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A CLASSIFICATION OF E-BANKING USERS BASED ON IMPACT OF SERVICE QUALITY PARAMETERS IN BANKING INDUSTRY

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ABSTRACT:

Customer relationship and retention is the key to success for banks. One of the way to achieve it, is through improvement in overall service quality of online banking. This paper have identified factors influencing overall service quality of online banking by survey of 400 online banking users and have proposed a model. After that psychographic and demographic variables are identified and classification is being done within respondents using cluster analysis and researcher get three clusters. Appropriate statistical techniques like k-means cluster, hierarchal cluster analysis were used to classify the segment of respondents. The paper concludes that e-banking user are classified in three clusters and their behavior for each cluster is different. The behavior of cluster one is positive and they are accepting the changes, the behavior of cluster two is negative, they are not ready to accept the changes and the behavior of cluster three is mixture of both clusters. The limitation of this research is respondents are

.

1. INTRODUCTION:

Banks can be identified as backbone to economy of any developing country. Banking structure of any country contributes in their economic as well as social development. Economy of any nation is divided into three parts: one is industrial sector, other is service sector and last one is tertiary sector. Banking services come under service sector. Technology Advancement and extensive use of internet have changes the service delivery methods in last few decades. (Shankar & Charles Jebarajakirthy, 2019).Customers are demanding new package of

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convenience and flexibility as compared to traditional methods of banking services (Sathiyavany, 2018). This motivated service providers to shift their way from traditional and go digital. There are various determinants of service quality like accessibility, tangibility, responsiveness, reliability, security, competence, (Parasuraman & Valarie A. Zeithaml, 1985) etc. that are used by various service providing industries. To reframe and modernize the level of services provided by banks first they need to identify the area of difficulty they are facing to concern with customers and also identify those factors which can affect the service quality and then make changes accordingly for smooth running of business model reframed by service providers. (Bhatt & Nagar, 2020)

E-banking is expanding in the nation. It became need of majority of citizens to use e-banking services in preference of traditional banking services. India is a country with highest youth population where the age-group of 15-34 years increased from 353 million in 2001 to 430 million in 2011. (census.gov.in). Current predictions suggest a steady increase in the youth population to 464 million by 2021. With the ongoing digital drive in India, the number of users opting for online banking is expected to double to reach 150 million mark by 2020, from the current 45 million active urban online banking users in India, according to a report drafted by Facebook and The Boston Consulting Group (BCG). Here the banking sector have to focus on how they can create service quality with the help of e-banking.

1.1 Evolution Digital banking in India:

"**E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels**"

The rigorous use of IT in the banking sector started immediately after the recommendations of the Committee on Financial System by Narsimhan committee[4] were implemented in 1991. In India, the banks offer the accompanying advanced e-banking benefit like, ATM (Automated Teller Machine), Internet Banking, Mobile Banking, SMS Banking, Smart Cards, Electronic Clearing services (ECS), Electronic Clearing Cards and Electronic Fund Transfer (EFT).Many research have investigated how e-banking service is measured but very few studies the association amongst those determinants and service quality. (Hammoud1, Rima M. Bizri1, & Ibrahim El Baba1, 2018). This paper attempted to show the impact of service quality determinants on e-banking and also to measure that impact with the help of various statistical tools.

1.2. Customers' preference for service quality in banking services:

Service quality is about overall assessment and discernment by customer regarding the importance of service delivery. Today's competitive atmosphere is totally differentiated and dependent on excellent service delivery. There are numerous examples where loyalty is being attained by providing perpetual and uniform services to the customers. Customer satisfaction as quoted by Philip Kotler: **"person's feeling of pleasure or disappointment, which resulted from comparing a product's perceived performance or outcome against his/her expectation"**. Researchers also verified that service quality is helpful in long run to maintain good relations with customers and getting good business in long term. (Gonzälez, Rene Dentiste Mueller, & Rhonda W. Mack, 2017)

[4] www.rbi.org.in

Some researchers also confirm that loyalty of e-banking customers is directly affected by satisfaction and trust in an online bank, which in turn are determined by e-service quality. (GHANE, M. FATHIAN, & M. R. GHOLAMIAN, 2011) Service quality have direct relation with customer satisfaction, trust and loyalty in banking services (Lee, Yim, Brian H, jones, Charles W, & Kim, Bong-Gyung, 2012) Perceived service quality has a strong influence on customer satisfaction and use of e-banking, which means that greater quality of service has the potential to increase satisfaction and consequently result in to more use of e-banking. (Ayo, Oni, A.A., Adewoye, O.J. , & Eweoya, I.O, 2016). Despite commonalities between traditional service quality and e-banking service quality dimensions, due to the remote form of the online encounter, many traditional service quality attributes were found to be redundant and instead e-dimensions such as web usability, trust, access and information quality service recovery and flexibility emerged as important to e-banking service provision. (Loonam & O'Loughlin, D, 2008).

In one research researchers proved that perceived usefulness, ease of use, reliability, responsiveness, security and privacy, and continuous improvement of e-banking services significantly influence customer attitudes towards e-banking. (Liao & M.T. Cheung, 2005). There are various researches which focus on 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. (Jayawardhena, 2010). One research conducted on India regarding service quality of private as well as public banks digital banking services states that here researcher used factors like assistance, tangibility, competence, ease of use, security, accessibility and connectivity proved that all these factors are contributing in overall service quality of e-banking but when it comes to banks individually than the intensity of usage of that factor varies from bank to bank. (Mehta & bhatt, 2020).

RESEARCH OBJECTIVES:

- To identify the factors that are influencing e-banking service quality
- To classify according to psychographic characteristics of banking customers which measures service quality for e-banking services
- To analyzed the variation amongst the clusters with respect to factors that are influencing adoption of e-banking by banking customers
- To understand the association between psychographic factors with demographic factors like education, qualification and designation.

RESEARCH PROCESS:

Research Design:

This is a cross sectional attempt of researcher to understand a classification of banking customers with respect to psychographic and demographic aspect of adoption of e-banking. This is unique attempt made by researcher trying to derive new conclusions with fresh collection of data in different geographical region, demographic profile and with different techniques. Therefore the descriptive cross sectional, research design is adopted to derive the conclusion classification of psychological factors of adoption of e-banking by various banking customers.

Sample Design:

- **Questionnaire:**

To understand the relationships between e-banking adoption and service quality the core variables are studied through exhaustive literature review and 24 statements related to 5variables of service quality like perceived accessibility, security, assurance, ease of use and competence

were studied with the help of 7 point Likert scale. The variable structure questionnaire includes some of the sections included with important categorical variable. The descriptions for seven Likert Scale which are, 1-StronglyDisagree, 2-Disagree,3-Somewhat Disagree, 4-Neutral, 5-Somewhat Agree, 6-Agree and 7-Strongly Agree.

- **Sample Design:**

Here, researcher has select the financial service and banking sector as a area of research and entire research is focus on relationship between e-banking adoption and service quality by banking customers. These categories of respondents are easily approachable. Therefore, researcher applies non-probability purposive sampling to get the responses from the respondents.

Analytical tools and techniques:

Researcher applied the tools like factor analyses, reliability, validity, hierarchical cluster and K-means cluster and crosstab to understand classification of psychological segmentation in terms of **service quality determinants for e-banking services.** To evaluate the internal consistency the cronbach's alpha tools represent the reliability has been perform, to understand the number of segmentation of classifications of e-banking users is identified with hierarchical cluster proximity matrix and Dendrogram and agglomeration schedule help us to understand the exact number of classification with respect to psychological factors in terms of numbers. K-means cluster is applying to understand the various kind of psychological behavior of e-banking user from various demographic segments. The multi variate cross tab is used to establish the association between the psychological factors and the demographic category like education qualification, gender, age, etc

TESTING INSTRUMENT:

With an objective to determine the suitability of data for the factor analysis, the Kaiser Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's Test of Sphericity are applied. The KMO measure of sampling adequacy is a statistic that indicates the proportion of variance in the variables that might be caused by the reduced factors. Kaiser (1974) recommends that a bare minimum of 0.5 is unacceptable and that values between 0.5 and 0.7 are adequate to proceeds further with the analysis (Hutcheson&Sofroniou, 1999). The high value of KMO (0.930) indicates that a factor analysis is quite useful for the data being used in
this study. The KMO figures provide strong evidence for sampling adequacy for these data. Similarly, the significance value for Bartlett's test of Sphericity is 0.000 which indicates that there exist significant relationships among variables. The output of KMO and Bartlett's tests supports the view that factor analysis is very much useful for the present data.

Table : 1

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.750
Bartlett's Test of Sphericity	Approx. Chi-Square	26249.079
	Df	595
	Sig.	0.000

Correlation Matrix
a. Determinant = .001

The determinant of the Correlation Matrix is 0.001 that is higher than the 0.00001 and hence no multicollinearity is observed in the data.

Table 2 : Total Variance Explained

Statement No.	Factor loading	Eigen value	Explained Variance	AVE	Cronbach's Alpha	Composite liability
AC1	.815	13.504	45.014	0.71	0.903	0.92
AC2	.741					
AC3	.727					
AC4	.726					
AC5	.590					
AC6	.565					
AC7	.550					
PSC1	.877	2.289	9.429	0.59	0.921	0.84
PSC2	.877					
PSC3	877					
PSC4	.777					
PAS1	.818	1.607	5.357	0.71	0.886	0.89
PAS2	.756					
PAS3	.700					
PAS4	.604					
EOU1	.798	1.291	4.305	0.70	0.863	0.905
EOU2	.784					
EOU3	.759					
EOU4	.732					
EOU5	.626					
EOU6	.546					
PCM1	.782	1.152	3.380	0.66	0.764	0.835
PCM2	.690					
PCM3	.613					

Factor Naming and related statements:

Once the factors extracted than the next step is to interpret andname the factors. Factor naming is done based on the membership of variousitems in various factors as follows:

Factor 1 – AC – Perceived Accessibility – Related Statements are: S-5,4,2,1,3
Factor 2 – PSC – Perceived security – Related Statements are: S- 6,8,9,7,10
Factor 3 –PAS – Perceived Assurance **-** Related Statements are: S - 11,15,13,14,12
Factor 4 – EOU – Perceived Ease of Use **–** Related Statements are: S – 20,16,19,17,18
Factor 5 – PCM – Perceived Competence **–**Related Statements are: S – 21,23,24, 22,25

All the factors in Table 2 accounted for 84.390 percent of the variance. Total variance explained (84.390 percent) by these components which is higher than 50% as recommended by Nunnally& Bernstein (1994) and almost greater than or equal to the 60 percent threshold commonly used in

social sciences. (Hair et al., 2006). The 5factor solutions were derived using Principal Component Analysis and Varimax rotations wherever possible. Ideally the researcher should retain items that load clearly and strongly onto one component/factor (Matsunaga, Masaki, 2010). Explained variance for perceived accessibility (45.014), perceived security (9.429), perceived assurance(5.357), perceived ease of use(4.305) and perceived competence(1.152). Thus, a variable that loads on more than one factor, should be removed if the cross-loading is greater than .40 (Schonrock-Adema et al., 2009).

Factor Loading& Eigen Value:

For interpreting the factor interpretation, Hair (2006), suggests to refer to the factor loadings. Factor Loadings are the correlation of each variable and the factor. Loadings indicate the degree of correspondence between the variable and the factor, with higher loadings making the variable representative of the factor. Factor loading of ± 0.30 to ± 0.40 are minimally acceptable, values greater than ± 0.50 are generally considered necessary for practical significance. Following table represents guidelines for identifying significant factor loadings based on sample size.

Sometimes, one variable is having significant loading in several factors. Such variable is found to have more than one significant loading is termed as Cross-Loading. Such type of the variables should be eliminated from the analysis so as to simplify the factor structure (Hair et al., 2006). According to the Hair (2006), there is no specific rule in selecting the rotation method, therefore, the VARIMAX rotation method selected while performing the exploratory factor analysis. Principal Component Factor Analysis method is adopted for while performing the factor analysis. The objective for the selection of this method is to summarize most of the original information (variance) in a minimum number of factors for prediction purposes. With component analysis each variable contributes a value of 1 to the total Eigen value. Thus, the factors having Eigen values greater than 1 are considered significant.

AVE (Average Variance Extracted):

Average variance extracted (AVE) is a measure of the amount of variance that is captured by a construct in relation to the amount of variance due to measurement error. AVE is well below the conventional threshold of 0.5. Work out the Mean (the simple average of the numbers) then for each number: subtract the Mean and square the result (the squared difference). Then work out the average of those squared differences. (Fornell &Larcker 1981). In Table no. 04, AVE for PAC (0.71, PSC (0.59), PAS (0.886), PEOU (0.863), and PCOM (0.764).

RELIABILITY:

It is vital for any research to evaluate the internal consistencies of various statements frame for the research work. To measure the intensity of internal consistencies here researcher applied the tools called Cronbach's Alpha. If the value of Cronbach's Alpha > 0.70 then it indicates sufficient internal consistencies regarding various statements are frame for the research work. Reliability table indicates for the factors like Factor 1, Factor 2, Factor 3, Factor 4 & Factor 5 the value of Cronbach's Alpha is 0.903, 0.921, 0.886, 0.863 & 0.764 respectively which is mentioned in **Table 02**. Here value of Cronbach's alpha is greater than 0.7 in each case, it shows that researcher did not violate assumption of internal consistency called reliability.

Composite reliability (sometimes called construct reliability) is a measure of internal consistency in scale items, much like Cronbach's alpha (Netemeyer, 2003). It can be thought of as being equal to the total amount of true score variance relative to the total scale score variance (Brunner &Sub, 2005). Composite reliability above the 0.70 threshold and an extracted variance

above the 0.50 threshold are recommended by Hair et al. (2006). Last component of convergent validity is Average Variance Extracted (AVE). Average Variance Extracted (AVE) is higher than 0.5 but we can accept 0.4 because Fornell and Larcker (1981) said that if AVE is less than 0.5, but composite reliability is higher than 0.70, the convergent validity of the construct is still adequate.

CLUSTER ANALYSIS:

Table: 3

Distances between Final Cluster Centers			
Cluster	1	2	3
1		11.726	7.025
2	11.726		5.957
3	7.025	5.957	

The above table shows that there is a considerable distance amongst the cluster centers of the three clusters in which between cluster 1 and 2, 11.726 number indicate that there is a significant difference in the value of segment 1 and segment 2 and number 7.025 shows there is significant difference between the value of cluster 1 and 3, the number 5.957 show there is significant difference between cluster 2 and 3, with respect to e-banking user and service quality provided by banking service providers.

Table: 4

Number of Cases in each Cluster		
Cluster	1	123.000
	2	144.000
	3	133.000
Valid		400.000
Missing		.000

The above table shows that of the total respondent base of 400, all entries are valid. It also tells us that total respondents divided into three clusters from which cluster one with 123 respondents having high variation within their responses for e-banking service quality, cluster two with 144 responses have low variation within their responses and cluster three with 133 respondents have equal level of high and low responses that is moderate response within them.

Table: 5

Final Cluster Centers					
	Cluster				
	1	**2**	**3**	**F**	**Sig**
EOU3	6.05	3.69	5.47	159.399	0.00

EOU1	5.88	3.59	5.38	152.931	0.00
EOU5	4.98	3.21	5.26	96.806	0.00
EOU2	5.86	4.59	5.76	54.671	0.00
EOU4	5.67	4.54	5.34	36.941	0.00
EOU6	5.80	3.75	5.01	141.198	0.00
AC3	5.51	3.16	4.97	275.289	0.00
AC4	5.31	3.51	4.83	127.003	0.00
AC6	5.77	3.54	5.22	211.669	0.00
PCM3	5.76	3.96	5.38	100.331	0.00
PCM2	5.98	4.91	5.59	46.718	0.00
PCM1	6.03	4.91	5.67	32.527	0.00
PAS4	5.83	3.70	4.46	149.306	0.00
PAS2	5.18	2.81	3.86	114.158	0.00
PAS3	5.76	2.49	3.54	293.438	0.00
PAS1	5.42	2.82	3.41	179.673	0.00
PSC1	6.20	2.64	3.41	362.028	0.00
PSC4	6.13	4.16	4.88	95.565	0.00
PSC2	6.20	2.64	3.41	362.028	0.00
PSC3	6.20	2.64	3.41	362.028	0.00
AC1	5.56	3.64	5.12	122.040	0.00
AC5	5.07	2.11	3.47	202.615	0.00
AC7	5.52	3.07	4.15	180.626	0.00
AC2	5.30	3.00	4.51	122.245	0.00

- In above table, there are 7 statements (AC3,AC6,AC5,PAS3,PSC1,PSC2,PSC3) where F values are higher side it indicate that there is larger variations amongst cluster 1,2 and 3 with respect to these statements.
- There are 7 statements (EOU2, EOU4, EOU5, PCM1,PCM2,PCM3,PSC4) where F values are lower side it indicate that there is lower variations amongst cluster 1,2 and 3 with respect to these statements.
- Whereas 10 statements (EOU3, EOU1, EOU6, AC4, PAS4, PAS2, PAS1, AC1, AC7, AC2) indicatesmarginal or mixture of higher and lower variation amongst these clusters

Following are the statements to elaborate above values:

Cluster A (Large variationsamongst Cluster):

Table: 8

Statement Number	**Statement**
AC3	Serverresponseisavailablwheneveryouwishtotransact
AC5	Account/servicescanbeaccessedthroughdigitalbankingchannelwithlowinternetconnectivity
AC6	Instructionstoexecutetransactionareclear
PAS3	Incaseoferrorinprocessingtransaction,propersupportisbeingprovidedbythebank
PSC1	Sufficientmeasuresarebeingtakentomaketransactions/datasecure/safe
PSC2	Itissecuredwithmultilevelauthorizationtoaccessaccount

PSC3	Incaseofconnectivitylossoraccountremainingidleforsome timeaccountautomaticallygetsloggedoff

It's clearly indicated that the F ratio of above mentioned statements are significantly in higher sides that shows that these are the statements classify the three different segment clearly. All the statements of perceived security that is PSC1, PSC2 and PSC3 having F value of 362.028 each it means there is more variation in behavior of respondents for same statement for different clusters. The other variables like perceived accessibility and perceived assistance also have large variation amongst all three clusters. Here e-banking user have different behavior for connectivity loss and measures taken by service providers for connectivity issues.

Cluster B (Lower variations amongst Cluster):

Table: 9

Statement Number	Statement
EOU2	All necessary banking services are available on digital Platform
EOU4	All necessary banking services can be accessed anytime and from any place
EOU5	Informationavailableondigitalbankingareexhaustive
PCM1	Transactionprocessingiserror-free
PCM2	Accountinformationprovidedareaccurate
PCM3	Account remains logged in while inputtinginformation/executingtransactions
PSC4	Itissecuredwithmultilevelauthorizationtoaccessaccount

It's clearly indicated that the F ratio of above mentioned statements are significantly in lower sides. The F value of statement number EOU2 (54.671), EOU4 (36.941), EOU5 (96.806), PCM1 (32.527), PCM2 (46.718) respectively. Statement no EOU4 shows that is shows that there is not significant difference or least difference amongst opinion of e-banking user. Whereas statement EOU5 (96.805), PCM3 (100.331) and PSC4 (95.565) have lower effect but not lower than statement EOU4. The e-banking user for above statements were not thinking differently for the behavior of service quality provided by banking service provider with reference to e-banking services.

Cluster C (Mixed Variation amongst cluster) :

Table :10

Statement Number	Statement
EOU1	Informationavailableondigitalbankingarerelevant
EOU3	Information available on digital banking are easy to Understand
EOU6	Digitalbankingchannelsareavailablwheneverrequired
AC1	Internetconnectivityisalwaysavailable
AC2	Connectivityisconstant–(uninterrupted)during Transaction
AC4	Server connectivity is continuous (no problems of server connectivityloss)whileprocessingtransactions
AC7	Site/applicationworkcontinuous(doesn'tgethung)while processingtransaction

PAS1	Securityquestionscanbechanged
PAS2	IncaseofnonreceiptofOTPthroughSMS,OTPisconveyed byphonecall
PAS4	Incaseofdebit/creditcardgettingdamaged,newcardisbeing issuedwithinreasonabletime

In above table it is observes that factor like AC7, EOU1, EOU5, PAS1, have higher F value and factors like AC1, AC2, AC4, PAS2, HAVE LOWER Fvalue, which means in this cluster the behavior of e-banking user having no uniformity in this cluster. Some e-banking user having high influence for service quality in e-banking services while some have low influence for service quality of e-banking services. In this table we can see that there is mixed or marginal variance among all the three cluster's behavior.

ANOVA TEST:

Table: 11

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
PCON	Between Groups	360.944	2	180.472	377.494	.000
	Within Groups	189.797	397	.478		
	Total	550.742	399			
PSC	Between Groups	597.413	2	298.706	437.278	.000
	Within Groups	271.192	397	.683		
	Total	868.604	399			
PAS	Between Groups	351.276	2	175.638	454.686	.000
	Within Groups	153.355	397	.386		
	Total	504.631	399			
PAC	Between Groups	237.563	2	118.782	204.839	.000
	Within Groups	230.212	397	.580		
	Total	467.775	399			
PCT	Between Groups	112.566	2	56.283	78.776	.000
	Within Groups	283.646	397	.714		
	Total	396.212	399			

Ho : There is no significance difference amongst cluster no one, two and three with respect to various factors are influencing to e-banking service quality

H1 : There is significance difference amongst cluster no one, two and three with respect to various factors are influencing to e-banking service quality

From above anova table we can easily interpret that significance value for all five factors that is perceived accessibility, perceived security, perceived assurance, perceived ease of use and perceived competence is less than 0.05, it means we will accept H1 and reject null hypothesis for all the factors

From the anova table researcher concluded that each of all three clusters having significance value less than 0.05 it means here null hypothesis is rejected and alternative hypothesis is accepted which means there is significant difference amongst all the clusters that is cluster A, B

and C. In above table we can see that F value for PSC and PAS are more it means there is larger variation amongst all three clusters and F value of PCT is less it means there is lower variation amongst all the clusters that is A, B and C.

DEMOGRAPHIC CLUSTER:

Income group with gender

Table : 12

Income Group * Cluster Number of Case * Gender Cross tabulation						
Gender			Cluster Number of Case			Total
			1	2	3	
Male	Income Group	up to 25000	30	21	35	86
		25001 to 50000	20	28	8	56
		50001 to 75000	8	34	31	73
		75001 to 100000	13	22	8	43
		above 100000	13	1	6	20
	Total		84	106	88	278
Female	Income Group	up to 25000	16	11	28	55
		25001 to 50000	5	11	7	23
		50001 to 75000	7	24	5	36
		75001 to 100000	1	0	7	8
	Total		29	46	47	122
Total	Income Group	up to 25000	46	32	63	141
		25001 to 50000	25	39	15	79
		50001 to 75000	15	58	36	109
		75001 to 100000	14	22	15	51
		above 100000	13	1	6	20
	Total		113	152	135	400

After classifying the respondents in various clusters and identifying the variations amongst them with the help of anova analysis, researcher have done cross tabulations to know the demographic variations amongst the clusters. From the above table we can interpret that male with income group less than 25000 have more influence in cluster 1 with 30 and cluster 3 with 35 e-banking user. Whereas in income group 25000-50000 there is more influence of cluster 2 with 28 e-banking users. Further from same cluster 2 we have more e-banking user with number of 34. If we state about female e-banking user than we can interpret that in income group of less than 25000 we have more e-banking user form cluster 3 that is 28, and in income group of 50000-75000 we have more number of e-banking user from cluster 2 that is 24. If we interpret about combination of both male and female than highest number of e-banking user is from cluster three for income group pf less than 25000 that is 63 and second highest is from income group

50000-75000, from cluster two which is 58. The income group above 100000 having least impact on e-banking user for overall service quality, but the least among them is in second cluster.

FINDINGS FROM THE CLUSTERS:

CLUSTER A: Here the respondents are highly agree with the statements regarding perceived accessibility, assistance and security. The average score ranges between 5 to 7 scales for majority of the statements. The respondents are more lenient towards security aspects like server response, clear instructions regarding e-banking services, multilevel authorization and in case of connectivity loss account gets logged off automatically. This group is focusing more on accessibility, assistance and security while measuring service quality for e-banking services.

CLUSTER B: Here the respondents are least agree with the statements regarding perceived ease of use, competency and also security. The average score ranges less than 4 for majority of the statements. It means respondents in this group are least concerned for information available must be exhaustive, information available must be accessible, transaction processing must be error free, and information provided must be accurate, etc.

CLUSTER C: In this cluster the respondents have mixed responses for variables like ease of use, accessibility and assistance. The average score is more than 4 for several respondents and for rest of them score is more than 4. The respondents here are more concerned about information available regarding e-banking are relevant, information available is easy to understand, e-banking channels are available as and when required, internet connectivity must be uninterrupted, while respondents have least concerns about matters like site or application don't get hanged, security questions can be changed, OTP is conveyed through phone call in case of not received by sms, etc.

MANAGERIAL IMPLICATIONS – CONCLUSION:

All the research objectives regarding identification of factor influencing e-banking service quality with respect to e-banking user and their classification to variables have been done by researchers. Researcher proved with the help of cluster analysis that behavior of respondents from all the three clusters were different. The e-banking user from cluster one was having more variations as compared to e-banking user behavior from cluster two where there was less variation amongst the behavior of e-banking user. The behavior of cluster three having attributes of both cluster 1 and cluster two, there the behavior of e-banking user having equal number of variation which consists of some high and some low variations.

The thoughts of e-banking user from cluster one is more similar due to factors like perceived accessibility, assistance and perceived security. Most influential factor was perceived security which created similarity in behavior of cluster one it means e-banking users are thinking differently when it comes to security. It means service provider who are providing e-banking services must make some customized policy when it comes to perceived security for measuring service quality in e-banking. The least variation was in cluster two where the statements regarding ease of use and perceived competence are included which means e-banking user thinks uniformly for e-banking service when it comes to ease of use and competency for overall service quality of e-banking services. There was mixed variation in cluster three e-banking users it means for the matters like perceived accessibility and perceived assistance psychographic behavior is high for some statements and low for some statements. E-banking service provider should think customized in case of these two factors while framing policies. Further the research also identified the areas and gaps through it extensive literature that many research is being carried for

factors contributing service quality of e-banking service user but very less research is being conducted to identify the behavior of the respondents and to connect their psychographic behavior with demographic behavior. The researchers can have scope of further research through this paper for classification of respondents and to understand their behavior.

Bibliography:

Ayo, C., Oni, A.A., Adewoye, O.J. , & Eweoya, I.O. (2016). E-banking users' behaviour: e-service quality, attitude, and customer satisfaction. International Journal of Bank Marketing, Vol. 34 No. 3, pp. 347-367.

Bhatt, D. V., & Nagar, D. (2020). Measuring the impact of factors are infusing to service quality on the usage pattern of Mobile Banking: An Empirical Study. Alochan Chakra Journal , 1058-1065.

GHANE, S., M. FATHIAN, & M. R. GHOLAMIAN. (2011). FULL RELATIONSHIP AMONG E-SATISFACTION, ETRUST, E-SERVICE QUALITY, AND E-LOYALTY: THE. Journal of Theoretical and Applied Information Technology, 111-117.

González, M. E., Rene Dentiste Mueller, & Rhonda W. Mack. (2017). An Alternative Approach in Service Quality: An e-Banking Case Study. Quality Management Journal , Pages 41-58.

Hammoud1, J., Rima M. Bizri1, & Ibrahim El Baba1. (2018). The Impact of E-Banking Service Quality on Customer Satisfaction: Evidence From the Lebanese Banking Sector. SAGE Open, 1-12.

Jayawardhena, C. (2010). Measurement of Service Quality in Internet Banking: The Development of an Instrument. Journal of Marketing Management, 185-207.

Lee, Y.-G., Yim, Brian H, jones, Charles W, & Kim, Bong-Gyung. (2012). Service Quality, Customer Satisfaction, Customer Trust, and Loyalty in an E-Banking Context. ocial Behavior and Personality: an international journal, p1043-1056(14).

Liao, Z., & M.T. Cheung. (2005). Service quality in Internet e-banking: a user-based core framework. IEEE International Conference on e-Technology, e-Commerce and e-Service, pp. 628-631.

Loonam, M., & O'Loughlin, D. (2008). Exploring e-service quality: a study of Irish online banking. Marketing Intelligence & Planning, Vol. 26 No. 7, pp. 759-780.

Mehta, B., & bhatt, V. (2020). Factors Influencing Overall Service Quality of Online Banking:A Comparative Study of Indian Public and Private Sector Banks. Applied Business and Economics, v- 22(4) pp 1-15.

Parasuraman, A., & Valarie A. Zeithaml, L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. The journal of marketing, Vol. 49, pp. 41-50.

Sathiyavany, N. S. (2018). E-Banking Service Qualities, E-Customer Satisfaction, and e-Loyalty:A conceptual Model. The International Journal of Social Sciences and Humanities Invention, vol. 5, 4808-4820.

Shankar, A., & Charles Jebarajakirthy. (2019). The influence of e-banking service quality on customer loyalty A moderated mediation approach. International Journal of Bank Marketing, Vol. 37 pp. 1119-1142.