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Customer Satisfaction and Technology in Banking-A Scenario of Udaipur City

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Abstract

This paper investigates the linkages between the customer satisfaction and factors accountable for its enhancement especially in banking sector. Recent sign of advancement in the technology and quality of services provided by the banking industry leads to more and more increase in expectations of the customers. These (factor analysis) findings shows that variables like tangibles, personnel, technological excellence, reliability and competence factor are vital factors, which customers' perceive as decisive while transacting with any type of bank. These variables have high impact on customer satisfaction. It is found that the customers of private sector banks are highly satisfied than public sector bank with reference to the 3 factor namely tangibles, personnel and technological excellence. But the customers of private and public sector bank are more or less similarly satisfied with regards to reliability and competence of service. Nevertheless the overall satisfaction is very high among the customer of private sector in comparison to public sector bank. That's why there is call for a systemic approach to deal with endogenous and long term problems and should attempt to reach benchmarks of customer expectation in order to lead banking sector into the era of prosperity and combat with multinational institution.

Introduction

There always been a debate on the constructs of service quality and satisfaction from more than two decade [1]. Satisfaction of customer is the prime objective of any organisation. Accordingly, the prestigious Malcolm Baldrige National Quality Award recognizes the role of customer satisfaction as the central component of the award process [2]. This study has made an attempt to determine the service quality dimensions which has imperative impact on the customer satisfaction level in the banking sector especially after advancement of technology. Now a day when everything is available at your doorsteps on just one click, it has become imperative to study the factors affecting satisfaction level of customers of Udaipur City especially who are tech savvy. Udaipur is a small city in the western Indian state of Rajasthan, formerly the capital of the Rajput kingdom of Mewar. According to the 2011 census, the total urban population was 608,426 and the population density was 262/km^2. As per the data, the male population of the city was 315,485 and the female population was 292,941 in 2011. The total population for the age group of 0–6 years old was 67,068. The sex-ratio of the urban area was 929 while that for the rural area was 966, the average being 958. The child sex-ratio (0–6 years of age) was 865. Udaipur has an average effective literacy rate of 90.43%, as compared to the national average of 74.04% male literacy rate being 95.41% while the female literacy rate being 85.08%.

Review of Literature

Satisfaction is the outcome of good services delivered on time. Zeithamal [3] developed a conceptual model that correlates Service Quality, Customer Satisfaction and Customer Loyalty in one frame. According to the model, service quality is the outcome of reliability, assurance, responsiveness, empathy and tangibles. Customer satisfaction is influenced by the quality of service and product and price as well as the situational and personal factors. There always exists a relationship between the satisfaction and loyalty of the customer. More the satisfaction more will be the loyalty of customers. Siddiqi [4] find the interrelationships between service quality, customer satisfaction and customer loyalty in the retail banking sector in Bangladesh. The study sought to identify the most important attributes in bank

settings, which may be used to review characteristics of the banks as experienced by customers. But for better satisfaction there is a need of strong bondage between the employee as well as customer. Rao and Bhatnagar [5] said that there is a strong need of bondage between employee and customer in the nationalised bank as customers are not satisfied with the employee behavior and infrastructure, while private bank customers are not satisfied with high charges, accessibility and lack of opaqueness in terms and conditions. Now a day's all banks are providing similar product, so to different and to capture market share there is need of continuous unique change [6] all banks are providing almost similar products and services to satisfy their customers completely. Continuous metamorphosis of bank leads to more increase in customer base of private sector bank in comparison to public sector bank as well as positive impact on the profits of the bank.

Rationale of the Study

This study attempts to finds out the impact of expected and actual services offered on customer satisfaction. Various service quality dimensions are responsible for satisfying customers in public and private sector bank. Hence the findings of study would enable banks to formulate more rigorous strategies regarding improvement in the services delivery which is helpful in the enhancement of customer satisfaction level.

Methodology and Research Design

This study basically emphasis on the shift in the banking industry after the financial sector reforms. The purpose of this study is to determine the demographic profile of the customers who are regularly

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using banking services for more than 5 years and while using different services from what are the important factors which are affecting their customer satisfaction. Simultaneously we will also compare the satisfaction level of customer of public sector bank and private sector bank regarding different factor.

A research design is the arrangement of condition for collection and analysis of data in a manner that aims to combine relevance to the research purpose with the economy in procedure. The study falls under the category of descriptive research study. In order to achieve the above objectives researcher used both primary and secondary information. Questionnaires were designed and distributed to different customers across the Udaipur city. The questionnaire we prepared and used had been pre-tested initially with few customers to ensure consistency and relevance of the questionnaire. Minor changes requested by those people were implemented before final distribution. A total of 200 useable responses were obtained.

Hypothesis Development

In order to conduct a controlled experiment and empirical study of the facts following one null hypothesis has been developed:-

H1: There is difference of customer satisfaction level between public and private sector banks but the difference is not statistically significant.

Sampling Technique and Size

Simple random sampling or probability sampling technique is used to select the sample. Under this sampling design, every item of the universe has an equal chance of inclusion in the sample. In the study simple random sampling method has been used. Respondents includes existing customers who belong to 5 reputed public sector bank i.e., SBI and associates, Punjab National Bank, Oriental Bank of commerce, Union Bank of India, Corporation Bank and 5 private sector bank ICICI Bank, HDFC Bank, Axis Bank, Kotak Mahindra Bank, Yes Bank of Udaipur district. Respondents are those who already have their account in that particular bank and are of different age, sex, religion, profession and family background.

Collection of primary data: Structured questionnaire for customers are prepared. Questionnaire has close ended and open ended questions. It is divided into 2 parts. First part involves the personal profile of respondent where questions are related to sex, education, salary, marital status were asked. In part second of the questionnaire the respondents were provided with a list of factors and were required to assign a weight to each one, using a 5 point Likert scale.

Collection of secondary data: Secondary data was the source of information for conceptual framework of the subject, history background of the study concerned and review of literature. Secondary data was collected from various data sources are as follows:

- Various books, journal, magazines, newspaper, Annual reports, Information bulletins

- Reports prepared by research scholars

- Central library, Mohan Lal Sukhadia University, Udaipur

- University College of Commerce and Management studies, library, MLSU Udaipur

Scale and Dimensions

Likerts 5-point scale has been used where respondents are customers of bank, for its suitability to estimate the range and variations in the perceptions. The scale 1-5 represents '5' as strongly satisfaction and '1' as strongly dissatisfied.

Analysing Methods

The collected data and information have been analysed and examined critically through quantitative analysis such as mean score, standard deviation, z-test, factor analysis.

Factor analysis: The factor analysis is a statistical approach that can be used to analyse inter-relationships among a large number of variables and to explain these variables in terms of dimensions called factors. Factor analysis is mainly used for data reduction. There are two stages in factor analysis. Stage 1 is called as factor extraction process, where the objective is to identify how many factors can be extracted. The most popular method is called principal component analysis.

- **Factor:** A factor is an underlying dimension that accounts for several observed variables. There can be one or more factors, depending upon the nature of study and the number of variables involved in it.

- **Factor loading:** Factor loadings are those values which explain how closely the variables are related to each one of the factors discovered. They are also known as factor-variable correlation.

- **Communality (h^2):** Communality symbolised as h^2, shows how much of each variable is accounted for by the underlying factor taken together. It is worked out in respect of each variable as under:

h^2 **of the ith variable** = (ith factor loading of factor A)2 + (ith factor loading of factor B)2 + …..

- **Eigen value (Latent root):** When the sum of squared value of factor loadings relating to a factor is taken, then such sum is referred as Eigen value or Latent Root.

- **Total sum of squares:** When Eigen values of all factors are totalled, the resulting value is termed as total sum of squares.

- **Rotation:** Different rotations reveal different structures in the data. If the factors are independent, orthogonal rotation is done; and if the factors are correlated, an oblique rotation is made. Communality for each variable will remain undistributed regardless of rotation but the Eigen value will be changed as a result of rotation.

- **Factor scores:** Factor scores represent the degree to which each respondent gets high score on the group of items that load high on each factor.

- **Cronbach alpha:** This statistical tool is used in factor analysis to measure the reliability of data. If the value of cronbach alpha is greater than 0.5 then the data for the said purpose is reliable for factor analysis.

- **Kaiser-Meyer-Olkin (KMO)** is the measure of sampling adequacy and Bartlett's test of sphericity help in measuring the reliability of data.

Descriptive analysis: Measures of central tendency such as mean, standard deviation, weighted average score, ranks, etc. were worked out to study the nature and distribution of scores on different variables.

Z-test: It is based on normal probability distribution and is used for judging the significance of several statistical measures particularly mean.

Chi-square test: In case of cross tabulation, featuring two variables, a test of significance called the Chi- square test can be used to test if the

two variables are statistically associated with each other significantly.

ANOVA-test: This technique is used when multiple sample cases are involved. It examines the significance of the difference amongst more than two sample means at the same time.

All statistical calculations have been made by the use of Microsoft excel and SPSS software version 17 for the objective.

Study Model

After going through various literature studies of several researchers related to factors affecting satisfaction level of customers of banking industry as well as after completion of the study, this model is shown in Figure 1.

Result of Analysis

Total 210 questionnaires were collected from the customers out of 230 questionnaires distributed. But there were 10 incomplete questionnaires that were discarded. Therefore only 200 were found completed and considered for analysis purpose. Therefore the response rate is 95.24%. Out of these 200, 125 questionnaires were found filled by the customers of public sector banks and remaining 75 from private sector bank customers. The respondents comprised of males (75.5%) and females (24.50%).

Table 1 show that the distribution of respondents who are the customer of public and private sector bank on the basis of gender. It is seen that maximum respondents belong to male category in both types of banks. Ratio of male is to female is approximately 3:1.

Similarly Table 2 shows the distribution of respondents according to marital status. And it is seen that in both types of banks near about 80% of the respondents are married and rest are unmarried.

Table 3 shows distribution of respondents of both type of bank according to age and we find that distribution of respondents is good as we have received responses from each age group ranging from below

25 year to more than 65 year age. Among public sector bank maximum response is from the age group 36 to 45 year which is 27.20 % whereas maximum response (40%) among private sector bank is received from the customer of age group of 26-35 year.

Distribution of respondent according to the educational qualification is shown in Table 4. Respondents of all categories are covered in the study whether matriculate, graduate or post graduate. But maximum respondents of both types of banks are post graduate. Hence we can say that we will certainly receive proper response for our study.

Table 5 shows the distribution of respondents according to professional education. It is seen that more than 40% respondents are professionally educated. Hence we can say that the data collected will be comparatively more authentic.

Table 6 shows the distribution of respondents on the basis of occupation. And it reveals that more than 50% respondents in both types of banks belong to service class and then businessman.

Table 7 shows the distribution of respondents according to family income and it reveals that response is received from all categories of group ranging from 1 lakh income to more than 4 lakh.

Table 8 shows the distribution of respondents according to type of bank they are primarily deals with. And it is seen that reveals that out of total respondents 62.50% belongs to public sector bank whereas 37.50 % belongs to private sector bank.

In the present study Factor Analysis is applied to extract the latent factors involved in satisfaction of the customers regarding banking services. An inventory of 25 questions related to various factors related to banking services are given to sampled customers to rate their satisfaction level on five point scale from strongly satisfied to strongly dissatisfied, the responses collected was then factor analysed. The results of factor analysis are given below.
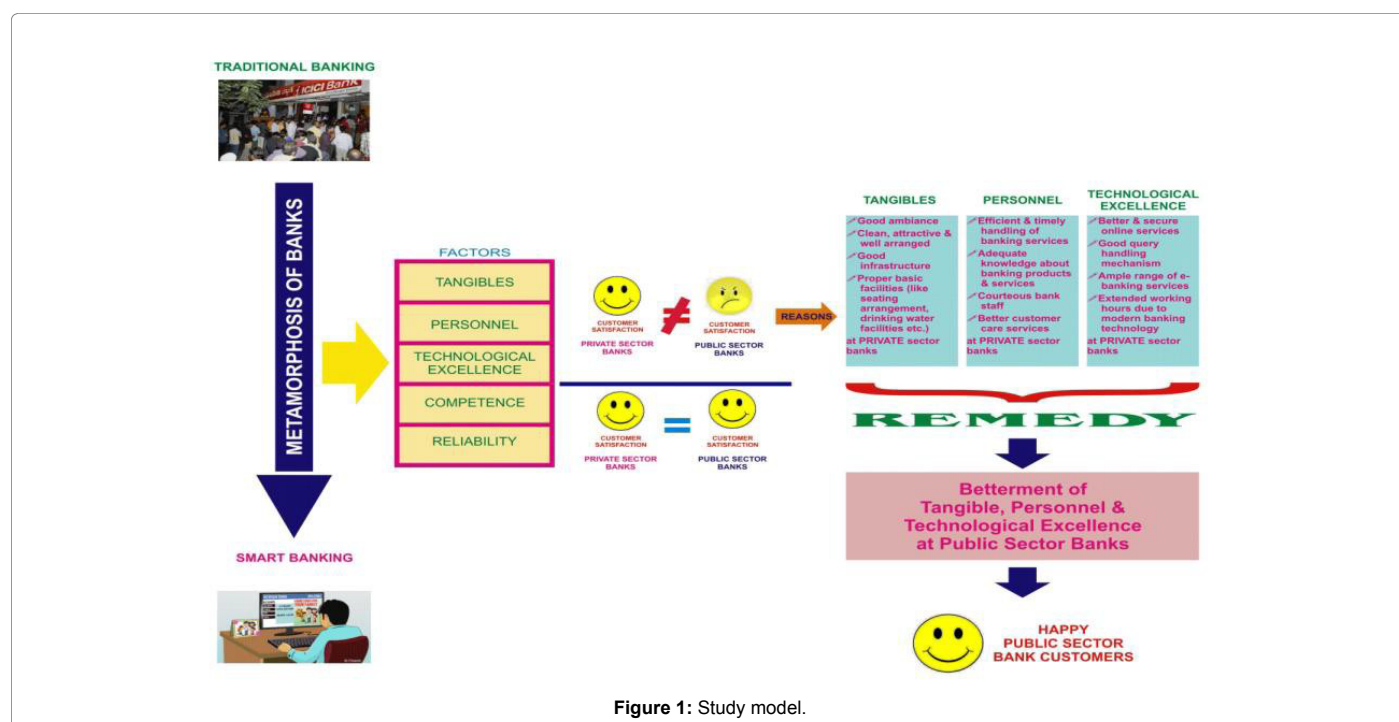

Figure 1: Study model.

	Public Sector Bank		Private Sector Bank		Total	
Gender	N	%	N	%	N	%
Male	94	75.2	57	76	151	75.5
Female	31	24.8	18	24	49	24.5
Total	**125**	**100**	**75**	**100**	**200**	**100**

Table 1: Gender wise distribution.

Response	Public		Private	
	N	%	N	%
Married	103	82.40	60	80.00
Unmarried	22	17.60	15	20.00
Total	**125**	**100.00**	**75**	**100.00**

Table 2: Distribution of respondents according to marital status.

Age	Public		Private	
	N	%	N	%
Up to 25 yrs	17	13.60	8	10.53
26 - 35 yrs	30	24.00	31	40.79
36-45 yrs	35	28.00	19	25.00
46-55 yrs	16	12.80	10	13.16
55-65 yrs	13	10.40	2	2.63
More than 65 yrs	14	11.20	6	7.89
Total	**125**	**100.00**	**76**	**100.00**

Table 3: Distribution of respondents according to age.

Response	Public		Private	
	N	%	N	%
Matriculate/School level	10	8.00	5	6.67
Graduate/Under graduate	56	44.80	22	29.33
Post graduate	59	47.20	48	64.00
Total	**125**	**100.00**	**75**	**100.00**

Table 4: Distribution of respondents according to educational qualification.

Professional Education	Public		Private	
	N	%	N	%
Yes	58	46.4	32	42.67
No	67	53.6	43	57.33
Total	**125**	**100**	**75**	**100**

Table 5: Distribution of respondents according to professional educational.

Response	Public		Private	
	N	%	N	%
Student/housewife	12	9.60	2	2.67
Businessman	30	24.00	22	29.33
Service	69	55.20	45	60.00
Retired person	14	11.20	6	8.00
Total	**125**	**100.00**	**75**	**100.00**

Table 6: Distribution of respondents according to occupation.

Response	Public		Private	
	N	%	N	%
Up to Rs.1 lakh	21	16.80	7	9.33
Rs.1 lakh - 2 lakh	28	22.40	19	25.33
Rs. 2 lakh - 4 lakh	46	36.80	29	38.67
Above Rs. 4 lakh	30	24.00	20	26.67
Total	**125**	**100.00**	**75**	**100.00**

Table 7: Distribution of respondents according to family income.

Type of Bank	N	%
Public Sector Bank	125	62.50
Private Sector Bank	75	37.50
Total	**200**	**100.00**

Table 8: Distribution of respondents according to type of bank they are dealing.

KMO and Bartlett's Test of Sphericity

The calculated value of KMO is 0.873 showing that which Is greater than 0.800 and according to Kaiser the value greater than 0.800 is meritorious confirming the adequacy of distribution of values for conducting factor analysis.

In the Bartlett's test (Table 9) the highly significant value ($p < 0.001$) of Chi Square shows that these data do not produce Identity matrix and thus approximately multivariate normal and acceptable for factor analysis.

It is very well clear from the Table 10 that the calculated value of Cronbach's alpha is 0.915 which is very high. Hence our data proved to be very reliable. After checking the validity and reliability of our data Factor analysis using Principal Component method was applied. Varimax rotation method was used to extract factors. After rotation of all the extracted factors only those factors will be retained whose Eigen values are greater is than 1.

Hence, with the present data total five factors were extracted explaining total variance of 62.79%. The factor loadings and statements which came under a particular factor are given in the Table 11. The mean score of factor 1 to 5, and if we compare the mean values of all 5 factors than it is evident that the mean score of factor 5 i.e., reliability is highest (3.823), then factor 2 i.e., personnel (3.776), then factor 1 i.e., infrastructure, then factor 3 called technological excellence (3.580) and last is competence as factor 4 (3.304). Hence it can be interpreted that reliability factor is very Influensive in making customer satisfied.

Factor 1: If compare all statements of factor 1 than it is seen that among all the vital factors are proper lighting, cleanliness, attractive, infrastructure and well-dressed employees. But other factors also have their importance in making customer satisfied. Hence this factor is named as *Tangible*.

Factor 2: Alike if we will evaluate all statements of factor 2 than it is observed that among all most imperative factors are banking services that they are handled efficiently and in a timely manner then teller / bank officers' knowledge about bank products and services, employee/ staff behaviour with customers of my bank. While other remaining factor also plays important role in making customer satisfied but comparatively less. These all factors can be together termed as *Personnel*.

Factor 3: Similarly if we will compare all statements under this factor than it is clear that the most significant factor is user friendly online services provided by bank. While remaining statements also have their relevance in making customer satisfied. These statements can be put together under the term *Technological Excellence*.

Factor 4: Likewise if we will compare all statements of factor 4 than it is seen that among all most imperative is interest rate provided by bank on fixed deposit/saving accounts. But other factor also contributes in making customer satisfied. These all statements together are termed as *Competence*.

Factor 5: If we will compare all statements under factor 5 than it is seen that among all, the most important point is operational performance and reliability of ATM. While other remaining factor also plays important role in making customer satisfied but comparatively less. All factors together can be termed as *Reliablity*.

Comparative Analysis of Public V/S Private Sector Bank

Table 12 shows the comparison of satisfaction level of customer of public sector bank and private sector bank regarding different factor namely tangibles, personnel, technological excellence, competence and reliability.

The results shows that the satisfaction level of private and public sector bank differ significantly with regard to factor1: tangibles (z = -6.321, $p < 0.001$). It clearly shows that the customers of private sector bank are more satisfied than the customer of public sector bank in terms of tangibles. The difference in tangibles is due to better infrastructure,

good ambience, well dressed employees, proper seating arrangement etc.

Similarly the results shows that the satisfaction level of private and public sector bank differ significantly also regarding factor: personnel (z = - 5.765, $p < 0.001$). This shows that the customers of private sector bank are more satisfied than the customer of public sector bank in terms of personnel also. The difference in personnel is due to good behavior of employee with customers, more working hours, better knowledge about products, efficient and timely handling of services, customer care availability etc.

Alike the results also shows that the satisfaction level of private and public sector bank differ significantly also regarding factor: technological excellence (z = -2.609, $p < 0.01$). It clearly indicates that the customers of private sector bank are more satisfied than the customer of public sector bank in terms of technological excellence also. The difference in technological excellence is due to providing various e-banking services like internet and online banking services and products along with proper handling of online queries etc.

While if we look at remaining other factors viz… competence and reliability then the satisfaction level of private and public sector bank does not differ significantly ($p > 0.05$). It clearly indicates that the customers of both banks are more or less similarly satisfied or unsatisfied.

On the overall satisfaction level of customers of both private v/s public sector bank then it is seen that private sector bank customers are highly satisfied than public sector bank and the difference is highly significant (z = -5.306, $p < 0.001$). Here we can concluded that overall customers of private sector banks are highly satisfied might be due to better services, bankers knowledge about products, working hours, availability of customer care services, good infrastructure, good behaviour of employees, etc.

Kaiser-Mayer-Olkin Test of Sampling Adequacy	
Bartlett's Test of Sphericity	0.873
Approx. Chi Square	2463.269
Degree of freedom	276
Significance	($p < 0.001$)

Table 9: KMO and Bartlett's test of sphericity.

Cronbach's Alpha	N of Items	Reliability
0.915	25	Very high

Table 10: Reliability statistics.

Factors	Initial Eigen values			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.53	35.53	35.53	5.73	23.89	23.89
2	2.21	9.21	44.73	3.07	12.78	36.66
3	1.70	7.09	51.82	2.46	10.27	46.93
4	1.46	6.08	57.90	2.18	9.08	56.01
5	1.17	4.89	62.79	1.63	6.78	62.79

Table 11: Total variance explained.

Factor	Type	N	Mean	SD	Z	Result
Tangibles	Public	125	3.53	0.64	-6.321	Significant
	Private	75	4.11	0.62		
Personnel	Public	125	3.60	0.73	-5.765	Significant
	Private	75	4.07	0.45		
Technological Excellence	Public	125	3.48	0.78	-2.609	Significant
	Private	75	3.75	0.68		
Competence	Public	125	3.36	0.77	1.348	Non Significant
	Private	75	3.21	0.71		
Reliability	Public	125	3.84	0.77	0.508	Non Significant
	Private	75	3.79	0.78		
Overall Satisfaction	Public	125	3.54	0.54	-5.306	Significant
	Private	75	3.92	0.45		

Table 12: Comparison of public v/s private bank.

Null hypothesis for the study of "There is difference of customer satisfaction level between public sector bank and private sector bank but the difference is not statistically significant" which is highly accepted for two factor namely competence and reliability while same is rejected for other three factor namely tangibles, personnel and technological excellence. It clearly indicates that the customer satisfaction provided by private sector banks with respect to variables like tangibles, personnel and technological excellence is comparatively higher than public sector bank but if we talk about competence and reliability than satisfaction of customer of both type of bank is different but is not significant. However if we look at overall satisfaction of customer of both type of bank then it could be concluded that private sector banks customers are more satisfied in comparison to public sector bank.

Conclusion

I concluded that along with important service dimension one more construct is Technological Excellence of bank operations along with tangibles, personnel, reliability and competence factor are some vital factors, which customers' perceive as decisive while transacting with any type of bank. These variables if good, lead to higher customer satisfaction. But the customers of private sector banks are highly satisfied than public sector bank with reference to the factor namely tangibles, personnel and technological excellence while customers of private and public sector bank are more or less similarly satisfied with regards to reliability and competence of service.

Nevertheless the overall satisfaction is very high among the customer of private sector in comparison to public sector bank. That's why there is need for a systemic approach to deal with endogenous and long term problems and should try to reach benchmarks of customer expectation in order to ushers banking sector into the era of prosperity and comate with multinational institution.

References

1. Anderson EW, Sullivan MW (1993) The antecedents and consequences of customer satisfaction for firms. Marketing Science 12: 125-43.

2. Dutka A (1995) AMA Handbook for Customer Satisfaction. Chicago: NTC Publishing.

3. VAzec Z, Wilson A, Bitner MJ (2008) Services Marketing. (4th edn.). New Delhi: The McGraw- Hill Companies.

4. Siddiqi, KO (2011) Interrelations between service quality attributes, customer satisfaction and customer loyalty in the retail banking sector in Bangladesh. Int J bus manag 6: 12.

5. Rao NS, Bhatnagar H (2012) Banking services and customer satisfaction: A comparative study of public and private sector bank of Udaipur City. Saaransh RKG Journal of Management 4: 31-37.

6. Harshita B (2015) Metamorphosis of banking products-a perception of bank employees. J Internet Bank Commer 20: 108.