

# Service Quality In E-Banking: An Empirical Study Of Users' Perception

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## ABSTRACT

E-banking has revolutionized the entire traditional banking industry. Its countless benefits have made it an indispensable part of the financial system and it is one of the strongest catalysts for economic development. In developed nations, its burgeoning development is very much obvious, but in developing countries, the scenario is not that rosy. One important reason for low aptness of e-banking may be attributed to differences in the socio-psychological factors in these nations. Therefore, it is imperative to study the factors that are considered by the users of banking services before selecting any distribution channel. In this context, the present paper attempts to analyze the customers' perspective towards those qualitative aspects that e-banking must possess as its e-bankqual. The study is based upon primary data collected from 225 users of e-banking services. The internal consistency of data has been evaluated by Cronbach's Alpha test and sample adequacy has been tested by Kaiser-Meyer-Olkin Measure of sampling adequacy as well as Bartlett's Test of Sphericity. The questionnaire comprised of 26 questions, out of which 19 were related to the qualitative aspect of e-banking. As the degree of correlation detected the problem of multicollinearity, therefore, factor analysis was conducted. The analysis resulted in six variables, which are vital for securing the adhesion of customers to e-banking. These factors are Easiness In Transactions, Customer Relations, Efficient Processing, Secure Transactions, Availability of Services and Reporting (maintenance of records). The study is expected to provide significant insights to enhance the number of e-banking users, particularly in the context of developing nations.

**Keywords:** Availability of Services, Easiness In Transactions, E-banking, Efficient Processing, Maintenance of Records, Secure Transactions, User Relations, E- Banking

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## INTRODUCTION

E-banking has broken out innovative and unconventional ways of doing business. It provides enormous benefits to its users like 24x7 availability, easy accessibility, cost saving, quick operations, etc. The burgeoning development of E-Banking is very much obvious in developed nations, but in developing countries, it has not touched the expected heights. This may be attributed to a number of factors like absence of adequate infrastructure facility, internal deficiencies of the operating system, network vulnerabilities, poor recovery mechanism, lack of awareness among customers, poor handling of customer's grievances and above all, user perception of e-banking. In fact, for enhancing the aptness of e-banking in developing nations, one must concentrate on the needs of the customer. In this context, the present paper attempts to study the Indian users' perspective towards e-banking and explores the different factors which are essential for securing patronage to e-banking. The study is based upon primary data collected from 225 respondents. The data was analyzed by using some statistical tools like Averages, Standard Deviation, Cronbach's Alpha test, Kaiser-Meyer-Olkin Measure of Sampling, Intercorrelation and Factor Analysis to identify the factors a customer considers before selecting any delivery channel for banking services.

## REVIEW OF RELATED LITERATURE

The application and proper utilization of technology in any organization ensures enduring improvements in its performance. The use of technology in banking has revamped the banking scenario around the globe. In the past few decades, e-banking has emerged as a buzzword. In the recent few years, ample research has been done to explore and analyze the different dimensions of e-banking. Some of these are discussed as follows:

Suganthi et al. (2001) investigated Malaysian banking sites and found that most of the studied banks provided information for customers on their websites and only 4 banks out of the 10 had transactional sites. The study reported that Internet accessibility, reluctance to change, cost of computers and Internet access, trust in one's bank, security concerns, convenience and ease of use are the pertinent factors which affect the adoption of Internet banking. The

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study also highlighted that the awareness of Internet banking products and services did not seem to affect the adoption of e-banking services.

Lustsik (2003) pointed out that internet banking offers better branding and responsiveness to the market. He further remarked that e-banking offered a perfect opportunity to banks for the maximization of their profits. The study discussed the reasons for rapid development of e-banking in Estonia in the light of three different components viz., user component, service provider component and public/environment component. The study concluded that acceptance of e-banking depended on the quality of banking services, customer preferences and satisfaction.

Ramalingam (2009) studied the credit card business which has recently emerged as a fast-growing segment of banking. The study observed that new generation banks are greatly popularizing the plastic card. The paper also noticed that the banks have made the credit card business highly profitable, which is evidenced by the dramatic changes in the net issue of credit. However, the study found that public sector banks, despite their wide-spread branch network and large customer base, are yet to grab the credit card market in India.

Uppal (2010) quoted that e-transactions are a cost-effective method for banks to reach out to the customers. The paper examined the growth of ATMs during a period of seven years from 2000-01 to 2006-07. The study concluded that private sector banks are better than other banking groups (except foreign banks) in terms of providing ATM services and hence, earned more profits from their customers. The paper suggested that there is a need to spread more awareness among the customers to enhance the usage of ATMs, particularly in rural and semi-urban areas.

Eze et al. (2011) analyzed the factors that influence the use of internet banking services among young Malaysian adults. The study found that perceived ease of use, perceived usefulness, perceived relative advantage, self-efficacy, perceived credibility and trialability are crucial variables to enhance the usage of internet banking services among young Malaysians. The study suggested that banks should launch campaigns and conduct road shows to raise awareness among people, and the campaigns may be organized in universities (since most young adults are university students).

Masocha et al. (2011) discussed three factors that have enabled e-banking viz., increasing number of internet users, affordability of high-performance technologies and poverty of time and searching effort. The study refuted the argument that e-banking diminishes the belongingness of most clients to the bank. The study propagated the proper implementation of awareness programs for customers, lower service charges, training of staff personnel and suggested that banks should focus on the security issues especially to eliminate threats at ATMs and to secure internet banking.

Seranmadevi et al. (2011) opined that the initiative of e-banking was taken to reduce transaction costs (for the financial institutions) and to deliver value-added services (that are accompanied with a host of features) to the customers. The study found that e-banking has the potential to extend accessible and convenient financial services as it does not require the 'bricks and mortar' infrastructure. The paper examined the types of e-banking credit card technologies available to Indian customers. It also analyzed how various technologies may enhance accessibility, affordability and easiness of use for the customers.

Seranmadevi and Saravanaraj (2012) highlighted that technological interaction in the financial sector is completely inevitable and most invited. The study concluded that the application of advanced technology in the banking sector not only facilitates the banks to offer value added financial services to its customers, but also maintains the bulk volume of daily financial transactions. In this manner, technology offers a significant help in constructing a wide range of data warehouses, which are strongly required to develop and maintain healthy customer relationship management.

Teliti and Mersini (2012) assessed e-banking in Albania and analyzed the legal framework of the same. The study found that e-banking services offered (by 10 out of 16 banks) in Albania were advantageous for most of the banks in terms of service speed-up and improvement in customer relationship. However, the study also advocated that more efforts are required for organizing educative campaigns so that more customers adopt e-banking and become educated about the related security concerns. The study further concluded that the legal framework for regulating the payment system is incomplete. The paper suggested the revision of the whole normative framework in accordance with the 'acquis communautaire' in the framework of the EU membership perspective.

## **NEED FOR THE STUDY**

There is a great resonance to e-banking around the world. However, in developing countries, automated banking lags behind the developed countries. This is particularly due to the fact that a vast proportion of the population does not

have access to adequate infrastructure to use e-services. Further, the psychological traits of the residents are different from that of other nationals. Therefore, it is essential to explore different parameters which are imperative to popularize the use of e-banking all around the world. In this context, the present study is expected to provide some guidance to design e-banking services tailored to meet the needs of the local population.

## OBJECTIVES OF THE STUDY

- 1) To analyze the customers' perspective towards e-banking services.
- 2) To understand the desirable characteristics of e-banking channels from the users' perspective.
- 3) To know the various factors that may affect e-banking users directly or indirectly.
- 4) To generate a summarized picture of different qualitative aspects which are essential to secure users' patronage to e-banking.

## LIMITATIONS OF THE STUDY

The present study is based upon the results of a survey conducted on 225 users of e-channels, and is subject to the limitations of sample size, psychological and emotional characteristics of the surveyed population.

## RESEARCH METHODOLOGY

**a) Data Collection:** The study is primarily based upon primary data collected from a structured survey through a questionnaire. The survey was administered to 225 respondents online as well as personally. Out of the total respondents, 125 respondents were surveyed online and 100 were surveyed personally. The questionnaire comprised of 26 questions (out of which, 7 questions were general and the remaining 19 were study specific). All the variables were measured by their responses on a five - point Likert scale, which rated 1 as least important and 5 as most important.

Table 1: Descriptive Statistics				
Variable	Characteristics	Mean	S.D.	N
1.	Lesser Queuing Time	3.3333	.81832	225
2.	24X7 hour service	3.8844	.62320	225
3.	Accessibility	3.8800	.78422	225
4.	Warning for wrong-doers	3.7911	.70452	225
5.	All banking needs in menu option	3.3911	.75469	225
6.	Lesser Processing Time	3.4267	.78217	225
7.	Confirmation of instruction and verification of confidential information	3.7422	.69773	225
8.	Accuracy of transactions	4.3689	.56054	225
9.	Maintenance of records	3.0444	.75462	225
10.	Cost saving	3.5378	.64755	225
11.	Ensure payment in due course	4.0933	.71038	225
12.	Personalized welcome	2.8667	.65465	225
13.	Provide secure services	4.4400	.58797	225
14.	Handling of users' grievances	2.9822	.69414	225
15.	Communication in regional language	2.8267	.64862	225
16.	User -friendly system	3.3911	.78939	225
17.	Transaction Receipt	2.9644	.51632	225
18.	Timely Update	2.9244	.67386	225
19.	Voice/ Online Directions	3.0311	.99728	225
Source: Primary Data				

**b) Analysis of Data:** The collected data was further analyzed through SPSS 20.0. Cronbach's Alpha test was employed to measure the internal consistency (reliability) of the data. The study further employed Kaiser-Meyer-Olkin Measure of Sampling Adequacy as well as Bartlett's Test of Sphericity. To diagnose the problem of multicollinearity, the degree of correlation had been estimated. In case of any multicollinearity, factor analysis is further undertaken as a tool of dimension reduction.

## ANALYSIS AND RESULTS

**a) Descriptive Statistics:** The Table 1 represents the descriptive statistics of the primary data collected through the survey. Apparently, the feature of provision of secure services followed by accuracy of the transactions seemed to be of upmost concern to the users of e-banking. Also, these two desirable characteristics had the least value of standard deviation in the results.

Table 2: KMO and Bartlett's Test Results		
Kaiser-Meyer-Olkin measure of sampling adequacy	Bartlett's Test of Sphericity	
0.746	Approx. Chi-Square	1280.853
	Degree of Freedom	171
	Significance	.000
Source: Primary Data		

Table 3: Correlation Matrix																			
	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19
V1	1.000	.146	.362	.083	.511	.091	.089	-.133	-.053	.166	-.092	.150	-.204	.050	.101	.530	-.088	.038	.589
V2	.146	1.000	.227	.097	.116	.056	.024	.033	-.112	-.044	.055	.093	.078	.057	.083	.174	-.013	-.053	.078
V3	.362	.227	1.000	-.037	.366	.004	.025	-.031	.062	.005	.084	.064	-.088	.021	-.041	.422	.055	.050	.176
V4	.083	.097	-.037	1.000	.037	.592	.571	.151	-.041	.228	.298	.123	.094	.056	.135	-.013	.029	-.043	.035
V5	.511	.116	.366	.037	1.000	.034	-.020	.080	-.007	.207	-.068	.187	-.269	.116	.148	.619	-.033	.085	.553
V6	.091	.056	.004	.592	.034	1.000	.595	.189	-.025	.347	.370	.103	.085	-.035	.076	-.004	.027	-.023	.006
V7	.089	.024	.025	.571	-.020	.595	1.000	.256	-.105	.279	.274	.130	.114	.064	.098	.062	.012	.034	.056
V8	-.133	.033	-.031	.151	.080	.189	.256	1.000	-.271	.177	.294	.110	.318	.051	-.008	.106	.076	.027	.011
V9	-.053	-.112	.062	-.041	-.007	-.025	-.105	-.271	1.000	-.040		.084	-.155	.121	.244	.001	.164	.182	.087
V10	.166	-.044	.005	.228	.207	.347	.279	.177	-.040	1.000	.366	.075	.021	.002	-.032	.181	.004	-.091	.209
V11	-.092	.055	.084	.298	.068	.370	.274	.294	.058	.366	1.000	.142	.243	.067	.013	.006	.021	.013	.048
V12	.150	.093	.064	.123	.187	.103	.130	.110	.084	.075	.142	1.000	-.090	.368	.555	.214	.171	.362	.423
V13	-.204	.078	-.088	.094	-.269	.085	.114	.318	-.155	.021	.243	-.090	1.000	-.112	-.139	-.190	.081	-.051	-.229
V14	.050	.057	.021	.056	.116	-.035	.064	.051	.121	.002	.067	.368	-.112	1.000	.499	.135	.098	.427	.239
V15	.101	.083	-.041	.135	.148	.076	.098	-.008	.244	-.032	-.013	.555	-.139	.499	1.000	.177	.275	.409	.409
V16	.530	.174	.422	-.013	.619	-.004	.062	.106	.001	.181	.006	.214	-.190	.135	.177	1.000	-.053	.190	.620
V17	-.088	-.013	-.055	.029	-.033	.027	.012	.076	.164	.004	.021	.171	.081	.098	.275	-.053	1.000	.172	.141
V18	.038	-.053	.050	-.043	.085	-.023	.034	.027	.182	-.091	-.013	.362	-.051	.427	.409	.190	.172	1.000	.289
V19	.589	.078	.176	.035	.553	.006	.056	.011	.087	.209	-.048	.423	-.229	.239	.409	.620	.141	.289	1.000
Source: Primary Data																			

**b) Cronbach's Alpha:** As a commonly accepted rule of thumb, the minimum acceptable score of Cronbach's Alpha is 0.70 (George and Mallery, 2003). In the present study, the Cronbach's Alpha score was 0.72, which was sufficient enough to proceed forward.

**c) Kaiser-Meyer-Olkin And Bartlett's Test:** The Kaiser-Meyer-Olkin measure of sampling adequacy is an index for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients. It seeks to identify whether sufficient correlation exists among the variables or not. Its value lies in between 0-1. The minimum acceptable value of KMO is 0.50. Bartlett's Test is applied to measure the strength of the relationship among the variables of a population correlation matrix i.e. whether they are uncorrelated or not. Generally, the cut-off value is less than or equal to 0.05. In the present study, the KMO value is 0.746 and the Bartlett's value is 0.000 (Table 2), which permitted the application of Factor Analysis to the data.

Table 4: Communalities		
Variables	Initial	Extraction
Lesser Queuing Time	1.000	.662
24X7 hour service	1.000	.693
Accessibility	1.000	.664
Warning for wrong-doers	1.000	.715
All banking needs in menu option	1.000	.675
Lesser Processing Time	1.000	.737
Confirmation of instruction and verification of confidential information	1.000	.670
Accuracy of transactions	1.000	.689
Maintenance of records	1.000	.742
Cost saving	1.000	.628
Ensure payment in due course	1.000	.568
Personalized welcome	1.000	.566
Provide secure services (safety)	1.000	.567
Handling of users' grievances	1.000	.528
Communication in regional language	1.000	.719
User -friendly system	1.000	.729
Transaction Receipt	1.000	.429
Timely Update	1.000	.499
Voice/ Online Directions	1.000	.743
Source: Primary Data		

**d) Correlation Analysis:** Factor analysis of the variables may be employed only if there is a problem of multicollinearity among the variables. The problem of multicollinearity is assumed if the correlation between two or more variables is more than 0.50. The Table 3 represents the correlation matrix. The correlation matrix reveals that the correlation between some variables is more than 0.50. Therefore, it was necessary to apply the factor analysis on the variables.

**e) Factor Analysis:** Factor Analysis is applied to a group of variables having similar characteristics. It reduces a huge number of variables to a small number of variables, which are then capable of explaining the observed variance in a large number of variables. The Table 4 represents the communalities of variables which represent the amount of variation extracted from each variable. The extraction of the variables was done by the Principal Component Analysis method.

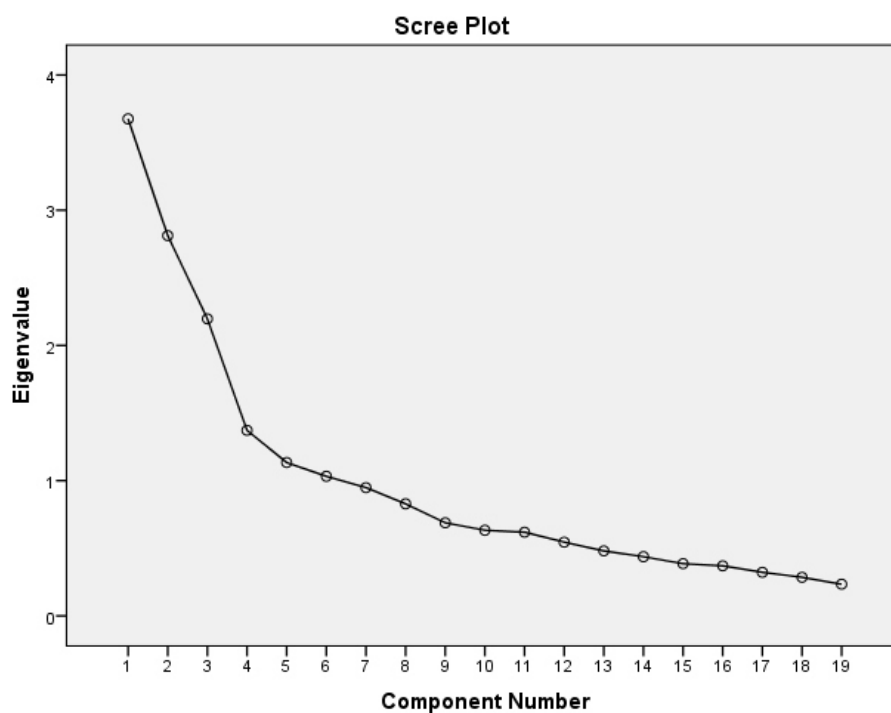
It can be inferred from the Table 4 that the Variable 19 (Voice/ Online Directions) carried the maximum communalities and it is followed by 'Maintenance of Records' and 'Lesser Processing Time'.

**Table 5: Variance Explained By Different Variables**

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.675	19.344	19.344	3.675	19.344	19.344	3.051	16.057	16.057
2	2.812	14.800	34.144	2.812	14.800	34.144	2.567	13.513	29.570
3	2.197	11.561	45.705	2.197	11.561	45.705	2.488	13.095	42.666
4	1.372	7.220	52.926	1.372	7.220	52.926	1.710	9.001	51.666
5	1.134	5.969	58.895	1.134	5.969	58.895	1.214	6.392	58.058
6	1.032	5.432	64.327	1.032	5.432	64.327	1.191	6.269	64.327
7	.948	4.992	69.319						
8	.829	4.362	73.681						
9	.688	3.623	77.304						
10	.633	3.332	80.635						
11	.619	3.256	83.891						
12	.545	2.869	86.760						
13	.481	2.530	89.290						
14	.437	2.302	91.592						
15	.386	2.031	93.623						
16	.370	1.947	95.570						
17	.322	1.696	97.266						
18	.285	1.502	98.768						
19	.234	1.232	100.000						

Source: Primary Data

**Figure 1: Scree Plot**



Source: Primary Data



Table 6: Rotated Component Matrix						
Variables	Components					
	1	2	3	4	5	6
User -friendly system	.827					
All banking needs in menu option	.815					
Lesser Queuing Time	.752					
Voice/ Online Directions	.740	.424				
Communication in Regional language		.813				
Handling of user grievances		.724				
Personalized welcome		.705				
Timely Update		.681				
Lesser Processing Time			.849			
Warning for wrong-doers			.835			
Confirmation of instruction and verification of confidential information			.794			
Cost saving			.418			
Accuracy of transactions				.758		
Provide secure services (safety)				.654		
Ensure payment in due course			.423	.577		
24X7 hour service					.806	
Accessibility	.517				.552	
Maintenance of records						.792
Transaction Receipt						.502
Source: Primary Data						

All of these variables were further analyzed through their Eigen values, which represents the variance of the factors. The Table 5 presents the total variance explained by different variables. The extraction had been done by the principal component analysis method.

There are six variables which have an Eigen value of more than 1.000. The cumulative variance explained by these six components is 64.327%. The calculated Eigen values and the associated components can be studied through Cattell's Scree Plot (Figure 1).

The Figure 1 clearly demonstrates that there are six components which are more crucial for the users of e-banking channels. The remaining variables also exerted an influence on the users, but that was on a limited scale. The Table 6 represents the rotated component matrix, which is a matrix of the factor loadings for different variables onto each factor. It indicates the correlation of different variables with a factor. In the present study, the loadings having a value of less than 0.40 were suppressed, so as to identify the substantive loadings. The matrix was constructed on the basis of varimax criterion with Kaiser Normalization method. The entire rotation process was converged in seven iterations, which revealed that there are six factors and variables (excluding three variables) that load highly onto one factor. The Factor Analysis generated 6 factors. The factors with their corresponding variables are as follows:

❖ **Factor 1:** It includes user –friendly system, voice/ online directions, lesser queuing time and offering all banking services in a single menu. It may be labeled as *Easiness*. Its function may be written as follows:

$$\text{Easiness} = .827V16 + .815V5 + .752V1 + .740V19$$

❖ **Factor 2:** It includes communicating to customers in their regional language, welcoming them in a personalized manner, giving timely updates and handling users' grievances. It may be named as *Customer Relations*. Its function may be written as follows:

$$\text{Customer Relations} = .813V15 + .724V14 + .705V12 + .681V18$$

❖ **Factor 3:** Efficient Processing may be ensured by reducing the processing time, giving warning to wrong doers, confirmation of instructions & verification of crucial information and providing cost saving features to the users. It may be labeled as *Efficient Processing*. Its function may be written as follows:

$$\text{Efficient Processing} = .849V6 + .835V4 + .794V7 + .418V10$$

❖ **Factor 4:** To ensure the safety of funds, the service provider must ensure accuracy of transactions, provision of secured services and ensure that the payments are processed in the due course of time. It may be labeled as *Safe Transactions*. Its function may be written as follows:

$$\text{Safe Transactions} = .758V8 + .654V13 + .577V11$$

❖ **Factor 5:** It includes round the clock (24 X 7) service and easy accessibility. It may be labeled as *Availability*. Its function may be written as follows:

$$\text{Availability} = .806V2 + .552V3$$

❖ **Factor 6:** It includes timely maintenance of records and providing receipt of transactions. It may be labeled as *Reporting*. Its function may be written as follows:

$$\text{Reporting} = .792V9 + .502V17$$

The component transformation matrix of the above rotated component matrix is given in the Table 7. The extraction was done through Principal Component Analysis, and the rotation was done on Varimax criterion with Kaiser Normalization.

Table 7: Component Transformation Matrix						
Component	1	2	3	4	5	6
1	.778	.561	.249	-.011	.096	.089
2	-.178	-.089	.827	.518	-.044	-.079
3	-.552	.763	-.028	.015	-.172	.286
4	.025	.175	-.456	.749	.329	-.303
5	-.223	.069	.194	-.303	.902	-.038
6	.082	-.244	-.088	.281	.190	.900
Source: Primary Data						

The Component Transformation Matrix explains that Factor 5 and Factor 6 have a marvelous degree of common variance. Factor 1 and Factor 4 have Middling Effect, whereas Factor 2 and Factor 3 do not have the effect. Factor 1 has a miserable effect on Factor 2, and does not affect the other factors. Factor 2 has a meritorious effect on Factor 3 and a miserable effect on Factor 4. However, it does not affect the other factors. Factors 4, 5 and 6 do not have a significant degree of common variance.

## CONCLUSION

E-banking is a strong catalyst for the economic development of the country and in order to expand their distribution, banks must satisfy the customers' requirements. The present paper analyzed 19 different variables, which may affect the customers' decision to opt for e-banking as a service-delivery channel. The analysis apparently exhibited that e-banking must have six qualitative factors viz., *Easiness In Transactions*, *Customer Relations*, *Efficient Processing*, *Safe Transactions*, *Availability of Services* and *Reporting*.

Easiness in transactions comprises of user –friendly system, voice/ online directions, lesser queuing time and offering all banking services in a single menu. Customer Relations expresses the interpersonal relation of services and customers. Good relations may be established by communicating with users in their regional language, welcoming them in a personalized manner, providing timely updates and handling of users' grievances. Processing is said to be efficient if it assures shorter processing time, provides warning to wrong doers, confirms instructions & verifies crucial information and saves money in transaction costs. To ensure Secure Transactions, the service providers must



ensure accuracy of transactions, implement provision of secured services and ensure that the payments are released in the due course of time. Availability lies in round the clock service with easy accessibility. Further, to secure the patronage of the users', banks must provide timely transaction receipts and maintain accurate records as a part of Reporting.

## REFERENCES

- 1) Eze, U.C. & et.al. (2011). "Factors Affecting Internet Banking Adoption Among Young Adults: Evidence from Malaysia." Proceedings of International Conference on Social Science and Humanity conducted at Singapore, 26-28 February, 2011, published in *International Proceedings of Economics Development and Research (IPEDR)*, Volume 5, Issue 1, pp. 377-381, <http://www.ipedr.com/vol5/no1/81-H00169.pdf> accessed on July 20, 2012.
- 2) George, D., & Mallery, P. (2003). "SPSS For Windows Step By Step: A Simple Guide And Reference 11.0 Update." 4th ed., Pearson Allyn & Bacon, Boston, MA, United States, p.231, pp.1-386.
- 3) Lustsik, O. (2003). "E-banking in Estonia: Reasons and Benefits of the Rapid Growth." *Working Paper Series 21*, University of Tartu, Estonia, <http://www.mtk.ut.ee/doc/febawb21.pdf> accessed on February 12, 2012.
- 4) Masocha, R., Chiliya, N., and Zindiye, S. (2011). "E-banking Adoption By Customers In The Rural Milieus Of South Africa: A Case Of Alice, Eastern Cape, South Africa." *African Journal of Business Management*, Volume 5, Issue 5, pp. 1857-1863, <http://www.academicjournals.org/AJBM/PDF/pdf2011/4Mar/Masocha%20et%20al.pdf> accessed on July 21, 2012.
- 5) Ramalingam, P. (2009). "Usage Pattern of Credit Card Holders." *Indian Journal of Finance*, Volume 3, Issue 4, pp. 7-19.
- 6) Seranmadevi, R., and Saravanaraj, M. G. (2012). "Technology @ Indian Banking Sector." *European Journal of Social Sciences*, Volume 29, Issue 4, pp. 472-488, [http://www.europeanjournalofsocialsciences.com/ISSUES/EJSS\\_29\\_4\\_03.pdf](http://www.europeanjournalofsocialsciences.com/ISSUES/EJSS_29_4_03.pdf) accessed on July 21, 2012.
- 7) Seranmadevi, R., Natarajan, M. L., and Saravanaraj, M. G. (2011). "Sectoral Analysis of E-Banking Industry An Evolutionary Approach." *Indian Journal of Finance*, Volume 5, Issue 8, pp. 37-44.
- 8) Suganthi, R., Balachandher, K., and Balachandran, V. (2001). "Internet Banking Patronage: An Empirical Investigation Of Malaysia." *Journal of Internet Banking and Commerce*, Volume 6, Issue 1, [http://www.arraydev.com/commerce/jibc/0103\\_01.htm](http://www.arraydev.com/commerce/jibc/0103_01.htm) accessed on January 10, 2012.
- 9) Teliti, E., and Mersini, R. (2012). "Assessment of E-Banking Services and Legal Framework in Albania." *Mediterranean Journal of Social Sciences*, Volume 3, Issue 1, pp. 267-282. [http://www.mcser.org/images/stories/2\\_journal/mjssjan2012/ersida%20teliti.pdf](http://www.mcser.org/images/stories/2_journal/mjssjan2012/ersida%20teliti.pdf) accessed on June 12, 2012.
- 10) Uppal, R. K. (2010). "Future Outlook of ATMs In India-Emerging Issues and Possible Solutions." *Indian Journal of Finance*, Volume 4, Issue 12, pp. 3-13.