

## **E-BANKING SERVICE QUALITY IN UAE: CUSTOMER PERSPECTIVE**

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### **Abstract**

*The development of technology has provided marvelous benefits for many industries, including the banking business. The adoption of internet by the industries has slewed the constraint of time, distance and communication making the world as small village. The diffusion of electronic banking has been witnessed in many countries worldwide. The Banking sector is of no exception, there are many factors like competitive interest rates, service to the customer, education, literacy level and income level of customers that shape the banks to appraise their technology and measure their electronic commerce and plan their electronic banking strategies. Electronic banking provides speedier, faster and reliable services to the customers. The United Arab Emirates (UAE) is one of the most developed economies in its region and in the world. Electronic banking has been utilized for many years in UAE and there are number of electronic banking adopters in UAE have increased. The study aims to evaluate the service quality of Electronic banking from customers' perspective. In this paper the customer's satisfaction is evaluated with that of service quality dimensions. A structured questionnaire is dispensed to various target customer groups. The collected data were analyzed with statistical tools like chi square, Garrett ranking and factor analysis, etc., to fulfill with the objectives and also to draw conclusions. From the study it is revealed that a customer focuses on the quality of services provided by the banks. The study concludes that these factors are the core service quality dimensions for customers' satisfaction in Electronic banking.*

*Keywords: Electronic banking, E-service, Customer' satisfaction, Service quality, UAE*

## INTRODUCTION

The Banks are the important players that run the country's economy as well as the financial operations. In this competitive world, the quality of service is an important aspect that enhances the customer satisfaction and customer loyalty through which the banks improve their performance and achieve better profits and market share. The technology plays an important role in improving the quality of services. Nowadays the banking operations are becoming customer oriented. The growth of electronic banking in a country depends on factors like access to internet, new online product features, framework of legal and regulatory. Since Electronic banking provides a speedier and dependable services to the customers through which they are satisfied than that of manual system of banking. The service quality is a comparison of expectations about a service with the performance. A high service quality provides economic competitiveness.

### Statement of the Problem

Though the United Arab Emirates (UAE)' s economy is well diversified compare to its counterparts in the Middle east, the reduction in oil prices and decrease in government spending shall slow down the economy. The UAE's banking sector is expected to grow by 1.3 percent in deposits and year on year on growth by 6.6 percent in 2016. The banking industry is growing and currently there are forty six commercial banks operating in UAE that have their branch offices in Middle East countries, Singapore United Kingdom and India. The study is conducted to understand the different factors of service quality that provide customer satisfaction and towards the services rendered by UAE banks for the development of UAE.

### Objectives of the Study

- To analyze the level customer satisfaction towards the quality of services rendered by the banks
- To evaluate the different factors that is considered by customers while choosing the services offered by the banks.
- To suggest ways and means to improve the efficiency and effectiveness of the select banking in study area

## REVIEW OF LITERATURE

(Ayo, Charles k., 2016) In there research findings, competence of e-service support staff, system availability, service portfolio, responsiveness and reliability, in that order, were found to be most significant in rating e-service quality. (Paschaloudis, Dimitris,2014) in his research the

results suggest the existence of a strong and positive correlation between them and the overall perception of banking websites. The dimension that yielded the highest impact was "Contact" followed by "Responsiveness". Moreover, such a research can help identify websites' strengths and weaknesses and suggest ideas for improvement. (Jayawardhena , 2004) Service quality in e-banking can be measured using twenty-one parsimonious measures spread across five dimensions, namely, access, Website interface, trust, attention and credibility. Al-Hawari, M. A. (2011) the authors have highlighted the importance of automated service factors, customer trust, and delight in customer commitment within the banks of United Arab Emirates (UAE). As per the survey conducted the outcome was that most of the automated factors have no significant relationship with customer commitment but have a positive influence on customer delight. AmiriAghdaie S. F, F. Faghani (2012) The authors here have emphasized of applying the SERVQUAL model to understand the relationship between mobile banking and customer satisfaction. The authors have used customer satisfaction as the dependent variable and five dimensions of service quality are tangibles, reliability, responsiveness, assurance and empathy, as the independent variables. The outcome of the study was that four variables tangible, reliability, responsiveness and empathy correlated significantly with customer satisfaction significantly. However, the assurance factor had no relationship with Customer satisfaction. The outcome of the ANOVA test showed that there was correlation between mobile banking services and customer satisfaction. Ariff, M. S. M., Yun, L. O., Zakuan, N., & Jusoh, A. (2012) the authors have emphasized that it is essential for the banks to provide effective electronic service quality in order to remain competitive in the electronic banking services. The electronic service quality instruments, such as E-SERVQUAL is used as a tool to find the dimensions and measure as well improve the services as per the customer satisfaction. The findings reveal that dimensions of electronic service quality for electronic banking are fulfillment of assurance, efficiency of system availability, privacy, responsiveness, and aesthetics of website and guide. Brahmabhatt, M., & Panelia, D. (2008) Here the study attempts to measure and compare service quality and customer satisfaction among private, public and foreign bank. As per the survey conducted the outcome is that the service quality is the main component for customer satisfaction. The authors have used tools like factor analysis and reliability testing to identify the service attributes.

Garg, R., Rahman, Z., & Qureshi, M. N. (2014) The authors have made a study to measure customer experience and identifies those factors that have impact on customer satisfaction. This study has followed psychometric scale development procedure. The outcome of the study present a forty one items 14 factor reliable and valid customer experience scale among which "convenience" appears as the most significant among all the factors. H.E Riquelme., Mekkaoui, K.A., & Rios, R. E. (2009), the authors have identified the attributes of

customer service and online that predicts the overall satisfaction and explains whether the customers who are satisfied use more online features than the less satisfied. Kadasah, N (2014) Here the author has used the five quality dimensions which was introduced by Parasuraman such as assurance, empathy, reliability, responsiveness and tangibles. The study the customer loyalty and satisfaction among two telecom companies .The outcome of the study reveals all the five quality dimensions and the differences between the two companies are of significant.

MansumitrchaiSomkiat., Chiu. C (2012) the authors explain the characteristics that help in identifying the UAE customers and their attributes towards internet banking. Here author have found seven characteristics that are important in the adoption of internet banking, namely compatibility, difficulty, security, trust, third party concern, status, and human contact.

Migdadi, Yazan KA (2008)the author aims in identifying the quality and dimensions of service quality of retail, banks in Jordan The method to analyze the objective is quantitative evaluation method (QEM). The results showed that there is a significant positive quality of the internet banking service with that of banks web sites.

Salarzehi, H., Sarafizadeh, A., &Ghadiri, F. (2012) the authors have analyzed the service quality of dimensions of electronic banking services that customers prefer. They are Efficiency, Reliability, Security, Privacy, Trust, Responsiveness, Contact, Website Design and Service Variety. The outcome of the study was a positive relation between service quality dimensions and customer satisfaction.

Talib, F., Rahman, Z., and Qureshi, M.N. (2012), the authors have provided an overview of total quality management and major dimensions of service quality. The outcome of the study indicates that service quality is an important aspect in banking sector and understanding the role of Total Quality Management provides useful direction for future research.

Usrof, M. K. A. H. J., & Al-Jabari, M. A. R(2015)The authors have focused to look into how electronic banking is forming the strategic direction of banks in UAE and about the provisions to improve the customer and company relationship based on the interviews with bank managers. The outcome of this study is that banks have in depth and outlined procedures to recognize internet services. The factors like convenience, security transactions, and computer self-efficacy have a significant impact on maximization of profitability.

Vanniarajan T.& Nathan S.M. (2008) the authors have compared the SERVPERF scale on various service quality factors and analyze their impact on the customer's satisfaction. The findings of the study identified that the reliability, responsiveness, assurance, tangibles and empathy as the various service quality factors. The study shows that there are significant variations regarding the respective effects of these observed dimensions on satisfaction and that satisfaction leads to different types of behavioral intentions. Providing reliable banking transaction with promises of reliability, responsiveness and assurance seem to be most appealing service criterion to the target consumers.

Wu, Y. L., Chang, M. C., Yang, P.

C., & Chen, Y. J (2008), The authors have emphasized on the those factors that influence customers' quality satisfaction towards services based on the survey carried out with users, administrators, and employees of banks. The outcome of the survey was that there are eight dimensions such as efficiency, reliability, privacy, compensation, responsiveness, contact, sense of beauty and "individualization that influence the service quality of electronic banking services.

## METHODOLOGY

The primary data is collected from the customers of Banks at United Arab Emirates (UAE) through self-designed questionnaire and interview method. A Pilot study was conducted to test the clarity of the Questionnaire. The secondary which provides an insight for readers as well as helps in justifying the results and analysis is collected from various magazines, journals, intellectual articles and research papers. The sample size of the study is 400 customers who were selected based on convenient sampling technique. The Statistical tools such as factor analysis, Garrett ranking and chi-square test were used for analyzing the data collected.

## ANALYSIS & DISCUSSION

### Descriptive Analysis

Table 1: Descriptive statistics of categorical variables

Variable	Category	Frequency	Percentage
<b>Gender</b>	Male	<b>268</b>	<b>67</b>
	Female	132	33
<b>Age</b>	21-30 Years	88	22
	<b>31-40 Years</b>	<b>136</b>	<b>34</b>
	41-50 Years	131	31
	More than 50 Years	52	13
<b>Qualification</b>	Below plus two	44	11
	Diploma	52	13
	<b>UG</b>	<b>204</b>	<b>51</b>
	PG	100	25
<b>Income level</b>	<10000 AED	92	23
	10001-20000 AED	128	32
	<b>20001-30000 AED</b>	<b>132</b>	<b>33</b>
	Above 30001 AED	48	12
<b>Occupation</b>	Self Employed	68	17
	<b>Private employment</b>	<b>168</b>	<b>42</b>
	Govt. Employee	128	32
	Others	36	9

From the Table-1, we find that majority of the respondents are Males who belong to the age group of 31-40 years. 51% of the respondents are undergraduates. This shows that 51% of undergraduates utilize e-banking for their services. 42% of the respondents are private employed and have income level between 20001-30000 AED who are Internet savvy and would prefer e-banking services.

### Garrett Ranking Analysis

The consolidated Garrett Ranking score for using e banking services by the respondents are given in the below table. Higher the total score/weight, higher is the preference given to a particular variable/item.

Table 2: Garrett Ranking score for using the e-banking services

Services	Total Garrett Score based on frequency and Garrett value	Rank based on Garrett Score	Weight assigned by respondents
ATM	51225	1	22.19%
Internet Banking	48000	2	20.79%
Mobile Banking	46800	3	20.27%
Telephone Banking	45000	4	19.49%
Branch Banking	39816	5	17.24 %

From the Table -2 the customers have assigned Garrett Ranking score for using the e-banking services. The highest score is assigned to ATM services by the customers followed by internet Banking, Mobile banking, Telephone Banking and Branch Banking respectively.

Table 3: Garrett Ranking score for purpose of using e banking services

Purpose	Total Garrett Score based on frequency and Garrett value	Rank based on Garrett Score	Weight assigned by respondents
Making payment to various institutions like government or private	30400	1	26.749%
Entertainment	28116	2	24.739%
Shopping	27630	3	24.312%
Fund Transfer	27500	4	24.197%

The customers have assigned Garrett Ranking score for purpose of using e banking services. The Customers has been assigned highest score for making payment to various institutions like government or private followed by Entertainment. Shopping and Fund transfer respectively.

### Factor Analysis

Factor analysis is done for these variables to reduce into number of dimensions and to reduce irrelevant variables.

Table 4: Kaiser-Meyer-Olkin( KMO) Measure of Sampling Adequacy and Bartlett's Test for factors

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.515
Bartlett's Test of Sphericity	Approx. Chi-Square	299.487
	Df	55
	Sig.	.000

From the above table 4, Kaiser-Meyer-Olkin( KMO) Measure of Sampling Adequacy is tested and this value shows 0.515(which is closer to one).The sample units in the study (400) are enough to apply factor analysis for. From same table, Bartlett's Test of Sphericity is used to test the null hypothesis of unit correlation matrix which is rejected (since  $0.000 < 0.05$ ) at 5% level of significance. This implies that the factor analysis is adequate for the study.

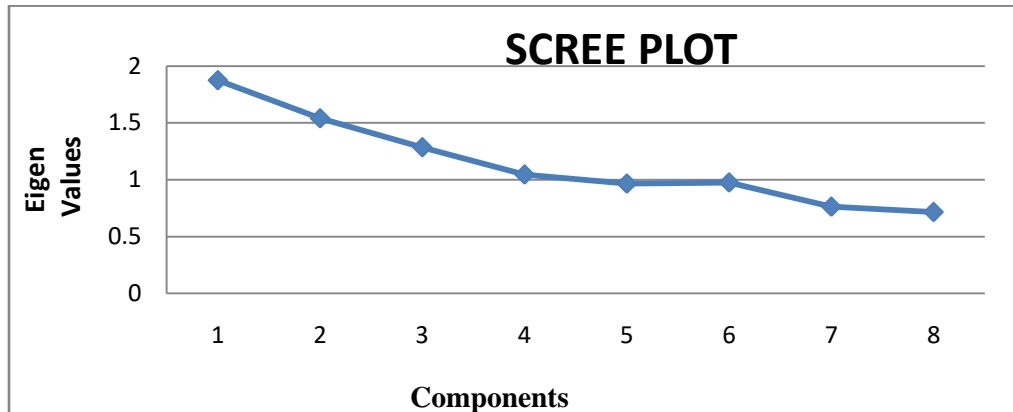
Table 5: Variance Explained for Customers selected factors for E banking services

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	%of Variance	Cumulative Variance	Total	%of Variance	Cumulative Variance	Total	%of Variance	Cumulative Variance
1	1.875	15.924	15.940	1.875	15.924	15.940	1.427	10.704	10.704
2	1.540	13.663	29.587	1.540	13.663	29.587	1.439	11.902	22.606
3	1.285	9.856	39.443	1.285	9.856	39.443	1.450	11.856	34.462
4	1.045	8.614	48.057	1.045	8.614	48.057	1.380	11.606	46.068
5	.965	8.076	56.133						
6	.975	7.554	63.687						
7	.762	7.213	70.900						
8	.715	6.756	77.656						

*Extraction Method: Principal Component Analysis*

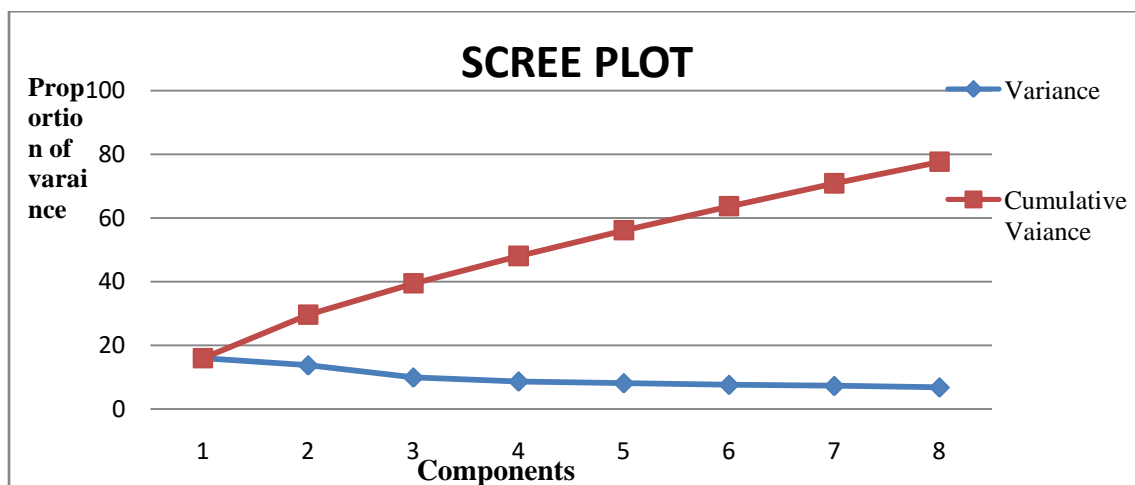
From the table -5, the number of factors (components) extracted is identified by Eigen value approach. The Eigen values which are more than 1 are taken. In this table we can see that among 8 components or factors only 4 factors have Eigen value more than 1. The total variance explained by the four factors is 4.

Graph 1: Screen Plot showing Eigen Values with respective Components or Factors



The graph showing the Eigen values are plotted against each component. The Eigen Values more than 1 is associated with a component or factor in descending order against the number of the component or factor. In this graph we find that the first four components are having Eigen Values more than 1.

Graph 2: Screen Plot showing the variance and Cumulative variance of Principal Component Analysis





In this graph-2 x axis contains the Principal Components which is explained by sorting the components by decreasing fraction of total variance in the form of numerical labels so that the most important principal components are listed first. The Y axis explains the proportion of total variance. The blue line in this graph shows that components from 1 to 4 are most important. The upper line which is red in color shows the cumulative variance and explains the first N components.

Table 6: Rotated Component Matrix of Customers selected factors for e-banking services

S. No	Variables	Factors								Naming of the Factors
		1	2	3	4	5	6	7	8	
1	I can get assistance from the banker to apply for any of the e-banking services	.650								Infrastructure
2	The bank provides sufficient number of ATMs and cash depositing machines in areas where population is high	.550								
3	Number of ATM transactions per day is sufficient	.443								
4	The bank has sufficient number of customer care executives to respond telephonic queries	.567								
5	The bank's website has online link to download and install mobile (banking)app (Software)	.340								
6	The bank has a system of updating the exhibits/display boards for sharing information about e-banking payments	.220								
7	The money transactions in e-banking are safe and secured		.502							Reliability
8	The details of e-transactions are updated either through a registered mobile or email or both as and when it is completed.		.798							

9	The change of username/password/PIN is possible after verification of necessary details by e-banking system	.658	<b>Responsive- ness</b>
10	The bank continuously alerts me through SMS/e-mail regarding do's and don'ts in using e-banking system	.548	
11	The e-banking system automatically corrects/rectifies technical errors and credits back the amount lost due to those errors to my account	.790	
12	The e-transaction gets completed within shortest possible/promised time	.626	
13	The customer care executives/help desks picks up call and listen to my queries/ grievances/complaints positively.	.535	
14	The IVRS (Interactive Voice Recognition System) has options and clear instructions to address my queries.	.766	
15	The service requests get processed within the promised time limits	.504	
16	Given the faster internet facility, the e-banking transactions get completed at a faster rate without hassles.	.706	
17	The bank continuously monitors and maintains the ATMs/e-banking infrastructure to ensure proper working.	.545	
18	The bank identifies and solves the frequently occurring problems/complaints in such a way that it is not repeated	.765	

19	The banker understands the nature of complaints and handle them accordingly	.628	<b>Empathy</b>
20	I need not visit the branch to submit a letter in writing to record my e-banking service complaints	.709	
21	The bank updates regularly updates about the e-banking services that I regularly use/avail.	.458	
22	The bank is helpful in informing me through SMS/email about government schemes/subsidies that benefits me	.788	
23	The bank considers my feedback for the services improvement	.596	
24	The employees are trained to deal with e-banking services	.645	<b>Assurance</b>
25	The bank has a system to confirm that the complaints are received, processed and solved on time	.626	
26	Any of the bank employees provide information relating to e-banking in a clear and consistent manner as and when it is demanded for.	.660	
27	The bank is ready to compensate financial losses due to technological problems or human errors from their side	.607	
28	The brand Image of the bank	.656	<b>Image</b>
29	The Loyalty of the customers	.528	<b>Loyalty</b>
30	The Problems encountered by the customers	.625	<b>Problems</b>

In this table 6, the Principal Component Analysis and Varimax procedure are applied for finding the factors in rotated component matrix. The Factor loading of individual variables on various components with more than 0.5 are considered for the determination of factors. Variables numbered as 1, 2, 3,4,5,6 are grouped into first factor, named as Infrastructure. Variables numbered as 7, 8, 9,10,11,12 are grouped into second factor named as Reliability. Variables numbered as 13, 14, 15,16,17,18 are grouped into third factor named as Responsiveness. Variables numbered as 19, 20, 21, 22, are grouped into fourth factor Empathy. 23, 24,25,26,27 are grouped into fifth factor Assurance. Variable numbered as 28 is the sixth factor named as Image. Variable numbered as 29 is the seventh factor named as Customer Loyalty and Variable numbered 30 is the eighth factor named as Problems encountered.

### Chi-square test of Association

Table-7 Chi-square test of Association between Customer Satisfaction and Quality of services provided

<b>Dependent Variable: Customer Satisfaction</b>				
<b>S. No.</b>	<b>Variables</b>	<b>Chi-Square value</b>	<b>Significance value at 5% level</b>	<b>Null Hypothesis</b>
1.	Infrastructure	834.60	0.000	Rejected
2.	Reliability	768.10	0.000	Rejected
3.	Responsiveness	75.25	0.000	Rejected
4.	Empathy	50.20	0.716	Accepted
5.	Assurance	35.50	0.000	Rejected
6.	Image	58.20	0.000	Rejected
7.	Loyalty	43.18	0.000	Rejected
8.	Problems	40.86	0.612	Accepted

The Null hypothesis which states that there is no significant relationship between the customer satisfaction and quality of services provided by the bank. If the significance value is less than 5%, it can be inferred that there is a significant relationship between the quality of services provided by the bank and customer satisfaction.

It can be found from the table 7 that there is a significant relationship between the customer satisfaction and quality of services provided by the bank like infrastructure, Reliability, responsiveness, Assurance, image and loyalty. The rest of the variables do not have any significant association with customer satisfaction.

## Summary of Findings

The earlier studies have conducted the survey about the importance of automated service factors, customer trust, and delight in customer commitment within the banks of United Arab Emirates. Further the studies have used customer satisfaction and customer experience to the five dimensions of the service quality. The gap that in the earlier studies is most of them have used only SERVQUAL model as the only tool, very few have used more than one statistical tool. With only one tool it becomes difficult to come to conclusion. But in the present research findings there are three statistical tools used which give clear picture of the e banking service quality provided and how the customers are satisfied.

It is found that majority of the respondents are Males who belong to the age group of 31-40 years. 51% of the respondents are undergraduates who utilize e-banking for their services. 42% of the respondents are private employed and have income level between 20001-30000 AED who are Internet savvy and would prefer e -banking services. Based on overall Garrett Ranking score for using the e banking services by the customers the highest score is assigned to ATM services by the customers followed by internet Banking, Mobile banking Telephone Banking and Branch Banking respectively. Further based on the Garrett Ranking score for purpose of using e banking services by the customers. The Customers has been assigned highest score for making payment to various institutions like government or private followed by Entertainment, Shopping and Fund transfer respectively. The graph showing the Eigen values are plotted against each component. The graph-1 show that the four components whose Eigen Values are more than 1 is plotted in descending order. The graph-2 explains that the Principal Components from 1 to 4 are most important. The results of factor analysis revealed that Infrastructure, Reliability, Responsiveness Empathy, Assurance, Image, Customer Loyalty and Problems encountered are the factors that influence the customer satisfaction. The relationship between the customer satisfaction and variables of quality of services provided by the bank like infrastructure, Reliability, responsiveness, Assurance, image, loyalty are statistically significant.

## CONCLUSION & SUGGESTIONS

Information technology development brings continuous updates in every industry, banking no exception to this. The banks should take precautions to keep customers' data intact and should take consistent efforts to safeguard online banking transactions. There must be close interaction between bank service and web based e-commerce. The bank should improve their innovative ways of service. There must be frequent surveys conducted to obtain the data from the customers regarding their experiences and suggestions to improve the service quality. E-banking is used by Banks to provide competitive advantages and operational efficiencies. The

research on technology and computer science has opened roads towards banking technology. E banking is poised as a promising partner in the process of e governance.

## SCOPE FOR FUTURE RESEARCH

In many parts of the world, including UAE the e-banking in growth stage and have scope for many developments to match with technological growth in banking industry. Though comparatively UAE is better positioned than many countries, researching on these area will give substantial chances of improvement in the industry, as well as become benchmark for this Middle East region. There are many big events like EXPO 2020 and many structural developments underway, the growth for country and banking industry in specific become no exception to this. Hence, these type of service quality in banking, especially in the electronic generation the scope of for research is very high. And the frequent innovation in the banking industry in terms of their products leads to continuous and longitudinal research.

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