2	Low	0	No
13	1	2	Low	1	Yes
14	1	2	Low	1	Yes
15	2	2	Low	0	No
16	2	2	Low	1	Yes
17	2	2	Low	0	No
18	2	2	Low	0	No
19	4	2	Low	0	No
20	1	2	Low	0	No
21	1	2	Low	1	Yes
22	1	2	Low	1	Yes
23	2	2	Low	0	No
24	2	2	Low	1	Yes
25	2	2	Low	0	No
26	2	2	Low	0	No

TABLE 5.13
CONTINUED

RESPONDENT	sect	q14	-	q151	
27	1	2	Low	1	Yes
28	1	2	Low	1	Yes
29	2	2	Low	0	No
30	2	2	Low	1	Yes
31	2	2	Low	0	No
32	2	2	Low	0	No
33	4	2	Low	0	No
34	4	2	Low	0	No
35	3	2	Low	1	Yes
36	3	2	Low	1	Yes
37	3	2	Low	0	No
38	2	2	Low	0	No
39	4	2	Low	0	No
40	4	2	Low	0	No
41	3	2	Low	1	Yes
42	3	2	Low	1	Yes
43	3	2	Low	0	No
44	2	2	Low	0	No

1 is None	Low
2 is 1% to 10%	Low
3 is 11% to 20%	High
4 is 21% to 50%	High
5 is 50% or more	High

	Q 15A Low	Q15A High	
Q14 Low	26 Actual is 26/44 = 59% Estimated is .932*.636= 59.3% (26.1)	15 Actual is 15/44 = 34% Estimated is .932*.364= 33.9% (14.9)	41 which is 93.2%
Q14 High	2 Actual is 2/44 = 4.5% Estimated is .068*.636= 4.3% (1.9)	1 Actual is 1/44 = 2.3% Estimated is .068*.364= 2.5% (1.1)	3 which is 6.8%
	28 which is 63.6%	16 which is 36.4%	44 which is 100%

$$\frac{(26-26.1)^2}{26.1} + \frac{(2-1.9)^2}{1.9} + \frac{(15-14.9)^2}{14.9} + \frac{(1-1.1)^2}{1.1} =$$

.000 + .002 + .001 + .009 = .012

- From table 5.14 below, Null Hypothesis H_o = There is no relationship between the total investment for acquiring as well as maintaining existing IT based CRM applications by banks in 2005 to performance (gain and loss of loyal customers) by the banks in 2005. We observe that the calculated value of Chi-square (8.22) is significantly higher than the critical value (.0039).

TABLE 5.14

q9: In 2005, what percentage of the banks overall budget was dedicated to acquiring IT based CRM applications?
q10: In 2005, what percentage of the banks overall budget was dedicated to maintaining IT based CRM applications?
q13: What is the percentage of increase in loyal customers (customer total share in making specified number of repeated use of a particular service over a finite period of time) in year 2005?
q14: What is the percentage of loss in loyal customers (customer total share in making specified number of repeated use of a particular service over a finite period of time) in year 2005?

RESPONDENT	sect	q9	-	q10	-	q13	-	q14	-
1	1	3	High	3	High	5	High	3	High
2	1	5	High	2	Low	2	Low	2	Low
3	1	3	High	4	High	4	High	2	Low
4	1	1	Low	2	Low	5	High	2	Low
5	1	4	High	4	High	5	High	5	High
6	1	2	Low	2	Low	4	High	2	Low
7	1	2	Low	2	Low	4	High	2	Low
8	1	5	High	4	High	4	High	2	Low
9	1	4	High	4	High	5	High	5	High
10	1	2	Low	2	Low	4	High	2	Low
11	1	2	Low	2	Low	4	High	2	Low
12	1	5	High	4	High	4	High	2	Low
13	1	4	High	4	High	3	High	2	Low
14	1	5	High	5	High	3	High	2	Low
15	2	5	High	4	High	3	High	2	Low
16	2	4	High	4	High	4	High	2	Low
17	2	4	High	4	High	2	Low	2	Low
18	2	3	High	4	High	4	High	2	Low

TABLE 5.14
CONTINUED

RESPONDENT	sect	q9	-	q10	-	q13	-	q14	-
19	4	3	High	4	High	4	High	2	Low
20	1	5	High	4	High	4	High	2	Low
21	1	4	High	4	High	3	High	2	Low
22	1	5	High	5	High	3	High	2	Low
23	2	5	High	4	High	3	High	2	Low
24	2	4	High	4	High	4	High	2	Low
25	2	4	High	4	High	2	Low	2	Low
26	2	3	High	4	High	4	High	2	Low
27	1	4	High	4	High	3	High	2	Low
28	1	5	High	5	High	3	High	2	Low
29	2	5	High	4	High	3	High	2	Low
30	2	4	High	4	High	4	High	2	Low
31	2	4	High	4	High	2	Low	2	Low
32	2	3	High	4	High	4	High	2	Low
33	4	3	High	4	High	4	High	2	Low
34	4	3	High	4	High	5	High	2	Low
35	3	2	Low	2	Low	1	Low	2	Low
36	3	2	Low	2	Low	3	High	2	Low
37	3	2	Low	2	Low	2	Low	2	Low
38	2	3	High	3	High	3	High	2	Low
39	4	3	High	4	High	4	High	2	Low
40	4	3	High	4	High	5	High	2	Low
41	3	2	Low	2	Low	1	Low	2	Low
42	3	2	Low	2	Low	3	High	2	Low
43	3	2	Low	2	Low	2	Low	2	Low
44	2	3	High	3	High	3	High	2	Low

	Q 13,Q14 Low	Q13,Q14 High	
Q9,Q10 Low	**All 4 LOW** 4 Actual is 4/44 = 9% Estimated is .84*.182= 15.3% (6.7)	**Either of Q13 or 14 high** 33 Actual is 33/44 = 75% Estimated is .818*.84= 68.7% (30.3)	37 which is 84%
Q9, Q10 High	**Either of Q9 or 10 high OR both 13,14 low and 9,10 high** 4 Actual is 4/44 = 9% Estimated is .16*.184= 2.9% (1.3)	**All 4 high** 3 Actual is 3/44 = 6.8% Estimated is .16*.818= 13.1% (5.7)	7 which is 16%
	8 which is 18.2%	36 which is 81.8%	44 which is 100%

TABLE 5.14
CONTINUED

$\frac{(4 - 6.7)^2}{6.7} + \frac{(4 - 1.3)^2}{1.3} + \frac{(33 - 30.3)^2}{30.3} + \frac{(3 - 5.7)^2}{5.7} =$

1.1 + 5.6 + .25 + 1.27 = 8.22

1 is None	Low
2 is 1% to 10%	Low
3 is 11% to 20%	High
4 is 21% to 50%	High
5 is 50% or more	High

We observe that the computed value for chi-square (8.22) for the total investment made by the banks in 2005 in maintaining as well as acquiring IT based CRM applications by the banks compared to performance (total gain and loss of loyal customers), is significantly larger than the critical value (.0039).

INFERENCES

From the above findings and table 5.9 to 5.14, we can conclude that there is a strong relationship between investment and performance by banks. Specifically for tables 5.10 and 5.14, we observe that the computed value of chi-square is significantly higher than the critical value (.0039). Hence, we can infer that there is strong relationship between the investments made by banks in maintaining their existing IT based CRM offerings for retaining and acquiring loyal customers. It can also be inferred that there is a strong relationship between investments made

by all sectors of the banks in IT based service offerings to the performance of the banks.

5.2.1.3 Category 3: Budget Allocation to CRM timeline

Q. How has budget allocation been planned for different sectors of the bank for CRM based Information Technology?

ANALYSIS

A study has been conducted on the responses obtained from the question on investments asked to the business unit heads of the banks. There are 2 types of investments that the bank heads make on IT based CRM applications, one is on acquiring new IT based solutions and the other is maintaining what already exists. A comparison has been made between the investments made by the banks in each of the above areas in 2005 and their planned investment for the next 5 years.

FINDINGS

The responses across all the categories of the banks have been studied and chi-square tests have been conducted to identify if there exists a relationship between the investments. A total of 4 questions have been asked on existing and planned investments in technology based CRM. For the chi-square test, all responses equal to or below 10% have been considered as "Low" and responses above 10% are "High". The chi-square test results have been matched to the value in the table at alpha = 0.05 and degrees of freedom = 1. The value of chi-square obtained from the table is .0039.

- From table 5.15 below, Null Hypothesis H_o = There is no relationship between the budget for acquiring new IT based CRM applications by banks in 2005 to expected increase in overall budget allotment to the same in the next 5 years. We observe that the calculated value of chi-square (5.5) is significantly higher than the critical value (.0039).

TABLE 5.15

q9: In 2005, what percentage of the banks overall budget was dedicated to acquiring IT based CRM applications?
q11: What is the expected percentage increase in overall budget allotment to acquiring IT based CRM applications in the next 5 years?

RESPONDENT	sect	q9	-	q11	
1	1	3	High	5	High
2	1	5	High	5	High
3	1	3	High	3	High
4	1	1	Low	5	High
5	1	4	High	5	High
6	1	2	Low	4	High
7	1	2	Low	4	High
8	1	5	High	2	Low
9	1	4	High	5	High
10	1	2	Low	4	High
11	1	2	Low	4	High
12	1	5	High	2	Low
13	1	4	High	2	Low
14	1	5	High	5	High
15	2	5	High	5	High
16	2	4	High	2	Low
17	2	4	High	2	Low
18	2	3	High	3	High
19	4	3	High	4	High
20	1	5	High	2	Low
21	1	4	High	2	Low
22	1	5	High	5	High
23	2	5	High	5	High
24	2	4	High	2	Low
25	2	4	High	2	Low
26	2	3	High	3	High
27	1	4	High	2	Low

TABLE 5.15
CONTINUED

RESPONDENT	sect	q9	-	q11	
28	1	5	High	5	High
29	2	5	High	5	High
30	2	4	High	2	Low
31	2	4	High	2	Low
32	2	3	High	3	High
33	4	3	High	4	High
34	4	3	High	4	High
35	3	2	Low	3	High
36	3	2	Low	3	High
37	3	2	Low	3	High
38	2	3	High	3	High
39	4	3	High	4	High
40	4	3	High	4	High
41	3	2	Low	3	High
42	3	2	Low	3	High
43	3	2	Low	3	High
44	2	3	High	3	High

1 is None	Low
2 is 1% to 10%	Low
3 is 11% to 20%	High
4 is 21% to 50%	High
5 is 50% or more	High

	Q 11 Low	Q11 High	
Q9 Low	0 Actual is 0/44 =0% Estimated is .25*.272= 6.8% (3)	11 Actual is 11/44 = 25% Estimated is .25*.728= 18.2% (8)	11 which is 25%
Q9 High	12 Actual is 12/44 = 27.3% Estimated is .75*.272= 20.4% (9)	21 Actual is 21/44 = 47.7% Estimated is .75*.728= 54.6% (24)	33 which is 75%
	12 which is 27.2%	32 which is 72.8%	44 which is 100%

$$x^2 = \frac{(0-3)^2}{3} + \frac{(12-9)^2}{9} + \frac{(11-8)^2}{8} + \frac{(21-24)^2}{24} =$$

$3 + 1 + 1.1 + .4 = 5.5$

- From table 5.16 below, Null Hypothesis H_o = There is no relationship between the budget for maintaining existing IT based CRM applications by banks in 2005 to expected increase in overall budget allotment to the same in the next 5 years. We observe that the calculated value of Chi-square (22.37) is significantly much higher than the critical value (.0039).

TABLE 5.16

q10: In 2005, what percentage of the banks overall budget was dedicated to maintaining IT based CRM applications?

q12: What is the expected percentage increase in overall budget allotment to maintaining IT based CRM applications in the next 5 years?

RESPONDENT	sect	q10	-	q12	
1	1	3	High	4	High
2	1	2	Low	4	High
3	1	4	High	4	High
4	1	2	Low	1	Low
5	1	4	High	5	High
6	1	2	Low	4	High
7	1	2	Low	4	High
8	1	4	High	3	High
9	1	4	High	5	High
10	1	2	Low	4	High
11	1	2	Low	4	High
12	1	4	High	3	High
13	1	4	High	3	High
14	1	5	High	4	High
15	2	4	High	4	High
16	2	4	High	3	High
17	2	4	High	3	High
18	2	4	High	3	High
19	4	4	High	3	High
20	1	4	High	3	High
21	1	4	High	3	High
22	1	5	High	4	High
23	2	4	High	4	High
24	2	4	High	3	High
25	2	4	High	3	High
26	2	4	High	3	High

TABLE 5.16
CONTINUED

RESPONDENT	sect	q10	-	q12	
27	1	4	High	3	High
28	1	5	High	4	High
29	2	4	High	4	High
30	2	4	High	3	High
31	2	4	High	3	High
32	2	4	High	3	High
33	4	4	High	3	High
34	4	4	High	3	High
35	3	2	Low	2	Low
36	3	2	Low	2	Low
37	3	2	Low	2	Low
38	2	3	High	3	High
39	4	4	High	3	High
40	4	4	High	3	High
41	3	2	Low	2	Low
42	3	2	Low	2	Low
43	3	2	Low	2	Low
44	2	3	High	3	High

1 is None	Low
2 is 1% to 10%	Low
3 is 11% to 20%	High
4 is 21% to 50%	High
5 is 50% or more	High

	Q 12 Low	Q12 High	
Q10 Low	7 Actual is 7/44 =15.9% Estimated is .273*.159= 4.3% (1.9)	5 Actual is 5/44 = 11.4% Estimated is .273*.841= 22.9% (10.1)	12 which is 27.3%
Q10 High	0 Actual is 0/20 = 0% Estimated is .727*.159= 11.6% (5.1)	32 Actual is 32/44 = 72.7% Estimated is .727*.841= 61.1% (26.9)	32 which is 72.7%
	7 which is 15.9%	37 which is 84.1%	44 which is 100%

$$x^2 = \frac{(7 - 1.9)^2}{1.9} + \frac{(0 - 5.1)^2}{5.1} + \frac{(5 - 10.1)^2}{10.1} + \frac{(32 - 26.9)^2}{26.9} =$$

$$\frac{5.1*5.1}{1.9} + \frac{5.1*5.1}{5.1} + \frac{5.1*5.1}{10.1} + \frac{5.1*5.1}{26.9} =$$

13.7 + 5.1 + 2.6 + .97 = 22.37

INFERENCES

Chi-square test results: From the contingency table 5.16, we observe that the computed value of chi-square (22.37) for "budget allocation for maintaining existing IT based CRM applications by banks in 2005" versus "overall budget allocation for maintenance for the next 5 years" is significantly larger than the critical value (.0039). Hence, we conclude that there is a strong relationship between the amount being spent in maintaining the existing setup and the expected amount required to be spent in the next 5 years for continuing to maintain the setup. Hence bank business unit heads are of the opinion that expenditure will be higher in maintaining what already exists compared to acquiring new technology.

Contrary to banks acquiring technology bases solutions, there is high degree of polarization when it comes to maintenance. Banks that have not invested in 2005 in any maintenance of existing systems will not invest in the next five years because they do not realize the value of maintaining the technology and its cost implications. Similarly, banks that have invested in 2005 realize the significance of technology and will continue to invest in the future as cost of maintaining an existing technology and upgrading it with additional parts/ softwares is less expensive compared to buying new products. Also this takes care of the learning inertia of the employees and customers because they need to get acquainted with the changes to the existing system rather than learn something from scratch.

Looking at the results obtained from the table 5.15 (q9 and q11), we observe that the computed value (5.5) is significantly higher than the critical value (.0039). Results indicate that if there has been no acquisition in 2005, there will be acquisition in the next 5 years and vice versa.

5.2.2 OBJECTIVE 2: Determining the role of Technology to enhance customer satisfaction and hence drive effective retention initiatives.

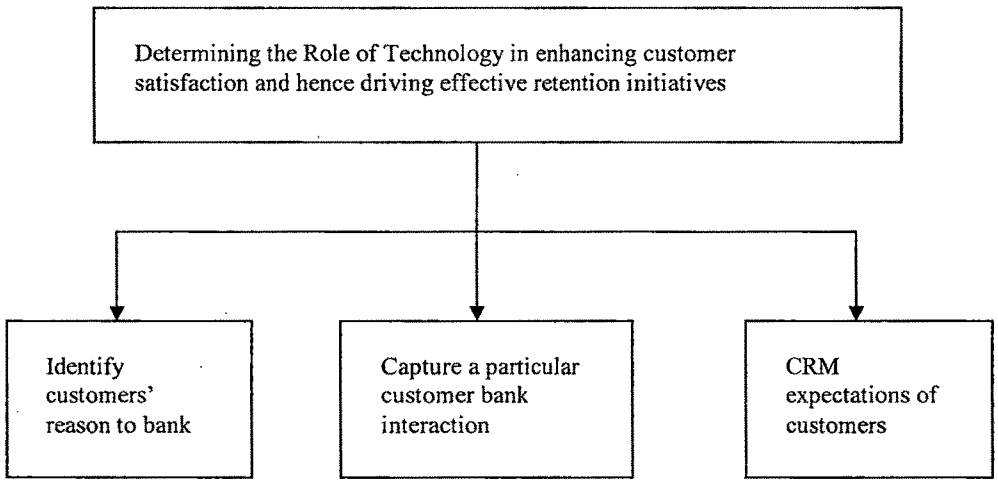


Figure 5.3 Determining the Role of Technology in enhancing customer satisfaction and hence driving effective retention initiatives

5.2.2.1 Objective 2 - Category 1: Identify customers' reasons to bank

Q. To identify if technology plays a significant role in customer's decision to have an account in the bank.

ANALYSIS

The results have been established by asking 2 questions to the customers in the closed ended questionnaire. Both questions aim at identifying the reasons for customers to have an account with a bank and hence identify if technology plays a significant role in decision making.

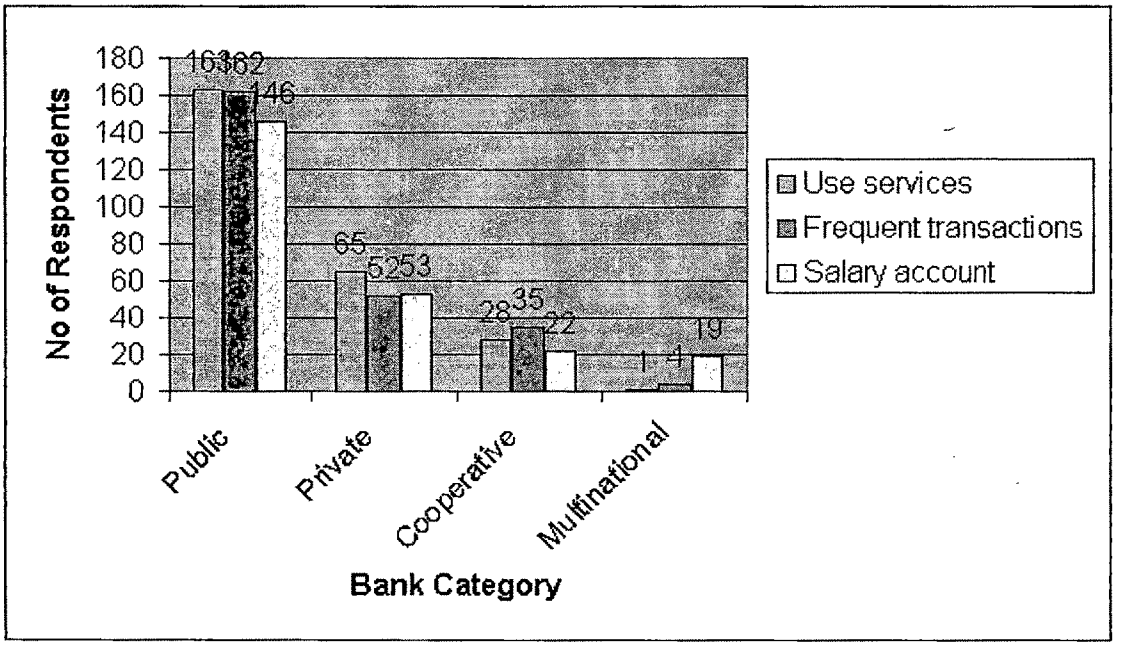
1. The customer is being provided with 3 choices for choosing a bank and from the the responses gathered, a frequency count has been performed. The options provided do not specifically include technology or CRM, but the underlying expectation is that if the bend is towards the choice of "Service offerings", then there is a possibility of the customer preferring the technology based services, if it is the second choice then the customer does routine transactions no matter how the bank asks him/her to transact and third is because the customer never had a choice.
2. Next, 8 choices have been provided to the customers about identifying why they prefer to bank with the one they are filling up the details for. The choices are a mix of technology and non technology based reasons. A frequency count has been performed from the obtained responses. Effort has been made to identify if the choice of a customer to bank with a certain bank is based on technology based service offerings by the banks.

FINDINGS

1. Chart 5.5 shows the results for the customer's choice of the bank, the one for which he/she is filling out the survey, to be his/ her primary bank. Primary bank is the bank which is the customer's preferred bank. Please note here that the customer filling the survey has been consciously made to realize that he/she should be filling details about his/her primary bank only assuming that the customer will have accounts in more than 1 bank. We observe that for public sector the major reason is equal for transactions and services used. For Private

Chart 5.5 Customer's Primary bank

Customer's primary bank				
sect(sect)	**Use services**	**Frequent transactions**	**Salary account**	**Total**
Public	163	162	146	471
Private	65	52	53	170
Cooperative	28	35	22	85
Multinational	1	4	19	24
Total	257	253	240	750



sector, we observe that the preferred choice is service offerings. For Cooperative banks, the preferred choice is frequent transactions. For Multinational banks, salary account turns out to be the major reason.

2. From the 8 choices provided to the customers, we observe that for Public sector, "location" of the bank and "good customer service" matters. For Private sector banks, "good customer service" is valued most, closely followed by "location" and "long working hours". We observe that, in both types, the technology based services do not matter except "core banking" which allows them to bank anywhere. For Cooperative banks, we observe that, "location" of the bank is followed by "good customer service". In Multinational banks, "location" is followed by "Netbanking and bill payment".

INFERENCES

1. We observe from the finding above that for public sector banks, there is equal distribution of responses for "service offerings" and "frequent transactions". This would mean that people have accounts in Public sector banks not because they are forced to have one since their salary gets deposited into that bank but because they equally value the service offerings and ease of transaction. Secondary study has suggested that for Public sector banks the customer profile is lower middle class and the number of customers are much larger compared to other banks. This can be a possible explanation. For Private sector banks, we observe that the bend is towards "service offerings" which would imply that good products and services is of great significance for the customers. For the Cooperative banks, " frequent

transactions" is the preferred choice. This can be explained because customers prefer to have an account with a bank closer to home and withdraw money in small amounts. The other 2 options have very little significance. For Multinational banks, "salary account" turns out to be the major reason. This could be because the sample size is very small, but, nevertheless, decided to capture it.

2. We further observe from Table 5.17 and Charts 5.6 to 5.9, and the 8 choices provided to the customers, that the "location" of the bank that is proximity to home or office and good customer service are the most important reasons for customers to continue to keep an account at the banks. The technology based service offerings are additional services which are good to have but are not critical in customer's decision making for continuing to have an account at a bank.

TABLE 5.17

CUSTOMER'S REASON TO HAVE AN ACCOUNT WITH THE BANK

Table of sect by Good Customer Service			
sect(sect)	No	Yes	Total
Public	208	263	471
Private	51	119	170
Cooperative	31	54	85
Multinational	21	3	24
Total	311	439	750

Convenient timings			
sect(sect)	No	Yes	Total
Public	311	160	471
Private	84	86	170
Cooperative	55	30	85
Multinational	22	2	24
Total	472	278	750

Table of sect by Location			
sect(sect)	No	Yes	Total
Public	132	339	471
Private	71	99	170
Cooperative	19	66	85
Multinational	15	9	24
Total	237	513	750

Positive referral by friend or family			
sect(sect)	No	Yes	Total
Public	390	81	471
Private	145	25	170
Cooperative	68	17	85
Multinational	21	3	24
Total	624	126	750

Good Products and Services			
sect(sect)	No	Yes	Total
Public	349	122	471
Private	104	66	170
Cooperative	56	29	85
Multinational	20	4	24
Total	529	221	750

Net banking and bill payments			
sect(sect)	No	Yes	Total
Public	374	97	471
Private	115	55	170
Cooperative	71	14	85
Multinational	16	8	24
Total	576	174	750

Core Banking facilities			
sect(sect)	q17(q17)		Total
Public	318	153	471
Private	85	85	170
Cooperative	67	18	85
Multinational	21	3	24
Total	491	259	750

CUSTOMER'S REASON TO HAVE AN ACCOUNT WITH THE BANK

PUBLIC SECTOR	YES	NO
Good customer service	263	208
Location	339	132
Products and Services	122	349
Convenient timings	160	311
Positive referral	81	390
Net banking and bill payment	97	374
Core banking	153	318

PRIVATE SECTOR	YES	NO
Good customer service	119	51
Location	99	71
Products and Services	66	104
Convenient timings	86	84
Positive referral	25	145
Net banking and bill payment	55	115
Core banking	85	85

COOPERATIVE	YES	NO
Good customer service	54	31
Location	66	19
Products and Services	29	56
Convenient timings	30	55
Positive referral	17	68
Net banking and bill payment	14	71
Core banking	18	67

MULTINATIONAL	YES	NO
Good customer service	3	21
Location	9	15
Products and Services	4	20
Convenient timings	2	22
Positive referral	3	21
Net banking and bill payment	8	16
Core banking	3	21

Chart 5.6: PUBLIC SECTOR - Customer's reason for banking

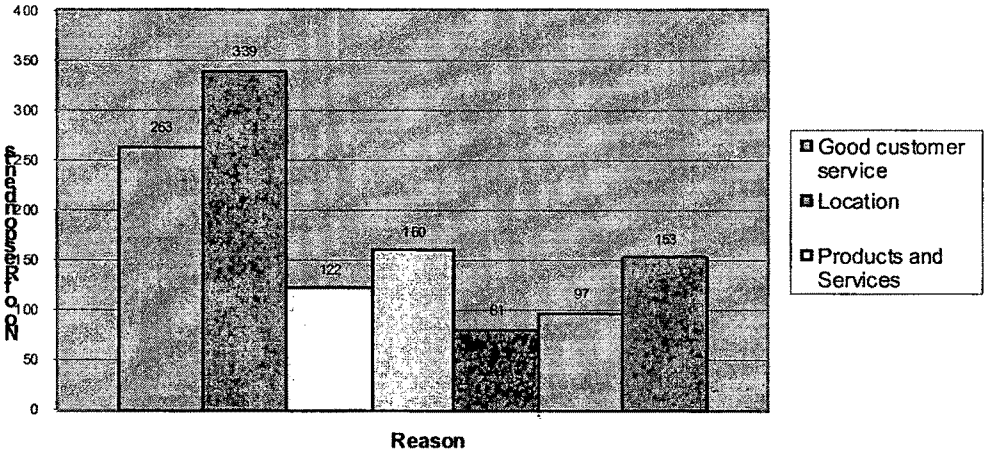


Chart 5.8: COOPERATIVE SECTOR - Customer's reason for banking

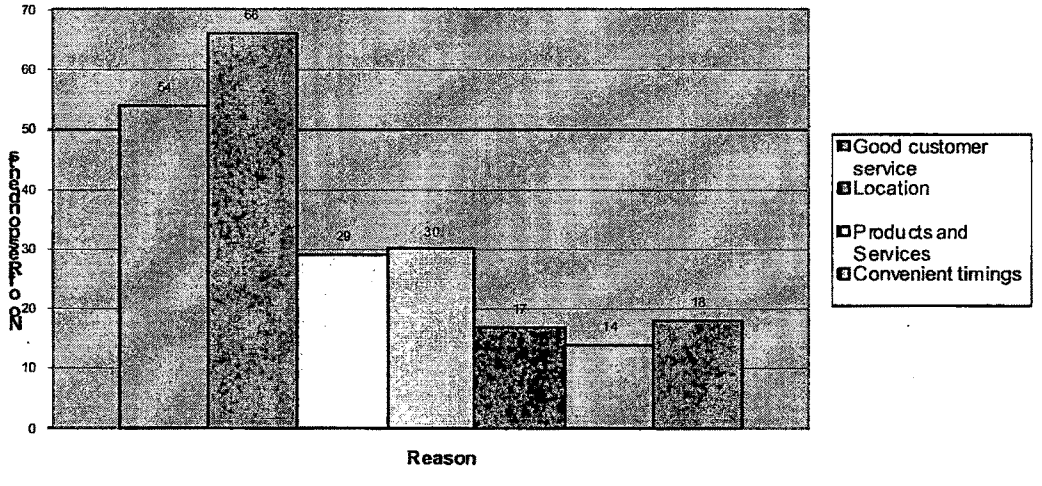


Chart 5.9: MULTINATIONAL - Customer's reason for banking

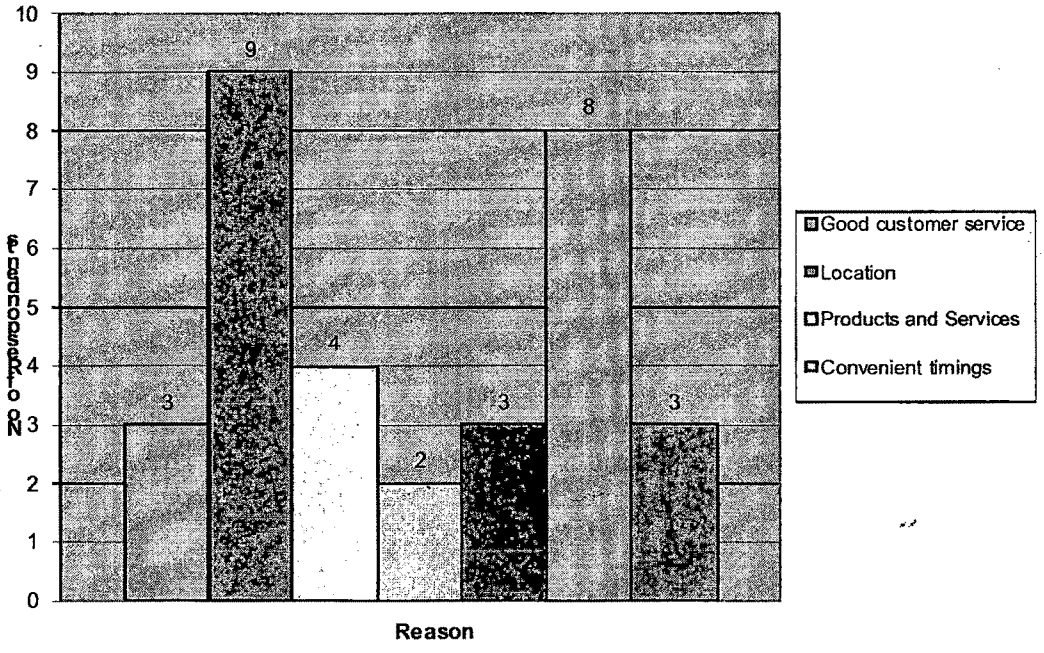
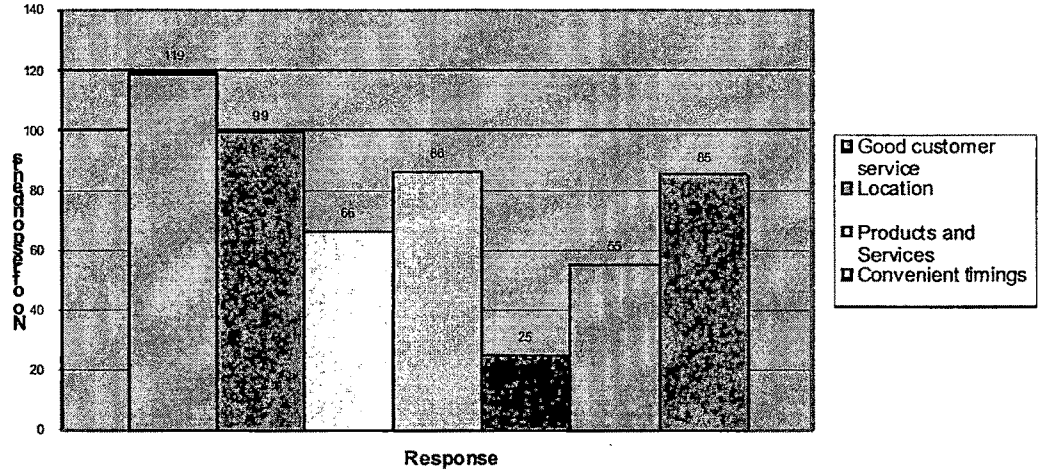
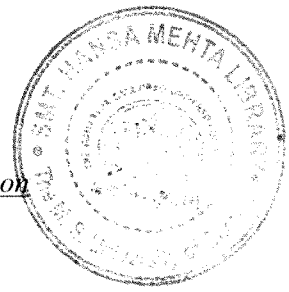


Chart 5.7: PRIVATE SECTOR - Customer's reason for banking





5.2.2.2 Objective 2 - Category 2: Capture a particular customer-bank interaction

Q. To measure customer satisfaction for a significant customer transaction

ANALYSIS

The bank customer has been asked 5 question to capture a particular, preferably the last interaction that the customer had with the bank and their satisfaction with the experience. First the customer has been asked how he/ she had contacted the bank. 3 options have been provided, namely in-person, telephone and the internet and the customer has been asked to choose one option. This will tell us about the method of contacting the bank representative. Next we ask the customer to state how long he/ she had to wait before speaking with a bank representative. 4 options have been provided to the customer and one has to be chosen. This will give the researcher an idea about the spontaneity of the service. Next question is about the interfacing bank representative. 4 options have been provided about the representative's approach as follows;

- Representative quickly identified the problem
- Representative appeared knowledgeable and competent
- Representative helped the customer understand the cause and solution of the problem
- Representative handled issues with courtesy and professionalism

The customer has been provide with the option of choosing more than one is it is applicable. The 4th question to the customer is to identify the time it took the problem to get resolved. Again 4 choices have been provided and the customer has to choose the one that is most applicable. The last choice in the set of choices is the possibility of the problem not having been resolved yet. Final question is to identify the customer's overall satisfaction with the experience. Results have been captured in Table 5.18.

TABLE 5.18

A TYPICAL CUSTOMER EXPERIENCE

Table of sect by q3 (Method of contacting the bank)				
sect(sect)	Person	Telephone	Internet	Total
Public	390	73	8	471
Private	111	51	8	170
Cooperative	65	20	0	85
Multinational	7	12	5	24
Total	573	156	21	750

Table of sect by q4 (Wait before speaking to a representative)					
	q4(q4)				Total
sect(sect)	Immediately	Within 5 minutes	5-10 minutes	More than 10 minutes	
Public	95	184	142	50	471
Private	44	75	39	12	170
Cooperative	30	36	16	3	85
Multinational	10	10	2	2	24
Total	179	305	199	67	750

Table of sect by q51(Representative quickly identified the problem)			
sect(sect)	q51(q51)		Total
	No	Yes	
Public	263	208	471
Private	91	79	170
Cooperative	34	51	85
Multinational	12	12	24
Total	400	350	750

Table of sect by q52 (Representative appeared knowledgeable and competent)			
sect(sect)	q52(q52)		Total
	0	1	
Public	321	150	471
Private	108	62	170
Cooperative	59	26	85
Multinational	14	10	24
Total	502	248	750

Table of sect by q53 (Helped the customer understand the cause and solution of the problem)			
sect(sect)	q53(q53)		Total
	0	1	
Public	157	314	471
Private	54	116	170
Cooperative	26	59	85
Multinational	17	7	24
Total	254	496	750

Table of sect by q54 (Handled issues with courtesy and professionalism)			
sect(sect)	q54(q54)		Total
	0	1	
Public	325	146	471
Private	99	71	170
Cooperative	51	34	85
Multinational	10	14	24
Total	485	265	750

Consolidated positive responses for table q5				
	Yes	Yes	Yes	Yes
sect(sect)	Rep quickly identified the problem	Rep appeared knowledgeable and competent	Rep helped customer understand the problem	Rep handled issues with courtesy and professionalism
Public	27.73	20	41.87	19.47
Private	10.53	8.27	15.47	9.47
Cooperative	6.8	3.47	7.87	4.53
Multinational	1.6	1.33	0.93	1.87

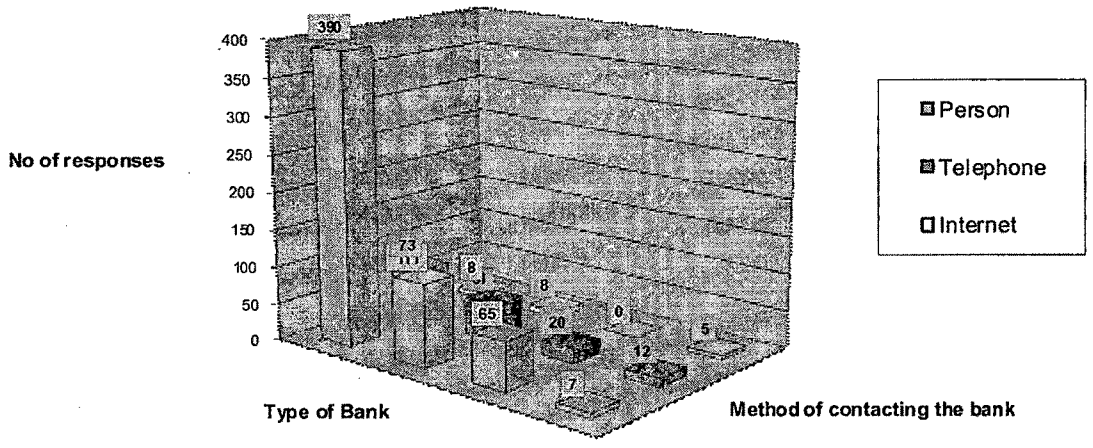
Table of sect by q6 (Time it took to get the problem resolved)					
	q6(q6)				Total
sect(sect)	Immediate	Less than a day	Between 3 and 5 days	Not yet resolved	
Public	133	221	104	13	471
Private	42	73	44	11	170
Cooperative	30	42	13	0	85
Multinational	8	6	7	3	24
Total	213	342	168	26	749

Table of sect by q7 (Overall satisfaction with the customer experience)					
	q7(q7)				Total
sect(sect)	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied	
Public	195	194	72	10	471
Private	79	63	26	2	170
Cooperative	42	36	6	1	85
Multinational	11	7	4	2	24
Total	327	300	108	15	750

FINDINGS

1. We observe from the Chart 5.10 that for Public, Private and Cooperative banks, most of the customers have preferred to contact the bank in person. For Multinational banks, the response is largest for telephone.

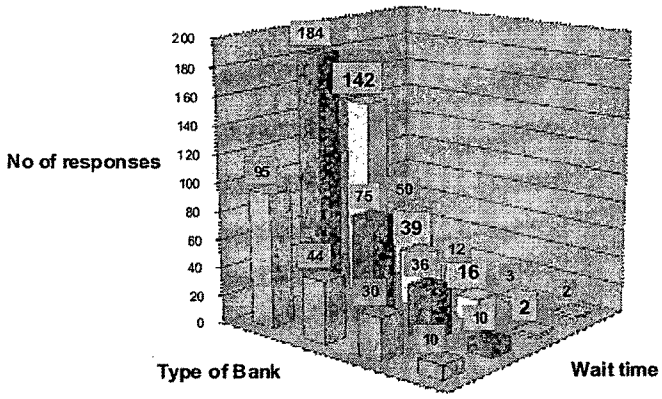
Chart 5.10: (1) Customers' method of contacting the bank - A Typical customer experience



	Public	Private	Cooperative	Multinational
Person	390	111	65	7
Telephone	73	51	20	12
Internet	8	8	0	5

2. We observe from the Chart 5.11 below that the time the customer had to wait before speaking to a representative has scored poorest for the public sector banks where most of the respondents had to wait 5 to 10 minutes before speaking to a bank representative. For the other sectors of the banks, they were almost immediately attended to or within 5 minutes of time.

Chart 5.11: (2) Wait before speaking to a bank representative - A Typical Customer Experience



	Public	Private	Cooperative	Multinational
Immediately	95	44	30	10
Within 5 minutes	184	75	36	10
5-10 minutes	142	39	16	2
More than 10 minutes	50	12	3	2

3. The responses obtained from the 4 options provided to the customer about the bank representative's behaviour and knowledge, have been clubbed and percentage response has been plotted on the graph. We observe from Chart 5.12 that for Public, Private and Cooperative banks, the representative has been successful in identifying the problem, but the knowledge, competence and professionalism of the representative has scored low. Contrarily, in Multinational banks, representative handling issues with courtesy and professionalism has scored the highest.

Chart 5.12: (3) The Representative at the bank - A Typical Customer Experience

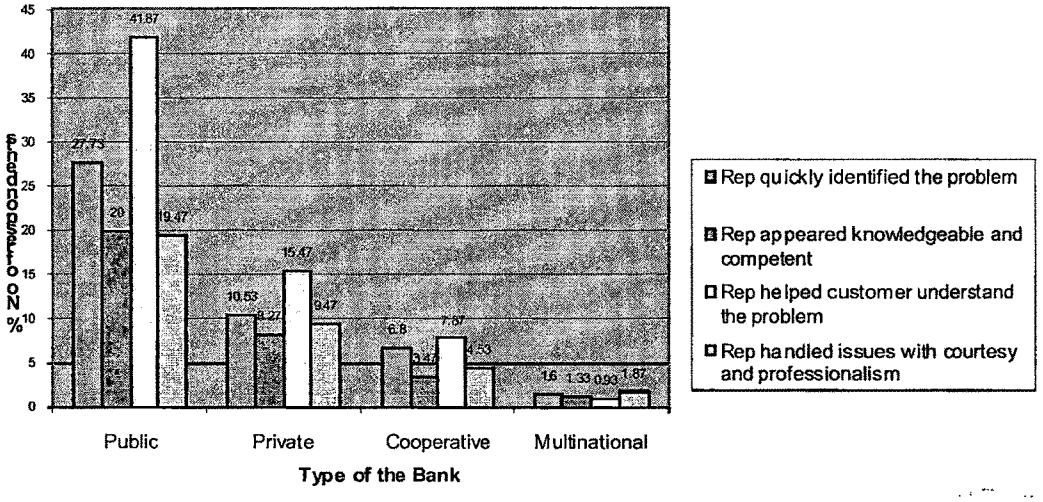
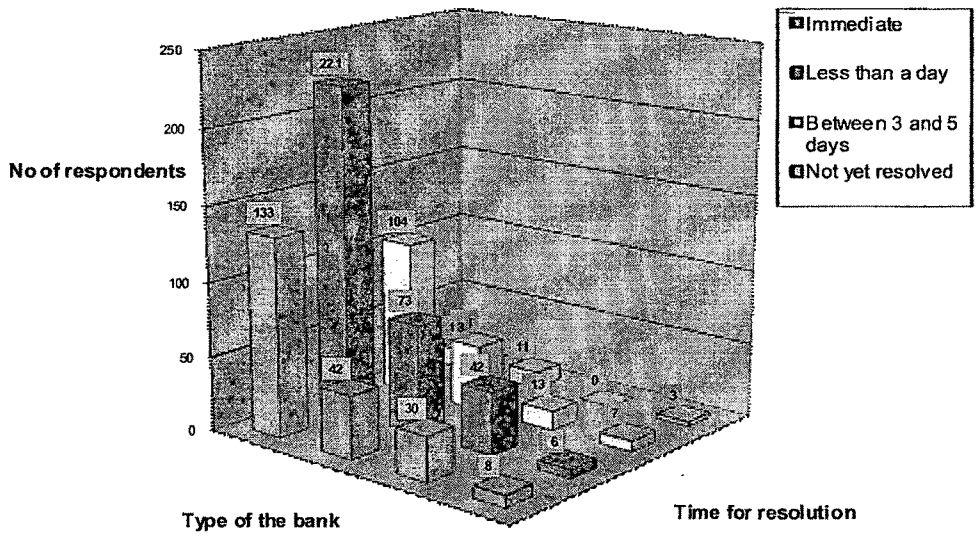


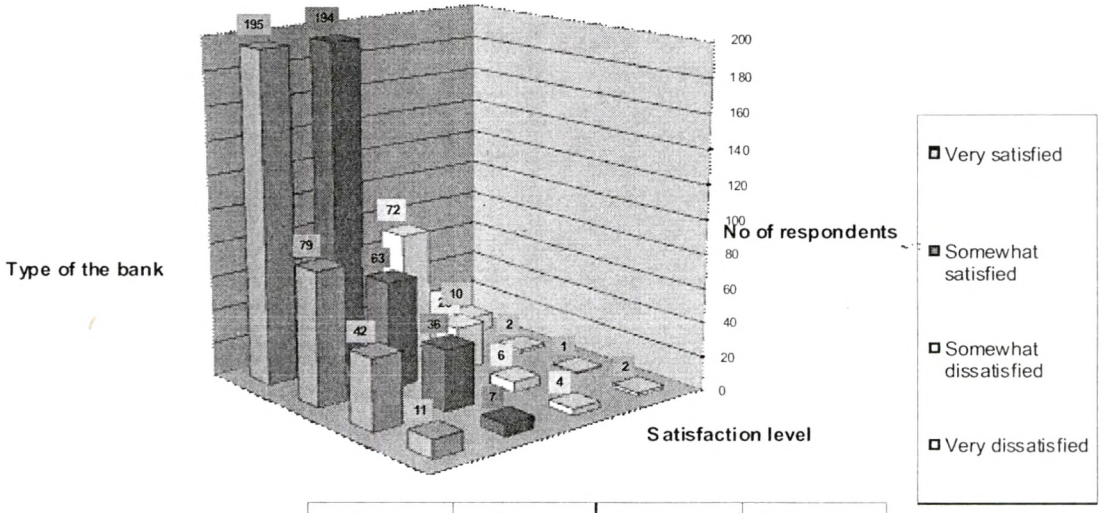
Chart 5.13: (4) Time it took to get the problem resolved - A typical customer experience



4. It can further be observed from Chart 5.13 above that for most cases, the problem has been resolved in a day's time or between 3-5 days.

5. Finally, we observe from Chart 5.14 that majority of the customers across all sectors of the banks are either very satisfied or somewhat satisfied with the experience. There are very few dissatisfied customers.

Chart 5.14: (5) Overall satisfaction with the experience



	Public	Private	Cooperative	Multinational
Very satisfied	195	79	42	11
Somewhat satisfied	194	63	36	7
Somewhat dissatisfied	72	26	6	4
Very dissatisfied	10	2	1	2

INFERENCES

The inferences from the above results can be stated as follows:

1. Customers prefer to contact banks "face to face" inspite of various technology based methods provided to them.

2. The promptness in Public sector banks is somewhat less compared to the other sectors the representative almost immediately attends to customer queries.
3. Customers do not seem very satisfied with the level of knowledge and competence of the interfacing bank representatives. Hence there is a need for more trained staff at the banks. The professionalism of the staff is not upto the satisfaction of the customers of Public, Private and Cooperative banks and hence requires improvement.
4. The turnaround time for resolution of queries has been satisfactory for customers extending to maximum of 5 days in some cases. The unstructured interviews reveal that there is scope for more improvement in this area.
5. The customers have not expresses major reasons for complain.

5.2.2.3 Objective 2 - Category 3: CRM expectations of customers

Q. What are the drivers of customer satisfaction? How has the customer satisfaction been in terms of service offerings by the banks?

ANALYSIS

Factor Analysis has been done on the data gathered for the independent variables and hence an attempt has been made to identify the underlying structure of the data. Analysis of variance has then been carried out on the same set of data to identify the strength of the relationship between the dependent and independent variables. Linear Regression has finally been done to determine the variation in the dependent variable based on variation in one or more of the independent variables. All the 3 test have first been carried out on

the total number of sample responses (750) for the customer questionnaire. Then the same test has been conducted separately for each of the 4 sectors of the banks. The sample size for Public sector is 471, for private sector is 170, for Cooperative banks it is 85 and for multinational banks it is 24.

The responses gathered from the closed ended customer questionnaire have been used for identifying the drivers of customer satisfaction. Question 8 from the questionnaire "Considering total package offered by the bank including customer service, feature, benefits and costs, how satisfied are you with the bank?" has been considered as the dependent variable. The independent variables are a mix of customer service, benefits and IT based service offerings which have been asked as separate questions on the customer questionnaire. They are as follows:

Question 7: Overall, how satisfied are you with a particular customer experience?

Question 9: Are the fees and interest rates at the bank competitive?

Question 10: Are the bank's services explained to you in a way that is easy to understand?

Question 11: Is sufficient information available on the internet to solve your problems?

Question 12: Are you satisfied with the bank's hours of operation?

Question 13: Are you satisfied with the bank's ATM services?

Question 14: Are you satisfied with the bank's core banking facilities?

Questions 7 and 10 are about the customer service, questions 9 and 12 are about non-IT based service offerings and questions 11, 13 and 14 are about IT based service offerings.

FINDINGS

Factor analysis

For the total sample size of 750 observations

TABLE 5.19

Rotated Factor Pattern			
		Factor1	Factor2
q7	q7	0.7058	0.1082
q9	q9	0.6571	0.0458
q10	q10	0.6471	0.1376
q_11	q_11	0.2033	0.5818
q_12	q_12	0.4786	0.1389
q_13	q_13	0.0179	0.7929
q_14	q_14	0.1488	0.7186

We observe from the table 5.19 that considering the total set of responses, 2 factors emerge. Factor 1 consists of the non-IT service offerings by the banks. They are:

- Q7 – satisfaction measured for a particular customer experience
- Q9 – Competitive fees and interest rates
- Q10 – New service offerings are well explained to customers
- Q12 – satisfaction with bank's hours of operation

Factor 2 consists of IT based service offerings by the banks. They are:

- Q11 – Satisfaction with the internet services
- Q13 - Satisfaction with the ATM services
- Q14 - Satisfaction with the corebanking services

For the sample size of 471 observations for Public sector banks

TABLE 5.20

Rotated Factor Pattern			
		Factor1	Factor2
q7	q7	0.6828	0.1204
q9	q9	0.7487	-0.056
q10	q10	0.6528	0.1732
q_11	q_11	0.4511	0.356
q_12	q_12	0.4389	0.2426
q_13	q_13	0.0208	0.8475
q_14	q_14	0.2124	0.6989

We observe from the table 5.20 that considering the responses for the Public sector banks, 2 factors emerge. Factor 1 consists of the following offerings by the banks. They are mainly implying good customer service:

- Q7 – satisfaction measured for a particular customer experience
- Q9 – Competitive fees and interest rates
- Q10 – New service offerings are well explained to customers
- Q11 – Satisfaction with the internet services
- Q12 – satisfaction with bank's hours of operation

Factor 2 consists of the following IT based offerings by the banks. They are:

- Q13 - Satisfaction with the ATM services
- Q14 - Satisfaction with the corebanking services

For the sample size of 170 observations for Private sector banks

TABLE 5.21

Rotated Factor Pattern				
		Factor1	Factor2	Factor3
q7	q7	-0.083	0.5226	0.5972
q9	q9	0.5322	-0.269	0.4298
q10	q10	0.0456	-0.016	0.7871
q_11	q_11	0.8035	0.0473	-0.199
q_12	q_12	0.0133	0.7962	-0.093
q_13	q_13	0.6129	0.331	0.1805
q_14	q_14	0.3672	0.5465	0.163

We observe from the table 5.21 that considering the responses for the Private sector banks, 3 undefined factors emerge. Factor 1 consists of the following offerings by the banks. They are:

- Q9 – Competitive fees and interest rates
- Q11 – Satisfaction with the internet services
- Q13 - Satisfaction with the ATM services

Factor 2 consists of the following offerings by the banks. They are:

- Q12 – satisfaction with bank's hours of operation
- Q14 - Satisfaction with the corebanking services

Factor 3 consists of the following offerings by the banks. They are:

- Q7 – satisfaction measured for a particular customer experience
- Q10 – New service offerings are well explained to customers

For the sample size of 85 observations for Cooperative banks

TABLE 5.22

Rotated Factor Pattern			
		Factor1	Factor2
q7	q7	0.1645	0.7283
q9	q9	0.3914	0.4046
q10	q10	-0.002	0.7654
q_11	q_11	0.5804	-0.042
q_12	q_12	-0.131	0.5744
q_13	q_13	0.704	0.0593
q_14	q_14	0.7713	0.01

We observe from the table 5.22 that considering the responses for the Cooperative sector banks, 2 factors emerge. Factor 1 consists of the following IT based offerings by the banks. They are:

- Q11 – Satisfaction with the internet services
- Q13 - Satisfaction with the ATM services
- Q14 - Satisfaction with the corebanking services

Factor 2 consists of the following non IT based offerings by the banks. They are:

- Q7 – satisfaction measured for a particular customer experience
- Q9 – Competitive fees and interest rates
- Q10 – New service offerings are well explained to customers
- Q12 – satisfaction with bank's hours of operation

For the sample size of 24 observations for Multinational banks

TABLE 5.23

Rotated Factor Pattern				
		Factor1	Factor2	Factor3
q7	q7	0.031	0.8546	-0.278
q9	q9	-0.38	0.4286	0.3661
q10	q10	0.7895	0.0416	-0.162
q_11	q_11	0.8591	0.1984	0.1829
q_12	q_12	-0.21	0.0162	0.6666
q_13	q_13	0.2793	-0.159	0.798
q_14	q_14	0.2258	0.7814	0.0739

We observe from the table 5.23 that considering the responses for the Multinational banks, 3 undefined factors emerge. Factor 1 consists of the following offerings by the banks. They are:

- Q10 – New service offerings are well explained to customers
- Q11 – Satisfaction with the internet services

Factor 2 consists of the following offerings by the banks. They are:

- Q7 – satisfaction measured for a particular customer experience
- Q9 – Competitive fees and interest rates
- Q14 - Satisfaction with the corebanking services

Factor 3 consists of the following offerings by the banks. They are:

- Q12 – satisfaction with bank's hours of operation
- Q13 - Satisfaction with the ATM services

Analysis of variance

For the total sample size of 750 observations

From table 5.24, for testing the statistical significance of R^2, that is does .34 indicate a significant relationship, the F test values (calculated and critical value from statistical table) have been compared

TABLE 5.24

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	260.512	37.216	54.62	<.0001
Error	742	505.5267	0.6813		
Corrected Total	749	766.0387			

Root MSE	0.82541	R-Square	0.3401
Dependent Mean	1.91867	Adj R-Sq	0.3339
Coeff Var	43.02002		

For the total sample of 750, the degrees of freedom (k – 1) for the numerator is 7 and degrees of freedom (n – k) for the denominator is (750 – 8) = 742, where n is the number of observations and k is the total number of variables. The critical value of F from the statistical table at a 99 percent confidence level is 2.64. Since the calculated value of F = 54.62 is greater than the critical value of 2.64, we reject the null hypothesis that there is no relationship between the variables. There is significant relationship between the dependent and independent variables.

For the sample size of 471 observations for Public sector banks

From table 5.25, for testing the statistical significance of R^2, that is does .37 indicate a significant relationship, the F test values (calculated and critical value from statistical table) have been compared.

TABLE 5.25

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	7	183.8119	26.25884	39.38	<.0001
Error	463	308.7529	0.66685		
Corrected Total	470	492.5648			

Root MSE	0.81661	**R-Square**	0.3732
Dependent Mean	1.9448	**Adj R-Sq**	0.3637
Coeff Var	41.98947		

For the Public sector (471 observations), the degrees of freedom (k – 1) for the numerator is 7 and degrees of freedom (n – k) for the denominator is (471 – 8) = 463, where n is the number of observations and k is the total number of variables. The critical value of F from the statistical table at a 99 percent confidence level is 2.64. Since the calculated value of F = 39.38 is greater than the critical value of 2.64, we reject the null hypothesis that there is no relationship between the variables. There is significant relationship between the dependent and independent variables.

For the sample size of 170 observations for Private sector banks

From table 5.26, for testing the statistical significance of R^2, that is does .29 indicate a significant relationship, the F test values (calculated and critical value from statistical table) have been compared.

TABLE 5.26

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	7	49.67018	7.09574	9.56	<.0001
Error	162	120.2181	0.74209		
Corrected Total	169	169.8882			

Root MSE	0.86144	**R-Square**	0.2924
Dependent Mean	1.86471	**Adj R-Sq**	0.2618
Coeff Var	46.19734		

For the Private sector (170 observations), the degrees of freedom (k – 1) for the numerator is 7 and degrees of freedom (n – k) for the denominator is (170 – 8) = 162, where n is the number of observations and k is the total number of variables. The critical value of F from the statistical table at a 99 percent confidence level is 2.64. Since the calculated value of F = 9.56 is greater than the critical value of 2.64, we reject the null hypothesis that there is no relationship between the variables. There is significant relationship between the dependent and independent variables.

For the sample size of 85 observations for Cooperative banks

From table 5.27, for testing the statistical significance of R^2, that is does .40 indicate a significant relationship, the F test values (calculated and critical value from statistical table) have been compared.

TABLE 5.27

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	7	31.8402	4.5486	7.42	<.0001
Error	77	47.17157	0.61262		
Corrected Total	84	79.01176			

Root MSE	0.7827	**R-Square**	0.403
Dependent Mean	1.84706	**Adj R-Sq**	0.3487
Coeff Var	42.37543		

For the Cooperative banks (85 samples), the degrees of freedom (k – 1) for the numerator is 7 and degrees of freedom (n – k) for the denominator is (85 – 8) = 77, where n is the number of observations and k is the total number of variables. The critical value of F from the statistical table at a 99 percent confidence level is 2.79. Since the calculated value of F = 7.42 is greater than the critical value of 2.79, we reject the null hypothesis that there is no relationship between the variables. There is significant relationship between the dependent and independent variables.

For the sample size of 24 observations for Multinational banks

From table 5.28, for testing the statistical significance of R^2, that is does .70 indicate a significant relationship, the F test values (calculated and critical value from statistical table) have been compared.

TABLE 5.28

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	7	16.24849	2.32121	5.54	0.0022
Error	16	6.70985	0.41937		
Corrected Total	23	22.95833			

Root MSE	0.64758	**R-Square**	0.7077
Dependent Mean	2.04167	**Adj R-Sq**	0.5799
Coeff Var	31.7184		

For the Multinational banks, the degrees of freedom (k – 1) for the numerator is 7 and degrees of freedom (n – k) for the denominator is (24 – 8) = 16, where n is the number of observations and k is the total number of variables. The critical value of F from the statistical table at a 95 percent confidence level is 4.03. Since the calculated value of F = 5.54 is greater than the critical value of 4.03, we reject the null hypothesis that there is no relationship between the variables. There is significant relationship between the dependent and independent variables.

Regression Analysis

The main objective of regression analysis is to explain the variation in one variable (called the dependent variable), based on the variation in one or more other variables (called the independent variables).

Findings from the Linear Regression test at alpha = .01:

(a) For the test run on the total sample size for 750 observations, we see that satisfaction gained for a particular customer experience, the banks services being explained in a way that is easy to understand and ATMs are significant. Rest are insignificant.

TABLE 5.29

The SAS System

The REG Procedure for to measure customer satisfaction for all banks

Dependent Variable: q8

Number of Observations Read	750
Number of Observations Used	750

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	0.21278	0.13166	1.62	0.1065
q7	q7	1	0.41956	0.03013	13.93	<.0001
q9	q9	1	0.01882	0.03184	0.59	0.5546
q10	q10	1	0.13538	0.03372	4.02	<.0001
q_11	q_11	1	0.03686	0.03594	1.03	0.3053
q_12	q_12	1	0.06337	0.02812	2.25	0.0245
q_13	q_13	1	0.09373	0.03144	2.98	0.003
q_14	q_14	1	0.06682	0.03399	1.97	0.0497

(b) For the test run on the Public sector responses (471), we find that satisfaction gained for a particular customer experience and the bank's services being explained in a way that is easy to understand are significant. Rest are insignificant.

TABLE 5.30

The SAS System

The REG Procedure for to measure customer satisfaction for Public banks

Dependent Variable: q8

Number of Observations Read	471
Number of Observations Used	471

Parameter Estimates						
Variable	**Label**	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	Intercept	**1**	0.31123	0.16028	1.94	0.0528
q7	q7	**1**	0.45802	0.03786	12.1	<.0001
q9	q9	**1**	0.00364	0.04071	0.09	0.9288
q10	q10	**1**	0.164	0.04311	3.8	0.0002
q_11	q_11	**1**	0.01322	0.04637	0.29	0.7757
q_12	q_12	**1**	0.04558	0.03565	1.28	0.2018
q_13	q_13	**1**	0.06342	0.0382	1.66	0.0976
q_14	q_14	**1**	0.05142	0.04231	1.22	0.2248

(c) For the test run on the Private sector responses (170), we find that satisfaction gained for a particular customer experience and ATMs are significant. Rest are insignificant.

TABLE 5.31

The SAS System

The REG Procedure for to measure customer satisfaction for Private banks

Dependent Variable: q8

Number of Observations Read	170
Number of Observations Used	170

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	0.332	0.30779	1.08	0.2824
q7	q7	1	0.32363	0.06633	4.88	<.0001
q9	q9	1	-0.05247	0.06975	-0.75	0.4529
q10	q10	1	0.04593	0.07083	0.65	0.5177
q_11	q_11	1	0.06916	0.07592	0.91	0.3637
q_12	q_12	1	0.00143	0.05933	0.02	0.9809
q_13	q_13	1	0.30712	0.08577	3.58	0.0005
q_14	q_14	1	0.14847	0.09443	1.57	0.1179

(d) For the test run on the Cooperative sector responses (85), we find that satisfaction gained for a particular customer experience and the bank's hours of operation are significant. Rest are insignificant.

TABLE 5.32

The SAS System

The REG Procedure for to measure customer satisfaction for Cooperative banks

Dependent Variable: q8

Number of Observations Read	85
Number of Observations Used	85

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	**1**	-0.12729	0.44906	-0.28	0.7776
q7	q7	**1**	0.35281	0.1061	3.33	0.0014
q9	q9	**1**	0.12693	0.09109	1.39	0.1675
q10	q10	**1**	0.17293	0.11592	1.49	0.1398
q_11	q_11	**1**	-0.08387	0.11197	-0.75	0.4561
q_12	q_12	**1**	0.33425	0.09616	3.48	0.0008
q_13	q_13	**1**	0.1114	0.09284	1.2	0.2338
q_14	q_14	**1**	0.03717	0.07943	0.47	0.6412

(e) For the test run on the Multinational sector responses (24), we find that satisfaction gained from core banking facilities is significant. Rest are insignificant.

TABLE 5.33

The SAS System

The REG Procedure for to measure customer satisfaction for Multinational banks

Dependent Variable: q8

Number of Observations Read	24
Number of Observations Used	24

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	-0.82032	0.69803	-1.18	0.2571
q7	q7	1	0.23193	0.12526	1.85	0.0826
q9	q9	1	0.22836	0.14822	1.54	0.1429
q10	q10	1	0.09793	0.14576	0.67	0.5112
q_11	q_11	1	0.19203	0.19677	0.98	0.3436
q_12	q_12	1	0.07474	0.13828	0.54	0.5963
q_13	q_13	1	-0.07671	0.13764	-0.56	0.585
q_14	q_14	1	0.55771	0.18899	2.95	0.0094

INFERENCES

It can be observed from the above findings that customers value both technology and non technology based services. In general, across all banks, a good customer service experience is of great importance in creating loyalty towards a bank. It is also seen that the customers of Public sector banks do not have enough information about various service offering by banks, and hence when it comes to switching over to technology based service offerings from the face to face banking, there is a lack of confidence amongst the customers. The Private sector bank customers are mostly users of ATMs.

Internet has not caught on as much. The Cooperative bank customers are inclined towards face to face banking and value the increase of banking hours as significant. For customers of multinational banks, they prefer to conduct a successful transaction at the first attempt from anywhere in the world and hence value the efficient functionality of core banking.

5.2.3 OBJECTIVE 3: Determining the role of Technology in increasing the effectiveness of per customer acquisition efforts

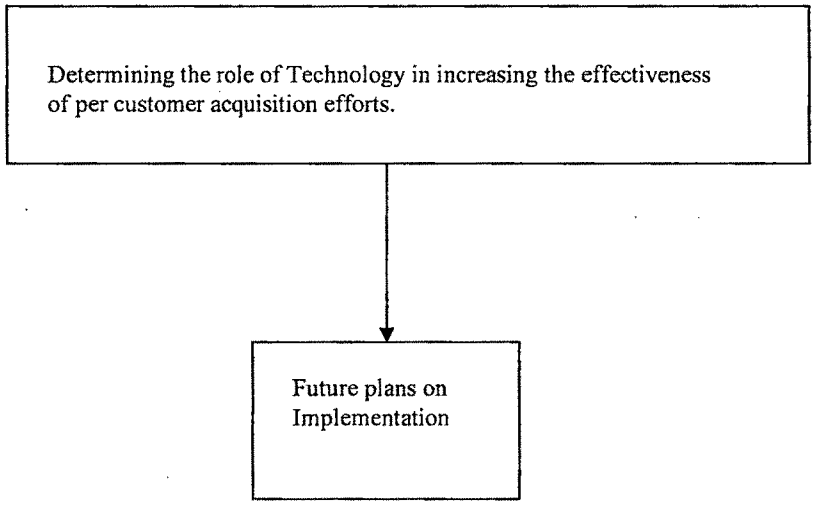


Figure 5.4 Technology for customer acquisition

5.2.3.1 Objective 3 - Category 1: Future Plans on Implementation

1. Should the organization perceive the need for more technological support to facilitate its CRM activities?

It is obvious from the regression results above that good customer service is of prime importance, whether it be delivered by technology or non technology based methods.

More than technology support, perhaps what is required is creating more awareness amongst the customers about the existing services and provide the required handholding to build the confidence amongst the loyal customers to be able to move towards using the services and benefiting from them.

2. Identify the role of technology to drive or improve the effectiveness of customer acquisition.

ANALYSIS

The head of the business unit of the banks have been provided with a bouquet of technology and non technology based reasons that could be potential identifiers for loss of loyal customers by banks. The technology based reasons include:

- Inadequate technology based service offerings by banks
- Bank employees not trained enough to handle changes in technology and hence not being able to provide prompt service and resolution to problems for the customers

The non technology based reasons include:

- Slow and inefficient customer service
- Inconvenient bank timings

These reasons have been identified from secondary research and have been quoted by researchers as possible reasons for loss of customers. The intent of asking this question to

the bank executive was to identify which is the most critical reason for each of the 4 sectors of banks.

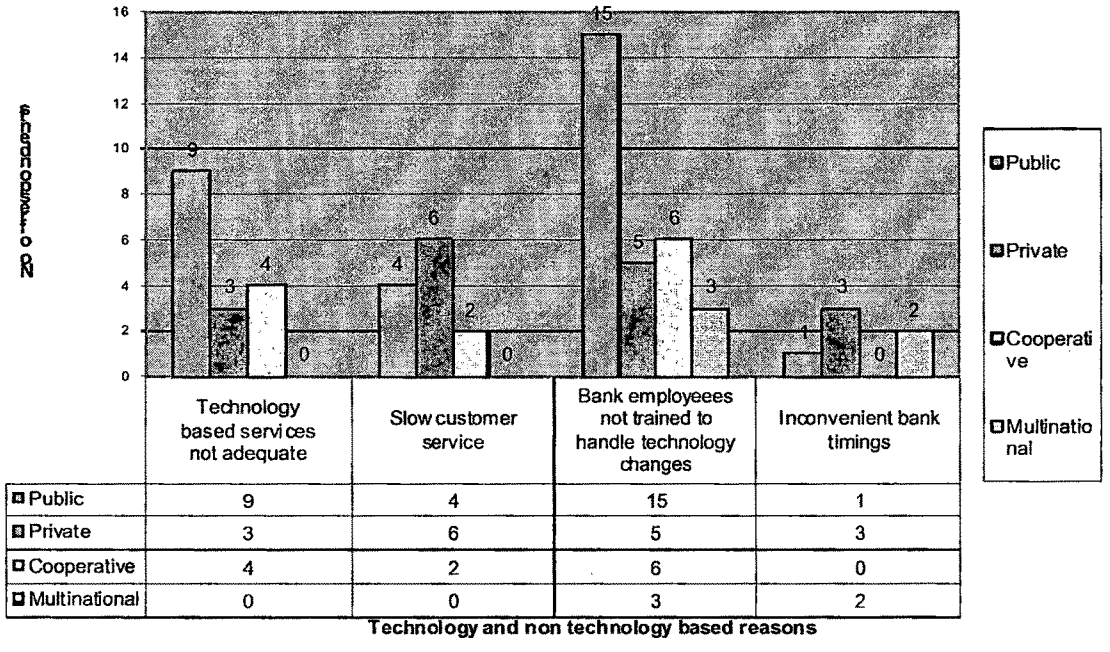
FINDINGS

TABLE 5.34

REASON FOR LOSING CUSTOMERS IN 2005

Frequency count	Technology based services not adequate	Slow customer service	Bank employees not trained to handle technology changes	Inconvenient bank timings
Public	9	4	15	1
Private	3	6	5	3
Cooperative	4	2	6	0
Multinational	0	0	3	2

Chart 5.15: Reason for losing customers in 2005



The chart 5.15 depicts the frequency results obtained in table 5.34. We observe that for Public sector banks, technology based service offerings are of significance for the customers and the one that received the highest score is the fact that that the bank employees are not able to demonstrate promptness and efficiency in handling the new technology based service offerings by banks. The private sector banks share the same feelings except that they are of the opinion that overall slow lethargic service is the main reason for loss of customers, part of which is lack of trained employees in the latest service offerings by banks. Kalupur bank, amongst the surveyed Cooperative banks is very aggressive in implementing technology based service offerings. However, they have not been able to deploy efficient trained staff resulting in loss of customers. For the multinational banks, the significant reasons emerge as longer bank working hours and lack of trained employees in hadling technology based service offerings.

INFERENCES

It can be clearly observed that there is a growing frustration across all sectors of the banks amongst the customers about interfacing with bank employees who are not able to efficiently use the new technology based applications at the banks. This results in longer time for resolution of customer queries and problems leading to loss of loyal customers. This is more evident in Public sector banks compared to the other categories of banks. We also observe from above objective q6 graph that although there are not many technology based service offering by the Cooperative sector banks, there is a desire as is evident from the graph (inadequate technology based service score high) to move towards technology based CRM.

3. Expected increase in loyal customers as a result of technology initiatives.

ANALYSIS

The head of the Business Unit has been asked the question that considering the enhanced technology based CRM facilities that the bank plans to offer, what is his expected percentage rise in loyal customers in the next 5 years. The responses have been collected across the 4 categories of banks and hence the bar chart indicates the collective affirmative response for each of the 4 categories of banks.

FINDINGS

From the table 5.35 and Chart 5.16, it is observed that all sectors of the banks expect a loyal customer rise of about 21-50% in the next 5 years.

TABLE 5.35

Expected customer rise in the future					
sect(sect)	q16(q16)				Total
FREQUENCY	1-10%	11-20%	21-50%	50% or more	
Public	1	2	11	5	19
Private	0	5	9	0	14
Cooperative	2	2	2	0	6
Multinational	0	0	5	0	5
Total	3	9	27	5	44

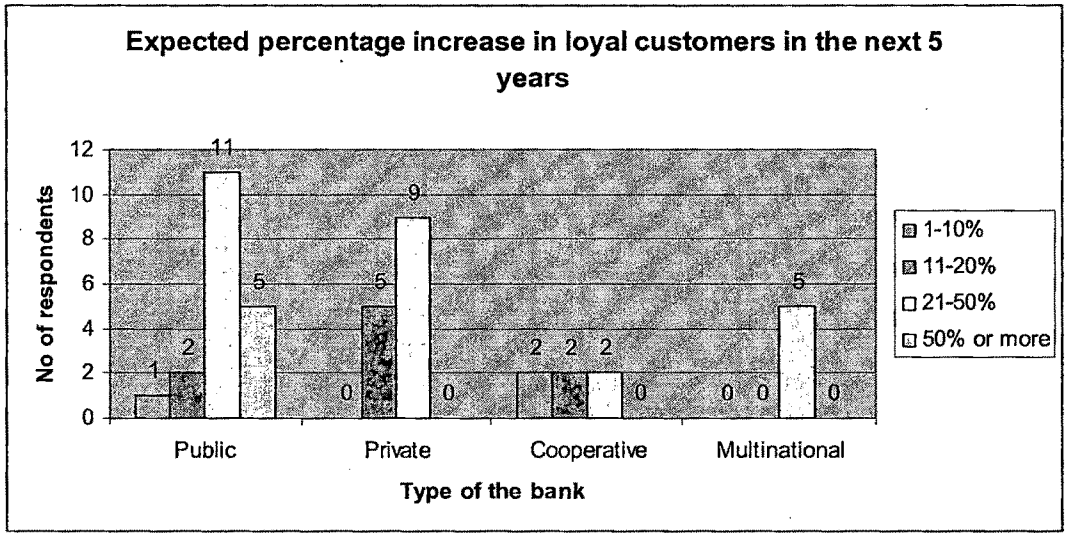


Chart 5.16

INFERENCES

As the banks plan on implementing and hence offering more technology based CRM solutions, it is also seen that better trained employees providing faster friendly service will be required. The Cooperative sector banks have a mixed reaction as is evident from the graph. The unstructured interviews confirm that most cooperative banks do not feel the need for implementing technology based solutions but believe in improving the face to face customer service. There are others who have delved into the technology offerings. The expected rise in loyal customers is 21-50% for all sectors of the banks. Hence banks have to get their employees trained in being able to efficiently handle the new changes emerging at the banks as a result of the technology based CRM applications. Only then will they be able to reap the benefits of the investments made in maintaining and acquiring technology based service offerings.

5.2.4 OBJECTIVE 4: Determining the role of Technology in improving the employee job satisfaction in a CRM function.

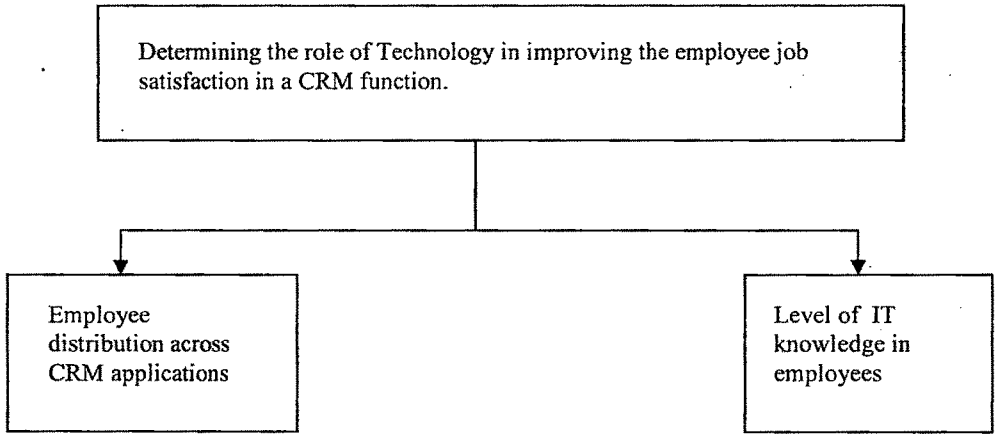


Figure 5.5 Technology and employee job satisfaction

5.2.4.1 Objective4 - Category 1: Employee Distribution across CRM applications

1. Identify the sectorwise number of employees in the organization and hence see how many are working on CRM applications?

ANALYSIS

The CRM manager of the bank has been asked two questions to identify if there is a relationship between the total number of employees in the bank and the number of employees working on CRM applications. This can provide us with the information about the structure within the organization and to some extent give us idea about CRM's significance within the organization.

FINDINGS

Chi-square contingency table test: The chi-square test results have been matched to the value in the table at alpha = 0.05 and degrees of freedom = 1. The critical value of chi-square thus obtained from the table is .0039.

- From table 5.36 below, Null Hypothesis H_o = There is no relationship between the number of employees within the organization and % of them working on CRM applications. We observe from table 5.36 that the calculated value of Chi-square (2.82) is slightly higher than the critical value (.0039) obtained from the table.

TABLE 5.36

q2: How many people are employed by your organization?
q3: What % of them are working on CRM applications?

RESPONDENT	Sect	q2		q3	
1	1	4	High	3	Low
2	1	4	High	4	High
3	1	4	High	3	Low
4	1	4	High	4	High
5	1	3	Low	3	Low
6	1	4	High	3	Low
7	1	4	High	1	Low

	Q3 LOW	Q3 HIGH	
Q2 LOW	12 Actual is 12/44 = 27.3% Estimated is .545*.614= 33.5% (14.7)	15 Actual is 15/44 = 34.1% Estimated is .455*.614= 27.9% (12.3)	27 which is 61.4%
Q2 HIGH	12 Actual is 12/44 = 27.3% Estimated is .545*.386= 21% (9.3)	5 Actual is 5/44 = 11.4% Estimated is .455*.386= 17.6% (7.7)	17 which is 38.6%
	24 which is 54.5%	20 which is 45.5%	44 which is 100%

TABLE 5.36
CONTINUED

RESPONDENT	Sect	q2		q3	
8	1	3	Low	4	High
9	1	3	Low	3	Low
10	1	4	High	3	Low
11	1	4	High	1	Low
12	1	3	Low	4	High
13	1	4	High	4	High
14	1	4	High	3	Low
15	2	3	Low	4	High
16	2	3	Low	4	High
17	2	2	Low	3	Low
18	2	3	Low	3	Low
19	2	4	High	3	Low
20	1	3	Low	4	High
21	1	4	High	4	High
22	1	4	High	3	Low
23	2	3	Low	4	High
24	2	3	Low	4	High
25	2	2	Low	3	Low
26	2	3	Low	3	Low
27	1	4	High	4	High
28	1	4	High	3	Low
29	2	3	Low	4	High
30	2	3	Low	4	High
31	2	2	Low	3	Low
32	2	3	Low	3	Low
33	4	4	High	3	Low
34	4	3	Low	4	High
35	1	1	Low	4	High
36	3	1	Low	4	High
37	3	2	Low	1	Low
38	2	3	Low	3	Low
39	4	4	High	3	Low
40	2	3	Low	4	High
41	3	1	Low	4	High
42	3	1	Low	4	High
43	1	2	Low	1	Low
44	2	3	Low	3	Low

$\chi^2 = \frac{(12 - 14.7)^2}{14.7} + \frac{(15 - 12.3)^2}{12.3} + \frac{(12 - 9.3)^2}{9.3} + \frac{(5 - 7.7)^2}{7.7} =$

$\frac{2.7*2.7}{14.7} + \frac{2.7*2.7}{12.3} + \frac{2.7*2.7}{9.3} + \frac{2.7*2.7}{7.7} =$

TRUE

INFERENCE

We observe that the computed value for chi-square (2.82) for the total number of employees in the bank compared to employees working on CRM applications, is slightly higher than the critical value (.0039). Hence, we can conclude that there is a strong relationship between the two components for banks.

2. Is there an optimal organization structure that is a precursor to support effective technological integration in effective CRM initiatives?

ANALYSIS

The question has been asked to the CRM manager of the banks if there exists a corporate function that has enterprise wide responsibility for CRM within the organization. The purpose of asking this question is to identify if there exists a planned structure within the organization within which CRM planning and implementation is a dedicated responsibility of a particular set of employees.

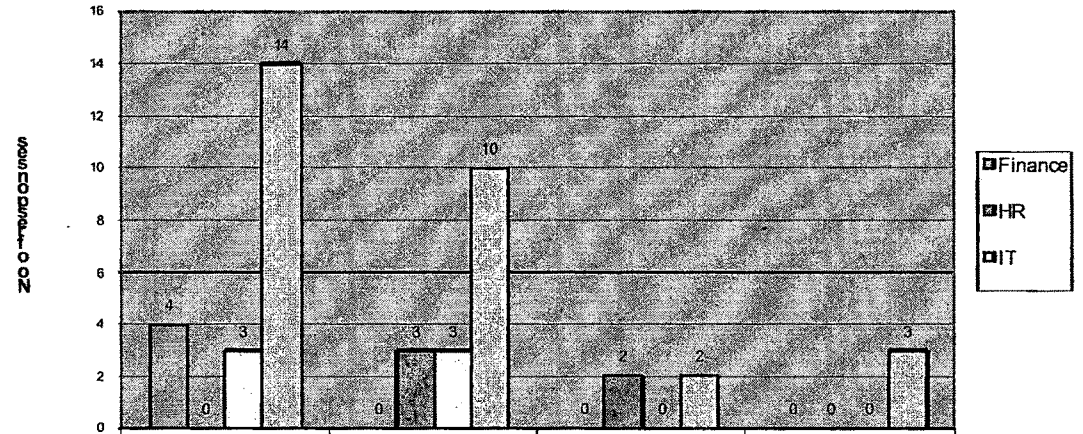
FINDINGS

Four choices with department names had been provided to the CRM manager with an option to state if there exists a department that has not been mentioned in the closed ended choices. The departments mentioned in the questionnaire are Finance, Human Resource, Marketing and Information Technology. No other department name was mentioned by any of the CRM managers providing the responses. The frequency plot clearly identifies that Marketing department mainly drives CRM.

INFERENCE

It can be clearly seen from the frequency plot in Chart 5.17 that Marketing department has the primary responsibility for driving CRM.

Chart 5.17: Corporate function that has enterprise wide responsibility for CRM



	Public	Private	Cooperative	Multinational
Finance	4	0	0	0
HR	0	3	2	0
IT	3	3	0	0
Marketing	14	10	2	3

Type of bank

3. How has the organization strategically communicated to the employees the significance of the IT based CRM applications?

ANALYSIS

4 questions were asked to the CRM manager to identify the seriousness of strategically including and hence communicating to the employees the significance of IT based CRM

applications. The first question is to identify the senior management's commitment to sponsor and fund enterprise wide CRM. The choices provided in the questionnaire are:

- Already a priority
- In next 2 years
- Waiting to happen

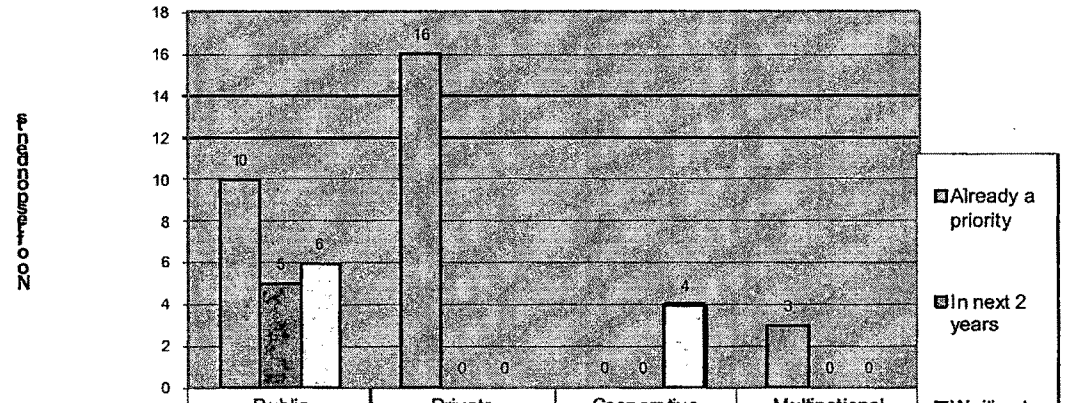
The responses will tell us where the organization is in terms of CRM initiatives. The second question is about how clearly the executives in the bank have communicated a CRM program vision to their employees. The responses will tell us about the organizations seriousness about their CRM initiatives and the involvement of their employees in making it happen. The third question is about E-commerce and its significance for the bank in the next 2 years. Finally, the CRM manager was asked if the E-commerce is already included in a CRM program. E-commerce being offered by the banks would mean that they have already in place the basic IT based CRM infrastructure and applications and hence have moved to the next step of offering E-commerce facilities to their customers. Hence, the questions about E-commerce will help identify where the banks are in terms of IT based CRM initiatives and indirectly the level of IT knowledge that exists within their employees to handle such applications.

FINDINGS

1. The frequency plot for identifying the senior management's commitment to sponsor and fund enterprise wide CRM in Chart 5.18 below reveals that it is an established priority for Private sector and multinational banks. It has not been considered for the

Cooperative banks. The Public sector banks have mixed responses about all the 3 choices, with "already a priority" scoring the highest.

Chart 5.18: Senior management's commitment to sponser and fund enterprise wide CRM

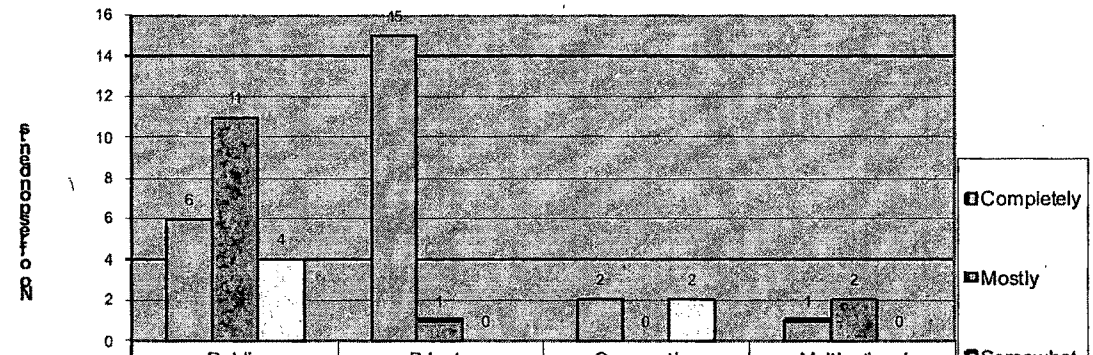


	Public	Private	Cooperative	Multinational
Already a priority	10	16	0	3
In next 2 years	5	0	0	0
Waiting to happen	6	0	4	0

Types of banks

2. The frequency plot for identifying how clearly the executives in the bank have communicated a CRM program vision to their employees in Chart 5.19, we observe that Private sector banks feel that it has been completely communicated. Multinational banks have mixed reactions between "completely" and "mostly". The

Chart 5.19: How clearly have the executives in your company communicated a CRM Program vision



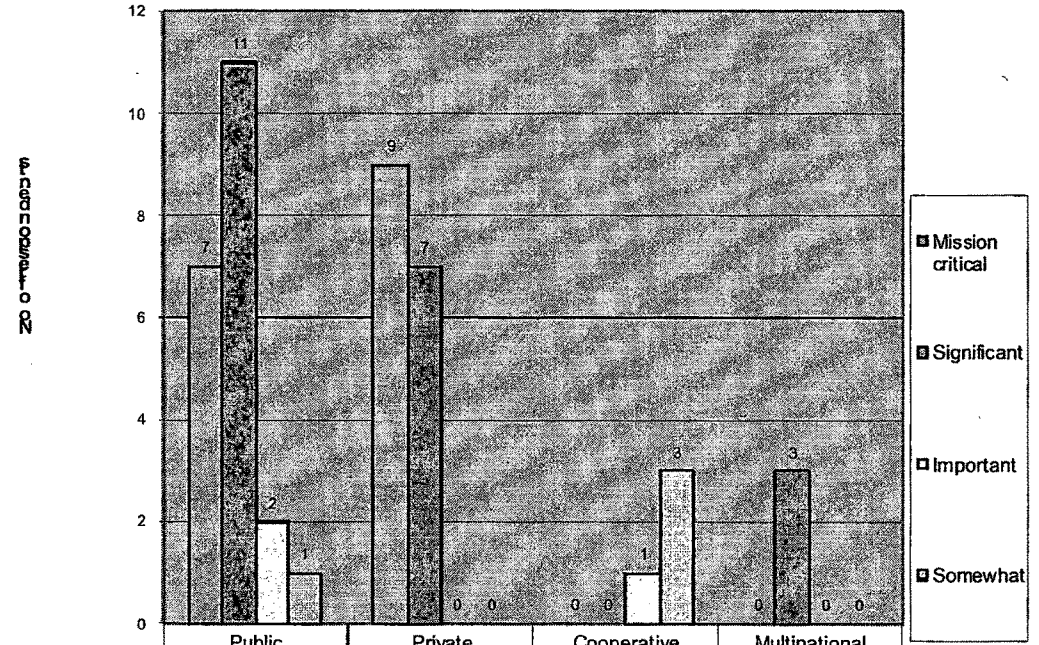
	Public	Private	Cooperative	Multinational
Completely	6	15	2	1
Mostly	11	1	0	2
Somewhat	4	0	2	0

Types of banks

Public sector banks also have a larger score for "mostly".

3. The frequency plot for identifying the importance of E-commerce to the business in the next 5 years in Chart 5.20 below reveals that it will be mission critical for the Private sector banks. It will be significant for the Public and Multinational banks, but they are not able to say with assertion whether it will be mission critical. The Cooperative banks do not have any significant views.

Chart 5.20: Importance of E-commerce to the business in the next 2 years

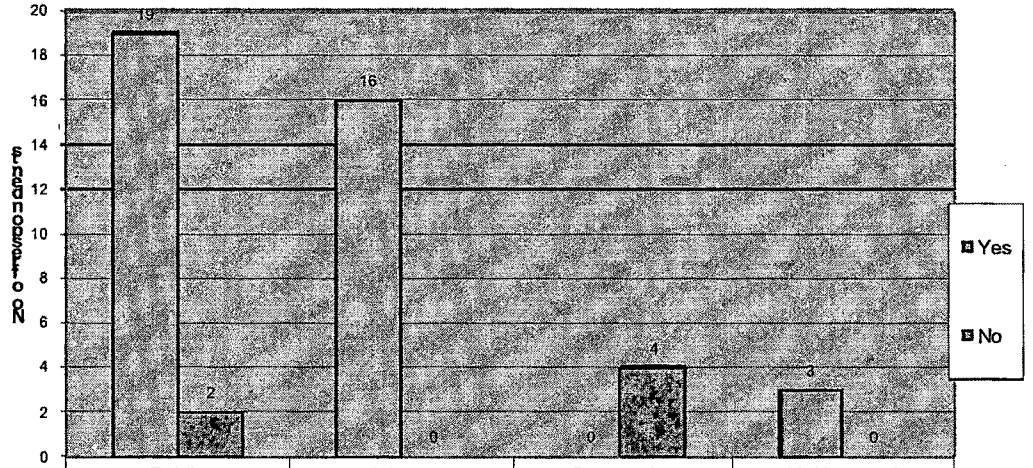


	Public	Private	Cooperative	Multinational
Mission critical	7	9	0	0
Significant	11	7	0	3
Important	2	0	1	0
Somewhat	1	0	3	0

Types of banks

4. The frequency plot for the question about E-commerce being included in the CRM program from Chart 5.21 below, Public, Private and Multinational banks have answered in affirmative and Cooperative banks have answered in negative.

Chart 5.21: E-commerece is already included in CRM Program



	Public	Private	Cooperative	Multinational
Yes	19	16	0	3
No	2	0	4	0

Types of banks

INFERENCES

1. The Private sector banks have considered IT and non IT based CRM as part of their strategic decisions and have created the awareness about its significance to their employees. E-commerce is also an existing priority within these banks
2. For the Public sector banks, although the senior management has realized the significance of CRM initiatives, they are still struggling to create the awareness within their employees. Part of the reason can be attributed towards the large number of branches and the employee base that exists for this sector of the bank.
3. The Cooperative banks realize the significance of CRM, but have not yest felt the need to think seriously about IT based CRM being part of strategic decision making.

4. The Multinational banks do realize the significance of CRM but do not claim as having been able to successfully communicate its significance to their employees. This could be possibly because of the global decision making where sensitivity towards cultural difference account towards slower deployment of changes.

5.2.4.2 Objective4 - Category 2: Level of IT Knowledge in Employees

1. What should be the organization level motivators for effective deployment of technology in CRM initiatives?

ANALYSIS

A set of 4 interview questions were asked to the customers filling out the questionnaires. They are as follows:

1. What are the services that you regularly avail from the bank and in what frequency? The responses obtained from this question will give us an idea about the technology and non technology based services used by the customers. The responses obtained from this question have been captured in a data sheet separately for the 4 categories of the banks.
2. What are the significant changes in customer service in the last 12 months at the bank?

The responses obtained from this question will tell us about the obvious changes in the bank as seen by the customer's eye. The responses obtained from this question have been captured in a data sheet separately for the 4 categories of the banks.

3. Does your bank use "technology" to solve your problems? What technology? Does that help you in serving you better?

The responses obtained from this question will tell us if the customer is consciously observing a benefit by using the technology based service offerings by the banks. The responses obtained from this question have been captured in a data sheet separately for the 4 categories of the banks.

4. What facilities would you recommend changing and adding at the bank?

The responses obtained from this question will tell us about what the customer expects to see different in the bank service offerings that will benefit him/ her in the future. The responses obtained from this question have been captured in a data sheet separately for the 4 categories of the banks.

The responses to the 4 questions will hence guide us to an understanding where we can identify the IT based service offerings used by the customers or those which the customer would like to use in the future. It will also tell us, from the customer's eye, about the professional behaviour of the employees, the existing domain and technical knowledge of the employees for processing queries and hence the level of desired promptness in service, employee's comfort level with the new IT based applications in order to be able to serve the customer's better.

FINDINGS

It can be clearly observed from the inference section of objective 3 that there is a growing frustration across all sectors of the banks amongst the customers about interfacing with bank employees who are not able to efficiently use the new technology based applications at the banks. This results in longer time for resolution of customer queries and problems leading to loss of loyal customers. This is more evident in Public sector banks compared to the other categories of banks. We also observe from above objective q6 graph that although there are not many technology based service offering by the Cooperative sector banks, there is a desire as is evident from the graph (inadequate technology based service score high) to move towards technology based CRM.

The Qualitative results obtained from the unstructured interviews with the bank customers have obtained the following results per category:

TABLE 5.37

PUBLIC SECTOR BANKS

No	Services regularly used by customers	Significant changes in last 12 months in customer service	Customer's awareness about technology use by banks for CRM	Customer recommendations
1	Cash withdrawal a) F2F and b) ATM both from saving account, passbook entry, check balance, salary deposit and checking account, access current account.	Better customer service, friendlier staff	LAN (Local Area Network).	Better trained staff as current staff is not capable of using the existing technology
2	Encash checks	Increased working hours	Computers	Better behavior from staff, faster response to queries

TABLE 5.37 CONTINUED

No	Services regularly used by customers	Significant changes in last 12 months in customer service	Customer's awareness about technology use by banks for CRM	Customer recommendations
3	Balance transfer	Quicker processing of queries and problems	Online banking	Improve ATM network, more ATMs at convenient/commercial locations
4	Demand draft as needed	Internet banking	Helpline through the internet	Extend business hours, Sunday open
5	Loans – educational, Home, Car	Negative – customer service has worsened, arrogant staff	ATM.	Help senior citizens efficiently
6	Quarterly statement	Core banking	Internet banking	Service charge for ATM and check book should be reduced
7	Fixed deposit once in 3 or 5 years, encash Fixed Deposits	More ATM and branches	Core banking	All counters at the branch should provide all facilities
8	Locker facility	Computerized passbook filling	Money counting machine	Proper customer help desk
9	PPF	Dropbox for check deposit	EFT (Electronic fund transfer).	faster clearance of interstate checks
10	Creditcard, credit card payment, debit card	Tele-banking	Payment of telephone and electricity bills.	Replace passbook by providing account statements at home
11	Foreign exchange, traveler's check.	Better e-banking facilities	Debit card	Faster issuance of checkbooks
12	Internet Banking	Check clearance in 24 hours, fast clearing of checks	Improved network and database for checking balance information	More facilities on internet like coordination with other banks, shopping and encash facility
13	Monthly statement by post	Help desk, Grahak mitra, Negative - usually not present at desk	Faster printers	More spacious bank branches
14	Insurance	Airconditioned branches, more counters	Facility of opening new account using internet	Interest rates on Fixed Deposits should be increased for senior citizens

TABLE 5.37 CONTINUED

No	Services regularly used by customers	Significant changes in last 12 months in customer service	Customer's awareness about technology use by banks for CRM	Customer recommendations
15	Income-tax return	Addition of new lockers	Mobile banking	Checks less than 10,000 should be encashed by teller
16	Pension updates	Better ambience	Credit card	Reduce computer downtime created due to core banking
17	Utility bill payments	Improved loan facility – home, car and personal	Loans.	Make system transparent for customers
18	Bank stocks	Account statement	Automated passbook entry	Airconditioned branches
19	Interest once a year	New interest rates (increased on FD and reduced on loans).	Tele-banking	Waiting room for customers, sitting and drinking water facility
20		Staff members having individual computers and money counting machine	Customer service calls to remind the payment of bills and renewal of bank balances.	Immediate provision of ATM card after opening an account
21		Computerized branches	Fax machines	Branches in interior locations, villages
22		Solution of customer queries on Internet	Good telephone system	Increased human security
23		Home banking (collection of check from residence).		Reduce ATM breakdown
24		ATM – increase in amount that can be withdrawn at one time		Reflect dynamic changes on the internet, update transaction on weekends
25		More younger staff.		Have organized marketing efforts
26		New buildings and branches		Increase staff during the end of the month to avoid long queues
27				Have hidden cameras
28				Documents to help understand ATM and Internet features

TABLE 5.37 CONTINUED

No	Services regularly used by customers	Significant changes in last 12 months in customer service	Customer's awareness about technology use by banks for CRM	Customer recommendations
29				Be able to use same ATM to withdraw money from other banks
30				By default, there should be an ATM with every branch location
31				More privacy at counters, fluency in language by employees, employees should discuss personal details privately
32				Employees should be educated with domain knowledge – what and why are they doing
33				Easily be able to talk to administrator of bank about problems

TABLE 5.38

PRIVATE SECTOR BANKS

No	Services regularly used by customers	Significant changes in last 12 months in customer service	Customer's awareness about technology use by banks for CRM	Customer recommendations
1	Debit card	Addition of debit card	Internet	More ATMs at convenient/ commercial locations
2	ATM	Improved ATM service	Phones	Collection and delivery of cash at home
3	Cashwithdrawal	Professional approach of bank staff	ATMs	Faster response to queries, less waiting time in queues
4	Internet	Phone banking	E-commerce	Increase business hours

TABLE 5.38 CONTINUED

No.	Services regularly used by customers	Significant changes in last 12 months in customer service	Customer's awareness about technology use by banks for CRM	Customer recommendations
5	Bill Payment	Mobile banking	Core banking	Make the system more transparent to customers
6	Balance Transfer	Improved Internet services	Monthly account statements sent by e-mail	Check deposit boxes at ATMs
7	Credit card	Negative - Delay in sending quarterly bank statements	SMS to confirm transaction of payments	Call centers should be 24/7
8	Demand draft	Mistakes in calculation of interest amounts	Credit card statements sent by e-mail	EFT
9	Check encashment	More counters	Credit and debit card	Pay telephone and electricity bills through ATMs
10	Core banking	Increased working hours	Computer printed personalized statements	Student loans at lower interest rates
11	Lockers	Totally computerized branches	LAN	Airconditioned waiting rooms for customers, sitting and drinking water facility
12	Loans- home, car, educational	Faster processing of queries	Online resolution of problems	Increase number of branches
13	Monthly statement	More lockers	Mobile banking	Negative - stop odd hour marketing calls
14	Automated passbook entry	Longer working hours	Money counting machine	ATM machines should provide Rs. 100 notes
15	Fund transfer	Core banking	Online services	Reduce core banking downtime
16	Fixed deposit	Help desks	International services	Better trained staff with domain knowledge
17	E-trading	ATMs in remote locations	Airconditioners in office and ATM centers	Password protected credit cards
18	Foreign exchange	Credit card check deposit box	Computerized transactions - less chances of errors	Reduce service charge for retired people
19	Utility bill payments	Inclusion of more items in e-trading	Utility bill payment	
20		Negative - Telemarketing is annoying	Bill payment through Internet	
21		Customer care centers	Money transfer through ATM	
22			Fax machine	

TABLE 5.39

COOPERATIVE SECTOR BANKS

No	Services regularly used by customers	Significant changes in last 12 months in customer service	Customer's awareness about technology use by banks for CRM	Customer recommendations
1	Lockers	Couteous and professional staff	ATM	Increase hours of operation
2	Face to face interaction	Increased counters, more departments	Computers	Courteous staff and service
3	Internet	New schemes advertized by staff	Core banking, Negative - fails sometimes during transactions	Decrease interest rates on loans
4	ATM	ATMs	Internet	Airconditioners
5	Loan - Home, car, personal	Better interest rates, good database	Phone banking	More ATM booths in prime areas
6	Cash withdrawal	Help desk, Negative - person is usually not present	Computerized passbook update	Increased lockers
7	Cash deposit	Better response to queries, faster speed of operation		Internet
8	Fixed deposits	Increased lockers		Faster response to queries
9	Demand drafts	Credit cards		Core banking
10	Passbook update	More female staff		Uniform for staff
11	Utility bills	Core banking		More branches and counters
12	Clearing checks	Increased hours of operation		Powerful online transactions
13	Lockers			Parking facility
14				More young competent staff
15				Bill payment of electricity and telephone
16				Better marketing of new services
17				Better human security

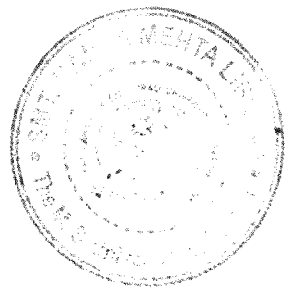


TABLE 5.40

MULTINATIONAL BANKS

No	Services regularly used by customers	Significant changes in last 12 months in customer service	Customer's awareness about technology use by banks for CRM	Customer recommendations
1	Saving account	Increased hours of operation	ATM for money transfer	Increase number of branches
2	ATMs	Improved interest rates	Efficient database	Longer working hours
3	Utility bill payments	Credit card	Internet	More branches at commercial locations
4	Loans	Better customer service	Online application for checkbooks	Improve Internet banking facilities
5	Internet	Better Internet banking facilities	Computers	Imrpove customer interface, specially in credit card solutions
6	Check clearance	Reduced queue at teller counters		Better facilty to corporates
7	Fund transfer	More ATM booths		Improve phone banking services
8	Face to face interaction			Quicker service for address and password change
9				More ATMs
10				Free online services (MF buying and selling)
11				Introduction of virtual cards for safe online transactions
12				Good and informed customer service
13				Investment advise
14				More ATMs with existing facility of using other banks. Free upto 4 transactions on ATMs

INFERENCES

We infer from the above findings that the organizational level motivators for effective deployment of technology in CRM initiatives can be divided into 2 parts:

(a) Level of IT knowledge and professionalism in the employees of the banks. The responses can lead to the following suggestions for the banks:

- The employees of the banks should be trained to efficiently use the new technology based service offering by the banks.
- The employees should be educated with the domain knowledge about the applications and their area of work to be able to manage queries from customers, both during face to face and phone banking interactions.
- More young competent staff should be hired by the banks.
- Staff should be professional and courteous in behavior.
- Staff should have language fluency.
- Employees should privately discuss person details at the counters.
- Employees should make the system more transparent to customers, specially when calculating the interest in the savings bank account.
- The Help Desk service should be more efficient.
- Employees should be able to handle corebanking or LAN downtime.
- Employees should treat senior citizens with special care.
- Employees should be trained to stop making odd hour marketing calls to customers.
- More staff should be deployed to handle the rush during the end of the month.
- Staff at all the counters at the bank should be able to assist in addressing the common requests by the customers.
- Employees should be able to provide investment advise to customers.

- There should be uniform for all staff members at the bank branches.

(b) Improvement in IT and non-IT based service offerings by the banks. The responses can lead to the following suggestions for the banks:

(a) Install more ATMs at convenient/ commercial locations.

(b) Install check drop boxes at ATM locations.

(c) Provision of payment of utility bills through ATM.

(d) ATM machines should provide the option of Rs 100 versus Rs 500 notes.

(e) The internet account should reflect dynamic changes on the internet (Personal banking section). The transaction information should be updated on weekends.

(f) E-commerce: EFT should be added to facilitate interbank transfers.

(g) Credit cards should be password protected.

(h) Introduce virtual card for safe online shopping.

(i) More facilities on the internet like coordination with other banks, shopping and encash facility.

(j) Hidden cameras should be kept at the bank branches.

(k) There should be documents available for customers to understand all the features of ATM and internet banking.

(l) Increased hours of working, preferably open on Sundays for short duration of time.

(m) The number of bank branches should be increased, Public sector banks should have branches in villages and remote locations.

(n) Call center service should be 24/7.

(o) Efficient home banking.

(p) Availability of more lockers at the branches.

(q) Parking facility at the branches.

(r) Faster issuance of checkbooks.

(s) Checks less than Rs 10,000 should be encashed by the teller.

(t) Reduce interest rates on loans and increase on fixed deposits.

(u) Reduce service charges for retired people.

(v) The branches should be spacious, airconditioned with proper waiting area and drinking water facility for the customers.

(w) There should be organized marketing efforts by the banks.

(x) More human security should be deployed at the bank branches.

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