A STUDY OF ADOPTION OF PAPERLESS BANKING FOR BLOOMING DIGITAL BANKING

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Abstract:

Electronic commerce has being experiencing the remarkable increase in recent times, and research has being carried out followed the same pattern especially in investigating factors influencing the adoption and effectiveness of e-commerce in retail businesses. Even E-banking enabled banks to speed up their retail and wholesale banking services; as the banking industry believes that adopting the new technology will help to improve customer service level and tie their customers closer to the bank. Banks have exponentially embraced the use of information and Communication Technologies and hence e-payment systems are becoming centralised business process innovator, as banks look for ways to serve customers faster and at lower cost. Banks need to adopt a holistic approach to transformation that includes both front office and back office applications as Paperless banking provide significant savings on both investment and operational costs for online banking services with the objective of improving the quality of customer service at their doorstep and accessibility for 24 hours. Some of the value attributes include secure payments, cost cutting, payment before due date and easier cash management compared to conventional systems. This is one of the most important researches that are used to study human behaviours towards adoption. The study was conducted using cross-sectional design using structured questionnaire and structured interview to analyse changes in behaviour of consumer giving high priority to online service delivery and consider paperless banking as one of the key driver of technological innovation. A sample size of 200 correspondents was used using Simple Random Technique after confirming their usage of the online services provided by the bank. Data analysis technique involves content analysis method for nominal and ordinal data based on frequency, rankings and measuring their attributes based on central tendency, mean and mode. TTest is being applied on measuring the range and dispersion between the variables considered for the study of usage of banking services and factors impacting the adoption pattern among the consumers. The study recommends to the banks that they should give high priority to paperless banking as a key driver towards initiative of innovation of digitalization system of financial service.

Keywords: Online, financial services, usage, adoption, cashless

Introduction:

For years, mankind has being experimenting with innovative ideas of infusing technology in the mechanism of business and experiencing the wave of change constantly. There is a wave of change with all banks with integration of Technology and the internal working system which are playing an important role in promoting a sustainable environment with the initiative to address both in terms of its obligations and opportunities by virtue of Paperless Banking. It is important to adapt the business strategy with the course of adherence for enhancement of the quality of delivery of service and enhance the value of enterprises. The changing consumer expectation drives the compliance requirements for financing the economic and developmental activities of the goings about paperless banking as one of the basic thing of providing banking services instantly which took much of the customer's time and effort earlier and banks too contributes to reduce environmental degradation, to significantly improve productivity by plunging operational expenses, handling cost of document printing, reduce storage expenses, maintenance expenses of manual documentation and in return enhance customer conveniences by making the banking transactions easier in terms of cost and time. Rapidly Plans to go paperless by putting a host of banking services on a digital platform by Indian nationalised banks reverted into multinational public sector bank offering diversified financial services and Listed at the stock exchange by offering their shares in through

IPO. ICICI become the first Indian company and the first bank or financial institution from non-Japan Asia to be listed on the NYSE and on the New York Stock Exchange with its five million American depository shares issues generating a demand booked 13 times the offer size. ICICI Bank is the first lender in the country to introduce a fully digital and paperless procedure for opening a PPF account. Initiative of Indian Bank Association of "Green Bank" is like a normal bank aimed to protect the environment and conserve natural resources. Report on Paperless Banking system reveals that e-payment machinery, especially the card technology is presently enjoying the highest popularity in banking market. Also to enhance effective security measure, banks have since early this year been upgrading their ATM cards from the magnetic stripe to the Euro-Visa-Master(EMV) card standard. This latter advancement in technological device is more fraud resistant because all the data of the customer are recorded on the chip. Tab banking, internet and mobile banking and contactless mobile payment solutions are among the efforts towards managing the system required for emphasizing of going paperless and alignment to focus largely on bringing in more efficient technologies to enhance operating leverage of banking sector. The union of technology and finance has recorded huge success and has impacted the main technology driven revolution in conducting financial transactions like e-Banking and e-payment. This study assesses the major frequency of type of usage of the online banking services by the consumers and the factor contributing for quicker adoption of paperless banking.

Objectives :

- To estimate if innovation in technology has influenced the delivery of Service by banks
- To determine the factors that has influenced the delivery of service.
- Ranking above factors impacting the adoption of paperless Banking

Literature Review:

The banking industry in India has a huge canvas of transformable reforms marching from the traditional banking practices from the ancient era of nationalization to privatization of banks and now increasing numbers of foreign banks in India. Therefore, Banking in India has been through a long journey and achieved a new height with the changing times. The use of technology has brought a revolution in the working style of the banks nevertheless the fundamental aspects of banking services remain the same, however, the changing dynamics of banking business brings new kind of risk exposure. Yet relatively little scholarly research explores the use of these payments systems (Donner and Tellez, 2008). Bihari, Suresh Chandra (2010), in his research article analyzed the social responsibility of banking sector. They proved and suggested that banks has greater responsibility in environmental damage control. In business decision making environmental and social criteria has to include diminishing the unfavourable impact of functional activities. Financial institutions can perform set of efforts to attain sustainability for corporate social responsibility. Dharwal, Mridul, Agrwal and Ankur (2011) in their research article on "green banking as innovative initiative for sustainable development" suggested that Indian banks has craving to step into international markets, than it is significant to recognize their environmental and social responsibilities in banking sector by initiating green banking practices. Bahl, Sarita (2012), also organized an experiential study on green banking comprising of imperative strategies followed by public sector banks, which concentrated on green banking methods adopted by banks. Their finding revealed that among all green banking strategies, green buildings had been given top priority and found that Indian banks can increase social responsibility services by increasing green banking strategies. According to

Mugenda and Mugenda (1999), a population is a complete set of a contextual framework for research a coherent and logical scheme based on view of assessing Paperless Banking. The respondents perceived that paperless banking initiatives of their banks have higher impact on three aspects like improved brand image, fulfilment of increase in service through social responsibility, increased efficiency in their overall performance. But bankers feel that walk in by the customers are not reduced significantly even after the adoption of paperless banking initiatives.

Amitabh Misra, B.R. Kumar and Dharambir Singh (2013), in their article titled "a study of gaps in service quality at a lending private sector commercial banks in Noida" examined the importance of technology and the study reveals the weak areas of the services of the bank, that leads the bank authorities to overcome the problems by them by better preaching of practices.

Statement of the problem:

Even less attention has been paid to the social and economic contexts surrounding the use of paperless systems. One of the pivotal factors is facilitating customer satisfaction in paperless banking which is in the form of the ability to deliver secure, efficient and effective services among all class of the economy when the majority of the population belongs of lower class of the economy. Another is to understand the perception of consumers for adoption of paperless banking.

Understanding Cashflow behaviour of the bank:

Bank offers a wide ranges of deposit solutions for every customer segments to meet varying needs at every stage of life. A special portal created for managing personal finances at convenience and ease to access to their account details or ease banking service trasanctions at the click of a mouse whether it is an ATM/debit card transactions, easy transfer, easy loan options or internet banking. Internet banking is available to all kind of Bank account holders and Phone banking available for 24*7 services across Liability, asset and investment products to both retail and corporate customers. A gamut of services take care of all NRI banking needs also including deposits, money transfers and private banking.

The Products are made accessible to customers through a wide network of advisors, banking partners, corporate agents and brokers with the added convenience of being able to buy online. Loans offers some unbeatable benefits to its customers - Doorstep Service, Simplified documentation and Guidance throughout the process absolutely hassle free. Network of more than 2500 channel partners is spread over 1000 locations with wide range of varieties like Home Loans, Personal Loans, Vehicle Loans, Car loans etc; Finance facility up to 90% of the on Road Cost of the vehicle with flexibility in repayment options. Bank offers a variety of Card ranges which includes Credit Cards, Debit Cards, travel card and Prepaid cards to suit different transactional needs with quick accessibility to pay in foreign currency like US Dollar, Euro, Pound Sterling or Swiss Francs etc. and offer you convenience of Core banking to facilitate the financial payments and services immediately at ease from anywhere in the world. Various investment options varying from Investment in Asset Management or in Products like Pure Gold, Government Bonds, Mutual funds, Foreign Exchange Services, Senior Citizens Savings Scheme, Tax Saving Bonds to Equity Investments through Initial Public Offers are Management tailored and trade-off to suit varied risk and maturity profile. Bank offers Trade Services online remittances as well as online processing of letters of credit and bank guarantees ancillary to comprehensive and customized financial

solutions for its corporate client leads, Rupee and foreign currency debts, credit for working capital, structured financing syndication apart from regular banking service.

Bank's services anticipate unique features like e-constructions, e-consolidation, digitally signed statements, mobile requests and corporate benefit tracking. Bank offers to widens it's vision of innovation for technology-based solutions and multiple delivery channels to meet the financial needs of rural areas too. For this purpose the Cost-Benefit analysis is required as standard of living differs, yet it is served by the Bank.

Research Methodology

Research Design:
This study is Descriptive and Basic based research. This study is about the behavior of the consumers for understanding their perspective towards the paperless banking. Data was collected through structured questionnaires with closed-ended questions and Semi structured interviews using probability technique of Simple Random Technique and Convenience sampling. This study is both quantitative and qualitative based. Primary Data involves tool of Structured Questionnaires which was designed to get feedback from the targeted consumers like students, teachers, and other employed ones. Some questions were based on nominal and ordinal scale using Likert scale of measurement. Simple random sampling technique was used to get the feedback. Target population in Hubballi district had a sample size of 200 respondents. Out of these, 132 responses were obtained. This represents a 66% response rate out of which Male @68 51.51% and Female@ 64 48.48%. 19.7% are aged between 25 and below 26, 42.24% are aged between 25 – 34, 26.5% are aged between 34 – 44, 6 4.5% for age 44 and above.

Data Analysis

Inferential data analysis is used for measurement of dispersion and relation of attributes of variables for usage of services and adoption of paperless banking. Analysis for nominal and ordinal measurements is made. Data about the Charges by the Bank for various Online services and charges paid by the Bank for maintaining online services is shown in table 1 and the charges for services provided is same whether usage is by offline or online. Data is being collected from the secondary source and it is one of the major constraints in collecting the relevant information.

Table 1: shows the cost incurred for online and offline Banking services which is same and measurement of spread of operating earning and expenses for the bank

Products Name		Rates and Charges Earned by Bank	Processing Fees Earned by Bank
I. Loans	Amount in Rupees	In %	In % or Rs.
1.Personal Loan	>= 10 lakhs	11.25	0.4
a)Pre-qualified personal loan	<= Rs 10 Lakhs	11.75	0.5

b)Pre-approved instant Personal loan	>= Rs 15 Lakhs	11.25	0.46
	>= Rs 20 Lakhs	11.20	0.2
c)NRI personal Loan		15.49	0.5
d)Flexi cash		12.2	0.5
e)Personal loan balance transfer		10.75	0.5
2.Home Loan			
a)Land loan		7.85	0.2
b)Home loan OD		7.00	0.5
c)Home Loan take over		7.90	0.5
d)Home improvement loan		10.5	0.75
e) Normal Home loan		7.9	0.5
3.Vehicle loan			
a. Two Wheeler Loan		7.35	1
b. Insta Car loan		10.5	1
c. Insta Money Top-up		7.85	1
d. Car loan Takeover		7.85	1
II. Cards			Joining Fees
1. Credit Cards:			
a) Credit Card		3.6	0
b)Personal Credit Card		3.6	0
c)Coral Credit Card		3.4	0
HPCL credit card		3.4	0
d)Make my trip credit card		3.4	500
e)Expression credit card			588.89
e)NRI credit card(FD against CC)			NA
f)Amazon pay credit card(Ad on Card)			588.89
2.Debit card			177

a)Expression Debit Card			588.89
b)Rubix Debit Card			942.82
c)Coral Debit Card			942.82
d)NRI Debit Card			236
3.Prepaid Debit card			
a)Pay direct Debit card Salary			0
b)Expression gift card			0
c)Pockets digital bank			0
d)Meal card			0
e)Multi wallet card			0
4.Foreign exchange Travel card			
a. Multi currency foreign exchange credit card			63.82
b. Coral forex prepaid card			63.82
c. Student forex prepaid card			499
5.Commercial card			
a)Corporate card		236	0
b)Business card		236	0
TOTAL(A)		**647.99**	
III. Invest		**Charges paid by Bank**	**Charges on closure of account**
1)Fixed Deposit			
a)Tax Savings(5years)		5.5	1
b)Fixed with monthly income		5.5	1
c)Overdraft Fixed Deposit		5.5	1
2)Recurring Deposit			
a)Recurring Deposit		5.5	1
b)Recurring Deposit with monthly income		5.5	1

scheme			
3)Accounts			
Current Account		0	
Saving Account		3	
TOTAL(B)	**Total(B)**	**30.5**	
Total Processing fees earned by bank			**5206.46**
	Net Total(A) - Total(B)	**617.49**	**0**
	Net charges earned by Bank	**5823.95**	

Interpretation:

By using the product Service charges the calculation of

Total Revenue per Rupee for the bank = Total Interest Earned – Interest Paid

$$= 647.99 - 30.5$$

$$= 617.49$$

Percentage of interest paid to earn interest: = Interest paid / Total Revenue per Rupee for the bank

$$= \quad 30.5/617.49$$
$$= \quad 4.93$$

Today, the arrivals of multichannel smart phones and Tablets made the revolution in banking. Banks have adopted iMobile applications in the form of Apps and mobile technology into their day to day life offering the customers the right to pay utility bills, recharge the mobile phone, DTH connection, broadband, book movie tickets and many more. This paper examines consumer adoption model of a new electronic payment service and the factors influencing the adoption of paperless banking by consumers. This paper study has observed about the frequency of usage of paperless banking services and assessed as below:

Table 2: Paperless banking service and Frequency of use

Paperless Banking Services	**Frequency of Use Services**		
	Never(%)	**Sometimes(%)**	**Always(%)**
Transaction into home currency	4.9	24.4	70.7
Balance Inquiry	16.6	41.4	42.0
Statement Inquiry	19.8	63.9	16.3

Transfer to other accounts	62.5	26.5	11
Purchase	5.3	29.7	65
Bill Payments	17	50.2	32.8
Loan Application	82.3	17.7	0
Credit Card	58.1	29.9	12
Account maintenance	66.8	27.2	6

Interpretation:

From the results in Table above it can be deducted that services for conversion or Transactions into home currency is the most frequently used service @70.7% while loan application is the least used @0%. Next paperless is always used for the Purchases which is @65%, descended by the Balance Inquiry @42% and Bill payments @32.8%. This information is important which could be used by management to determine whether the least used services add any value or to embark on a fact finding mission from customers on their opinion of the services, and make the relevant decisions. Further the responses were analyzed using the measures of central tendencies and dispersion (mean, mode and standard deviation) to show the services most frequently used by customers and presented as follows:

Table 3: Shows the Measures of Central Tendency and Dispersion, Ranking, TTest and Decision as per TTest for usage of online banking services:

Usage	MEAN	MODE	STANDARD DEVIATION	RANKING	TTest	Decision @5%*	Decision @Critical Value*
Transaction into home currency	3.53	5	1.737	1	0.22	Not Accepted	Accepted
Balance Inquiry	2.83	5	1.763	3	0.13	Not Accepted	Accepted
Statement Inquiry	2.15	2	1.423	5	0.08	Not Accepted	Accepted
Transfer to other accounts	1.64	1	1.309	7	0.09	Not Accepted	Accepted
Purchase	3.43	5	1.766	2	0.13	Not Accepted	Accepted
Bill Payments	2.54	2	1.621	4	0.01	Accepted	Accepted
Loan Application	1.08	1	0.658	9	0.09	Not Accepted	Accepted
Credit Card	1.72	1	1.459	6	0.09	Not Accepted	Accepted
Account maintenance	1.38	1	1.118	8			

*5% Level of Significance – Value>0.05 is rejected

*Critical Value – Value <1.96 is accepted

The Above table shows the Measures of Central Tendency and Dispersion. It is important for Paperless Banking service providers also to understand the factors which influence or affect the adoption of Paperless Banking in order to be able to provide services which meet the customer's expectations and needs. As per table 3, Ranking illustrates that services for Transaction for conversion into home currency.

For this objective, opinions of general consumers are also equally important. Customers were also requested to rate how important the identified factors were influencing their decision to sign up for Paperless Banking ranging from Unimportant to Very important on a 3-Scale numerical likert scale. The results of the responses were as shown in the table below:

Table 4: Factors Affecting Adoption of paperless banking

Factors	Unimportant(%)	Moderately Important(%)	Very Important(%)	Ranking
Convenience	17.2	12.7	70.00	1
Cost	37.4	45	17.6	7
Security	32.2	33.5	34.2	5
Reliability	18.9	46.9	34.2	4
Comfort	13.4	62.2	24.4	6
Handset operability	20.2	33.2	46.6	3
Knowledge	20.2	28.9	50.8	2

From the above table, we can see that 7 factors are considered to study its impact on the behaviour of the consumers. 70% of the respondent accepts that the factors affecting paperless banking utmost is the Convenience. Second most influencing is the factor namely knowledge which is 50.8% and for statement enquiry is the next around. Rest of factors affecting the paperless banking in the descending order are for Handset operability (46.6), Security and Reliability (34.2), and Comfort (24.4) respectively.

Table 5: Shows the Measures of Central Tendency and Dispersion, Ranking, TTest and Decision as per TTest for Factors of Adoption of Paperless Banking:

FACTORS	MODE	MEAN	STANDARD DEVIATION	Ranking	Ttest	Decision @5%*
Convenience	5	3.95	1.691	1	0.21	Not Accepted
Cost	1	2.73	1.594	7	0.25	Not Accepted
Security	5	3.08	1.777	5	0.97	Not Accepted
Reliability	5	3.46	1.559	4	0.79	Not Accepted
Comfort with Virtual Money	4	3.42	1.524	6	0.75	Not Accepted
Handset operability	5	3.58	1.644	3	0.98	Not Accepted
Knowledge	5	3.58	1.732	2		

*@5% Level of Significance. If value > 0.05 than accept

Hypothesis:

1) H_0: Services of payment provided by bank are not used by majority of consumers.
   H_1: Services of payment provided by bank are used by majority of consumers.

As per the Table 3, at the Level of Significance @5% only; the TTest between the variables considered of the usage of services online is evaluated and it is being observed that acceptance of the TTest between the Purchase and Payment is the only acceptable whereas among other variables it is beyond the level of significance and hence not acceptable. Decisions at the level of significance @5% we can conclude that we reject the Null hypothesis and accept the Alternate hypothesis indicating that online service for payment of bill is used by majority of the consumers.

2) H_0: The Services provided by bank do not impact the Net cashflow for the Bank.
   H_1: The Services provided by bank do impact the Net cashflow for the Bank.

   As per the Table 1 and 3, Critical value for Student's TTest at Confidence level of 95% is 1.96. Based on this assumption, the TTest between the variables considered of the usage of services online is evaluated and it is being observed that acceptance of the TTest between the variables is considered which are not beyond the critical value and hence we accept the Null hypothesis. Obviously it proves that online services are comprehensively used and it will not impact the operations of the Banks as the charges for online and offline services do not differ. The cost of usage of online services will not impact the cashflows as the spread is already at the higher side.

3) H_0: The Services provided by bank will not trigger the Paperless Banking
   H_1: The Services provided by bank will trigger the Paperless Banking

   As per the Table 5, the TTest calculated for among the variables considered as the Factors that influence the adoption of paperless banking at the level of significance @5% without considering the critical value. It is observed that TTest is beyond the level of significance and hence conclude that all 7 factors have tremendous influence on the behaviour of consumers where Convenience is the most influencing factor and Cost is least influencing factor. It proves that factors are facilitating and dominating towards bringing the change for adoption of paperless banking.

Conclusion: The main objective of the study is met by determining the factors that have influenced to opt for using online services and ranking the factors impacting the adoption of paperless Banking. As per the study, customers mostly use Paperless Banking for international transactions and conversion into home currency. The factors affecting adoption of paperless banking service shows that the Convenience is most preferred @70% and its frequency of usage is ranked 1. The study navigates that factor namely convenience is highly preferred and these services were accessible to most smart phones through imobile apps and digital bank apps. It is also concluded that in an emerging economy where cost is considered as hindrance but in provision of Paperless Banking adoption, cost is reasonably affordable factor not contributing to theory of constraints because the cost of Paperless Banking service offered by the banks is at the same cost that is offered offline. By this study it can be concluded that Customer use this paperless banking which gives better security features, unlimited transaction limit per day through iMobile pay and Insta Biz app at the same cost of offline operation apart from travelling expense, time cost when converted into monetary terms and other intangible cost. Theoretical Implications of the Research studies proves that the factors affect Paperless Banking adoption which is relatively escalating in developing countries with other form of transitional Banking services gradually creating a cashless society and digital banking. This will help banks to determine whether they are heading in the right direction in adopting technological innovation to achieve their goals and visions of branchless banking.

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