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RESEARCH ARTICLE

## QUALITY OF ONLINE BANKING SERVICES IN SCHEDULED COMMERCIAL BANKS – A STUDY IN CHIKAMAGALURU DISTRICT

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ABSTRACT

The Online banking services plays significant role in carrying out ever increasing financial transactions of the country. The needs and wants of people have been raising with the creation of new policies by government. The financial inclusion has given a chance to connect all the stakeholders of the country in one large financial network which enables to provide uniform and reliable services with equity. All these policies have made the banks to adopt to technology for large scale delivery of services. The adoption of technology has to be scrutinized for knowing the effectiveness delivery of the services. The current research paper operates with the objectives of examining the satisfaction level of bank customers towards digital banking services and assesses effectiveness of service delivery mechanism of banks in the study area. The methodology of the study explains its empirical in nature based on the observational replies from the bank customers. The study has been conducted based on primary data using structured interview schedule with 230 samples. The study has adopted non-probability sampling of judgement sampling for selection of customers. The study based on analysis found that the satisfaction levels of bank customers are on the factors of Customer friendliness, Innovative Services and Time Saving Practices. There is exclusive model developed using the structural equation modeling to assess effectiveness of service delivery mechanism in commercial banks. The study concluded on the note that adoption towards the model will make the banks reduce the errors and improvise delivery of digital banking services.

KEYWORDS

Online banking services, Service delivery mechanism, Commercial banks, Delivery of service and Satisfaction level.

### 1. INTRODUCTION

The adaptation to technology has brought in tremendous changes in the services extended by the services of banking sector. The technology has been playing vital role in delivery of services in all the sectors. The banking sector is essential for operation of all the sectors in country. The services of banking sector have been going through constant changes after adoption of the technology (Abhani, 2017). The globalization of the country has led various changes in the economic measures taken for economic development. The changes in the economic measures and growth of the financial transactions has resulted in increase in the number of banks and make banks to deliver the services at quick time for satisfaction of the account-holders. The banking sector has to be innovative to meet the needs of ever growing transactions of normal population (Alka, 2017). The government also undertakes various measure to make all financial transactions under the purview of banks.


The financial inclusion has made majority of the general population to come into the framework of banking sector for accessing the government benefits of Direct Benefit Transfers (DBT). This has altogether made a new shift for the banking sector to deliver the services at quick time and also meet the needs of the population with their satisfaction (Joseph et al., 1999). The growth of the financial transactions has compelled the banking sector to look for various options in the promotion of banking services. The technology has contributed to the innovative ways delivering the services to the account holders based on their needs. There are numerous

services that have come into being after the introduction of technology in the banking sector (Kane, 1982; Lilesh, 2018). The adoption of technology has changed the face of banking services by giving various options for same services and at very effective timing. The growth of technology has created a shift in the reduction of time for delivering the services (Mahajan, 2020; Mallya, 2011).

Technological change has been working well with the banking sector even there are lapses. The needs for financial transactions can be met only with the technological-oriented services which have less dependency on human resources thereby reducing the operational cost in the long run (Nazaritehrani and Mashali, 2020). The technological change in the banking services is termed to be digital banking services and it has huge impact on the delivery of the service to the account-holders. The service delivery mechanism has been re-modeled drastically to examine the delivery of services effectively. The digital banking has given the account-holders to operate from the place of their choice rather than being in the compulsion to have personal contact with the banks where they maintain the accounts (Pape, 1989). The changes have been reflecting in the growth of the services made by the banking sector. The services of the banking sector have been modified to the needs of the account-holders based on the criteria of time saving and increased needs.

### 2. REVIEWS AND RESEARCH GAP

The research gap helps to identify the scope for research in the area of

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digital banking services and service delivery mechanism. The review of literature examines the survey national and international studies that are in the field of digital banking services and its impact on service delivery mechanism (Poon, 2008; Pujiyono et al., 2020). There are numerous studies that were examined as part of the review of literature which revealed there is significant research gap in the areas of service delivery mechanism of banking service after the adaptation to digital banking. The part of studies explained the operation of digital banking services by the banking sector and its importance in delivery of the service (Rajan and Saranya, 2018). There were some of the studies that focus on the growth of digital banking services in India. The effect of growth of services on the banks to bring out innovative services has also been part of the literature.

The studies focused on the working of banks and its efforts in tackling the growing needs of financial services. The satisfaction of the account-holders towards the normal banking services is studied across the world in numerous studies but the satisfaction towards digital banking services is rarely done (Rajith and Suresha, 2020; Rajith and Suresha, 2021). The operation of numerous services and its delivery mechanism are found hardly in the literature. The research gap of study is summarized as a study that deals with satisfaction of digital banking services by the account-holders and effectiveness of the service delivery mechanism due to the adoption of technology.

### 3. STATEMENT OF THE PROBLEM

The digital banking services have transformed the service mechanism of delivery of services by the banking sector. The banking sector has made significant stride in the reduction of the time in delivery of services. There are always vital problems that arise with the introduction of technology in the banking sector. It has all financial transaction under its control for operation of business (Rawwash et al., 2020). The digital banking services has fair share of problems in fields of secrecy, security, privacy and other operation problems in banking sector. The banking sector has been getting reforms to minimize the loss of information regarding the financial transactions but at times it still leaks out with digital banking services. These different problems tend to affect the confidence of the account-holders in maintaining a accounts with banks and pooling are their resources regarding the financial activities through banks become doubtful (Sardana and Singhanian, 2018).

The digital banking has reduced the time but at what cost has to be analysed from the viewpoint of the account-holders. There can be various steps taken by the banking sector to improve the privacy of the customers but what impact it has made in the minds of the account-holders has to be assessed. The service delivery mechanism has also gone adopted to different channels to make effective delivery of the service. The purpose of changes and effectiveness of change can be revealed only by the stakeholders of the banking sector (Swain and Sahoo, 2017). The efficiency in the service delivery mechanism with the involvement of digital banking services has to be identified to examine the real impact of digital banking services on banking sector.

#### 3.1 Research Questions

- Examine the satisfaction level of the accountholders with adoption of digital banking services.
- What are all the changes and efficiency the digital banking services has made to service delivery mechanism?

#### 3.2 Importance of the Study

The digital banking services have increased financial transactions all over the country and have been vital for meeting the ever-increasing needs of people. The banking sector has been the shock absorber for the financial shocks that is received from the external environment. The financial shocks are basically transforming the internal services extended by the banks in the country. The innovation of digital banking services was adopted due to the needs of increasing financial transactions and as well as to meet the challenges of globalization. These services are necessary to make the account-holders be retained by the bank where they operate the accounts and attract more account-holders based on their delivery of service (Walte and Harrison, 2015). The talking point of the banking services is the effectiveness of the banks in delivery of the services. The reforms that are undertaken by the banks have to be studied from the viewpoint of accountholders to have clear idea about the alternative measure that was introduced. The measures will be successful only if it meets the needs in delivery mechanism effectively that satisfies the customers.

The changes in the service delivery cannot be a proof that it will be able to satisfy the account-holders and it has to be studied whether the

introduced measures are up-to the standards which has to be evaluated from customers' side. The banking sector is making significant strides to improve delivery mechanism and vital part of initiating new measures by individual bank enables introducing bank to be market leader which can provide enormous benefits for that bank. The service delivery mechanism of banks is main focus of the study that aims to assess from the opinions of the customers of selected banks in the study area and it will help to improvise the banking services if there are any drawbacks.

#### 3.3 Objectives of the Study

- To identify the satisfaction level of the bank account-holders towards the digital banking services extended by the banks in Chikamanagaluru District
- To examine the effectiveness of service delivery mechanism of the banking services in the study area.

### 4. RESEARCH METHODOLOGY

The study is empirical in nature which has been done based on opinions of the bank account-holders. The study is carried out with the help of primary data which is collected using structured interview schedule which has three parts of demographic information, assessing satisfaction level of customers and identifying effectiveness of service delivery mechanism. The study is based on non-random sampling methods due to inability to obtain the list of account-holders in the study area. The details of the financial information is sensitive and it has been not given by banks for maintaining financial secrecy of accountholders and hence the study adopted to judgement sampling. The accountholders of all the banks were selected based on the judgement of the researcher. The sampling was fixed to be 230 for the study based on the total working population in the district according to 2011 census. The percentage analysis, factor analysis and Structural Equation Modelling are various statistical tools used for the study.

#### 4.1 Analysis and Interpretation

The objectives of the study has given the outline for the variables involved in the study and tools that are to be applied to created relationship among the variables. The relationship is explained by the usage of statistical tools based on the opinions of the account holders. The following explains the analysis carried out based on the objectives.

The socio economic status of the respondents involved in the study is explained by the above table. The majority of the respondents involved in the study is 83 percent. The age group of the respondents seems to be within 19 years to 25 years with 40 percent of respondents in that group. The literacy level seems to be low with 32.60 percent of the majority belong to HSC. The income classification reveals the incomes is below Rs. 20, 000 for 44.80 percent of sample involved in the study. The marital status of the respondents seems to equivalent to that of married and unmarried categories. The number of members in the family seems to be within the range of 4-6 members and majority of them are living in a joint family. The majority of the respondents belong to the religion of Hindu. The saving banks account is the mostly used bank account among the respondents in study area. The number of customers involved in the study explains that they have access to digital banking services and they have used it at least once.

#### 4.2 Satisfaction Level Towards Digital Banking Services

The satisfaction level towards the digital banking services is measured with the help of ten variables. The dimension of the variables was reduced to factors to focus on those to improve the satisfaction level of the customers. The following are results of factor analysis.

The normality of the variables involved in the factor analysis is explained by p-value of the test of sphericity which explains that results obtained from factor analysis will be reliable and errors will be at minimum.

The total variance table explains the number of factors formed based on the eigen values and helps to estimate the variance among the factors and variance within the factors that exist among factors.

The satisfactions of level of the customers of banks are determined based on the above factors that are formed by the rotated component matrix. The first factor of **Customer friendliness** is based on the variables of Customer Friendly Site (0.841), Quick Response of Site(0.748), Upkeeping of financial privacy (0.736) and Requirement of less technical knowledge (0.678). The second factor of customer satisfaction is **Innovative Services** which is formed based on Time to time update of new services (0.785), Provision of merchant banking (0.738) and Easy to lodge complaints

(0.733). The third factor focus on **Time Saving Practices** which is explained by the variables of Time saving (0.797) and Avoidance of Queue and Personal Contact (0.789). The above helps to conclude that the

satisfaction of customers of banks is dependent on variables of *Customer Friendliness, Innovative Services and Time Saving Practices* of banks is the opinions of the sample involved in the study.

Table 1: Socio-Economic Background of Respondents			
Socio-Economic Variables	Group	No of Respondents	Percent
Gender	<b>Male</b>	<b>191</b>	<b>83.00</b>
	Female	39	17.00
	Total	230	100.00
Age group	Below 18 Years	30	13.00
	<b>19 Years – 25 years</b>	<b>92</b>	<b>40.00</b>
	26 Years – 35 Years	57	24.80
	36Years - 45 Years	51	22.20
	Above 46 Years	---	---
	Total	230	100.00
Literacy Level	Illiterate	65	28.30
	SSLC	46	20.00
	<b>HSC</b>	<b>75</b>	<b>32.60</b>
	Under-Graduation	31	13.50
	Post-Graduation	13	5.70
	Total	230	100.00
Income	<b>Below Rs. 20,000</b>	<b>103</b>	<b>44.80</b>
	Rs. 20,001 – Rs. 30,000	58	25.20
	Rs. 30,001- Rs. 40,000	29	12.60
	Above Rs. 40,001	40	17.40
	<b>Total</b>	<b>230</b>	<b>100.00</b>
Marital Status	<b>Married</b>	<b>117</b>	<b>50.90</b>
	Unmarried	113	49.10
	Total	230	100.00
Number of Members in family	Below 2 Members	34	14.80
	<b>3-5 Members</b>	<b>160</b>	<b>69.60</b>
	6-8 Members	17	7.80
	Above 9 Members	19	7.80
	Total	230	100.00
Structure of family	Nuclear Family	94	40.90
	<b>Joint Family</b>	<b>136</b>	<b>59.10</b>
	Total	230	100.00
Religion	<b>Hindu</b>	<b>192</b>	<b>83.50</b>
	Muslim	12	5.20
	Christian	26	11.30
	Total	230	100.00
Sectors of Banks	Public	57	24.80
	<b>Private</b>	<b>85</b>	<b>37.00</b>
	Cooperative	20	8.70
	Above 10 Years	68	29.60
	Total	230	100.00
Nature of Bank Account	<b>Saving Banks A/C</b>	<b>86</b>	<b>36.60</b>
	Fixed Deposit A/C	55	23.40
	Recurring Deposit A/C	21	8.90
	Current A/C	60	25.50
	Others	13	5.50
	Total	230	100.00
Usage of Digital Banking Services	<b>Yes</b>	<b>230</b>	<b>100</b>
	No	---	---
	Total	230	100.00

(Source: Primary Data)

Table 2: KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.672
Bartlett's Test of Sphericity	Approx. Chi-Square	622.749
	df	45
	Sig.	<b>&lt;0.001**</b>

(\*- indicates significance @ 1 % level and \*- indicates significance @ 5 % level)

Table 3: Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.139	31.389	31.389	3.139	31.389	31.389	2.680	26.796	26.796
2	1.694	16.941	48.330	1.694	16.941	48.331	1.724	17.241	44.038
3	1.180	11.800	60.131	1.180	11.800	60.131	1.609	16.093	60.131
4	1.052	10.518	70.649						
5	0.694	6.935	77.584						
6	0.614	6.137	83.721						
7	0.562	5.619	89.341						
8	0.466	4.655	93.996						
9	0.370	3.698	97.694						
10	0.231	2.306	100.00						

Extraction Method: Principal Component Analysis.

Table 4: Rotated Component Matrix			
	Component		
	1	2	3
Customer Friendly Site	0.841		
Quick Response of Site	0.748		
Upkeeping of financial privacy	0.736		
Requirement of less technical knowledge	0.678		
Less service charges			
Time to time update of new services		0.785	
Provision of merchant banking		0.738	
Easy to lodge complaints		0.733	
Time saving			0.797
Avoidance of Queue and Personal Contact			0.789

4.3 Structural Equation Modelling

The structural equation modeling is used to find the effectiveness of the service delivery mechanism of the banks in the study area. There are fifteen variables used to measure the effectiveness of the service delivery mechanism. These variables were reduced to three factors using the factor analysis. The reduced factors and variables is involved to ascertain the method to measure the effectiveness of service delivery mechanism. The structural model using the latent variables for formed with the help of path analysis.

Factor - I - Wealth Maximisation - WealthMax

- Increases Banking Services - WM1
- Saving of Operational Cost - WM2
- Chances for innovative services - WM3
- Helps in retaining customers - WM4
- Additional Revenues - WM5

Improved Customer Satisfaction - WM6

- Differentiation of services - WM7
- Optimise Digital Assets - Not significant in Factor analysis

Factor - II - Service Handling - ServHand

- Efficient in Grievances Handling - SH1
- Quick Processing of services - SH2
- Confidentiality of service - SH3
- Efficiency in Time - SH4

Factor - III- Errors and Efficiency - Err and Eff

- Reduction of Error - EE1
- Efficiency in Cash Management - EE2

The number of variables involved in the model is explained in the following table

Table 5: Summary of Variables		
S.No	Variable Counts	Numbers
1.	Total Variables	31
2.	Observed Variables	13
3.	Unobserved Variables	18
4.	Exogenous Variables	16
5.	Endogenous Variables	15

Table 6: Maximum Likelihood Estimates- Regression Weights					
Relationship		Estimate	S.E.	C.R.	P
ServHan<---	WealthMax	0.004	0.046	0.096	0.924
ErrandEff<---	WealthMax	-0.195	0.063	-3.105	0.002**
ErrandEff <---	ServHan	0.600	0.121	4.950	***
WM1<---	WealthMax	1.000			
WM2<---	WealthMax	1.006	0.063	15.933	***
WM3<---	WealthMax	0.923	0.061	15.128	***
WM4<---	WealthMax	0.824	0.055	14.962	***
WM5<---	WealthMax	1.186	0.072	16.392	***
WM6<---	WealthMax	0.868	0.063	13.862	***
WM7<---	WealthMax	1.231	0.084	14.744	***
SH4 <---	ServHan	1.000			***
SH3 <---	ServHan	1.399	0.151	9.285	***
SH2 <---	ServHan	1.455	0.155	9.382	***
SH1 <---	ServHan	1.666	0.163	10.200	***
EE2<---	ErrandEff	1.000			***
EE1 <---	ErrandEff	0.895	0.269	3.329	***

(\*\*\*- indicates significance @ 1 % level and \*\*- indicates significance @ 5 % level)

The regression weights explains the cause and effect relationship among the factors and variables involved in the model. Wealth maximization and service handling is the only relationship that is insignificant in the model. All the other parameters of regression co-efficients are significant in the model. The service delivery mechanism of the banks the banks in the area has to concentrate on the factors of wealth maximization, service handling and Errors and efficiency to still improve the service delivery. These cause and effect relationship will help to make predictions about the changes in the effectiveness of the service delivery based on the changes in the factors and variables involved in the model.

(GFI – Goodness of Fit, AGFI – Adjusted Goodness of Fit, NFI- Normed- Fit Index, CFI – Comparative Fit Index, RMR – Root Mean Squared Residual, RMSEA – Standardised Root Mean Squared Residual )

The above table explains that the path analysis using the latent variables is significant based on the various values of model fit that is given in literature. The following model explains the effectiveness of service delivery mechanism in the study area. The opinions of the customers these factors and variables contribute to the effectiveness of service Delivery Mechanism.

Table 7: Measures of Model Fit		
Indices	Actual Value	Suggested value
Chi-square/Df(CMIN)	2.809	< 5.00 ( Hair et al., 1998)
GFI	0.919	> 0.80 (Joreskog and Sorbom, 1981)
AGFI	0.850	> 0.80 (Joreskog and Sorbom, 1981)
NFI	0.928	> 0.80 (Joreskog and Sorbom, 1981)
CFI	0.952	> 0.90 (Daire et al., 2008)
RMR	0.054	< 0.08 ( Hair et al. 2006)
RMSEA	0.089	< 0.09 ( Hair et al. 2006)

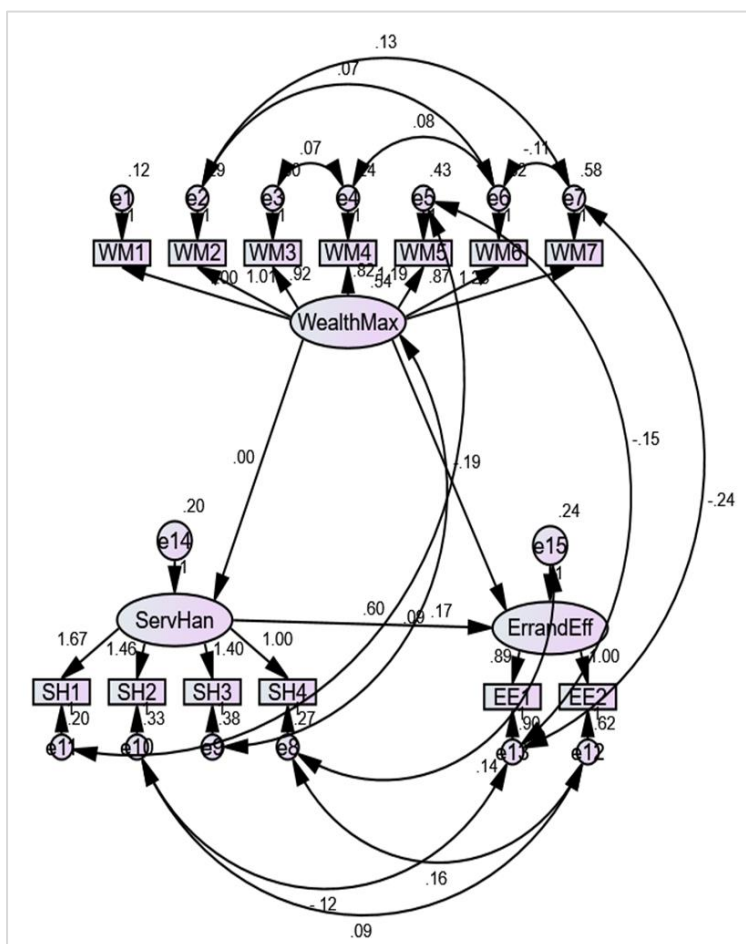


Figure 1: Path Analysis – Effectiveness of Service Delivery Mechanism

4.4 Collective Assessment of Study

The study focused on the objectives of examining the satisfaction level of customers of banks towards the digital banking services and to assess the effectiveness of service delivery mechanism of banks. The satisfactions of the customers are based on the factors of customer friendliness, innovative services and time saving practices. The digital banking services of the banks should be customer friendly in using of services is main source of satisfaction in study area. The assessment of the effectiveness of service delivery mechanism is done with the help of path analysis. The factor analysis reduced the variables into factors that helps to assess the effectiveness of service delivery mechanism. The structural equation modeling among the factors that determine the effectiveness reveal that the service should be oriented to wealth maximization, effectiveness in service handling , reduction in errors and increase in efficiency of cash management. These factors leads to the effectiveness of service delivery

mechanism. The customers are satisfied with the service delivery mechanism and it is working effectively which is evident from the opinions of customers in Chikamangaluru District. The model will enable to further crystallize and improve the service delivery mechanism of digital banking services of banks in study area.

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