Technological Environment in UCBS in India

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Abstract

The banking sector has been continuously facing intense competition due to changes in business environment in the post globalization period. At the same time a tremendous improvement and innovation in the banking services has taken place due to use of Information Technology (IT) so much so that it is now viewed as a must have tool for the survival in banking industry. Electronic banking (e-banking) which has emerged due to introduction of IT has set a new business paradigm – shift from branch banking to relationship or virtual banking. In Indian banking sector, commercial banks have taken a lead in this respect while cooperatives, both rural and urban, are still catching up with the technology. As new generation customers get easily attracted towards techno-savvy banks, it is imperative for cooperative institutions to embrace technologies of a superior order to retain their clientele.

The focus of this paper is on assessing the technological progress in the UCBs (Urban Cooperative Banks). It examines the technological progress in rendering banking services to their clients with the help of select parameters such as NEFT (National Electronic Funds Transfer), RTGS (Real Time Gross Settlement) and Mobile Banking transactions of the scheduled UCBs. The research paper is based on secondary data collected from books, journals and e-sources. The paper concludes that, though the UCBs have adopted IT enabled systems, they have a long way to march ahead.

Keywords: *UCBs, E-banking, Technology in Banks*

Paper Type: *Theoretical*

Introduction

In the mid 80s, Indian banks started computerizing branches on a small scale. It was followed by adoption of Total Branch Automation (TBA) packages in early 90s[1]. In the highly competitive banking environment of today, banks heavily rely upon the technology in their functioning and provision of efficient customer service to retain their customer base. This is because the techno-savvy customers of the new generation demand sophistication in banking products and services and an access over them through multiple channels like telephone, cell phone and internet besides ATM (Automated Teller Machine) cards and other cards. It has led to a transition of the banking system from the traditional banking towards relationship banking. The customers of IT (Information Technology) enabled bank can view their accounts, get account statements, transfer/payment of money and purchase drafts by just punching on few keys. Safe-keeping of public money and exploring investment opportunities is also

facilitated. With technology becoming a business enabler, it can be said that now the survival and growth of banks rests upon technology.

As compared to commercial banks, much to the concern of policy makers, the cooperative banks are less advanced technologically, although some of them have made a remarkable progress in this arena. Offering services such as Any Branch Banking, tele-banking and ATM interface has enabled them to offer efficient and effective customer services at reduced transaction cost. With the computerization of major loan accounts, investment operations and clearing systems at the head office level, urban cooperative banks (UCBs) seem to be much ahead of their rural counterpart in using technology. The present research endeavor aims to study the spread of technological development among the UCBs.

Review of Literature

A number of researches have been conducted by academicians on UCBs which emphasize the need and importance of technology in banking sector, and particularly in UCBs. A gist of it is presented below:

A study on Information and Communication Technology (ICT) practices in Cooperative banks in Belgaum (Karnataka) conducted by **Rao M. and Biradar J. (?)**[2] reveals that adoption of ICT practices has revolutionized the functioning of Indian commercial banks but the cooperative banks have lagged behind.

Babu J. and Selkhar M. (2012)[3] conclude in their study on UCBs that it is necessary for UCBs to strengthen their uniqueness and growth and suggest professionalization of management, inculcation of good corporate governance besides technology absorption to achieve the same.

Lal R. and Saluja R. (2012)[4] studied the e-banking scenario of SCBs (scheduled commercial banks). They observe that despite the efforts of Indian banks to adopt the advanced technology and installation of e-delivery channels, e-banking (Electronic Banking) is still in a nascent stage. They also observe a need for capital infusion for the infrastructure, expertise, proper training and customization of e-banking services.

Nayak R. (2012)[5] expresses that as compared to SCBs, cooperative banks can play a bigger role in financial inclusion of the people. He views that use of advanced technology and recruiting more efficient people will equip cooperative banks to compete with commercial banks.

According to a study conducted by **Munirajasekhar B. and Sudheer B. (2013)**[6], the challenges in implementing the Core Banking Solutions (CBS) in UCBs include high costs of implementation and maintenance, lack of regional language software support, issues related to customization of CBS, lack of manpower besides availability of power and rugged terrain that make it difficult to run a CBS or anything else 24x7. They opine that the gap in implementation of information technology exists partly due to their customers who are more comfortable with branch banking and the staff, at operational, middle and top level, which are not very keen on making use of the information technology to its fullest extent in their day to day activities.

Vasudevan S. and Ghaisas A. (2013)[7] studied evolution of social banking in India. They conclude that extensive use of IT solutions is a prerequisite for effective implementation of Financial Inclusion

Plan as the delivery channels of banking services like satellite offices, mobile offices and business correspondents are dependent on the technology.

Bose S. (2014)[8] feels that UCBs have to struggle for retaining good clientele in this competitive era as their rival banks include highly capitalized private sector commercial banks which can invest more in technology and offer better remuneration to attract skilled persons.

In their study about pattern of information technology in cooperative banks in Ahmednagar, **Nagarkar U. and Shivagaje A. (2014)**[9] discover that the employees lack in formal computer education. They feel that operation digital support is the most common whereas expert support is rare. They also emphasis need for conducting employees training programs periodically to acquire/update the computer skill so as to elevate their level of confidence. They state that the use of software in banking is beneficial due to many reasons such as saving of efforts and time, customer satisfaction, easy communication, professionalism, and competitive strength of bank besides profit and decision making capability. Their study also mentions that software used by banks, if fully secured, leaves rare chances for fraudulent transactions.

In his analysis of problems faced by UCBs, **Murthy J. (2016)**[10] observes that high transaction costs, low capital base, poor governance and rising NPAs (net performing assets) have grasped UCBs. He suggests adoption of modern methods of banking like internet banking, credit cards, ATM etc for improvement.

In their investigation about the major problems faced by UCBs in Kollam District, Kerala, **Kannan V. and Somasundaram M. (2018)**[11] observe absence of full-fledged high-tech facilities for banking operations and new modern banking facilities to customers. They conclude that the delay in service and higher operational cost are common in case of the UCBs which are not technologically advanced and that use of computerized system of banking and adoption of latest banking technique like ATM Card, Debit Card, Credit Card, Internet Banking and Tele Banking are now inevitable to UCBs.

Koundal V. (2018)[12] states that the profitability of UCBs has deteriorated despite the significant growth in term of ATMs installed, extension counters, branches and districts covered. The challenges faced by UCBs are in the field of technology used and required expertise and training, customer services in term of cost, quality and variety in addition to suitable risk and liquidity management skills and corporate governance.

It is established that though many UCBs have adopted computerized systems, most of them are far away from using a full-fledged IT enabled system due to lack of resources and other reasons.

Objectives

The following objectives were set by the researchers for the study:

1. To identify the various e-banking services
2. To understand the problems faced by UCBs in using technology
3. To analyze the current state of technology development.
4. To suggest measures.

Methodology of Research

Cooperative banking sector comprises of rural cooperatives and urban cooperatives which includes

scheduled and non-scheduled banks in both. UCBs, the purveyors of credit to poor people, wage earners and small industrial units in the urban and semi-urban areas, are selected for the study. They are crucial to the economic enlistment of lower and middle-income group people. However, the hard fact is that most of them are undercapitalized, poorly managed, technologically laggard and face tough competition from SCBs. Of late, they have begun to enlarge the base of technology to withstand the competition. In such a scenario, the thought of how much they have progressed technologically till now paved the way to the mission.

The number of cooperative banks as on 1.4.13 was 95156 comprising of 93550 rural co-operatives and 1606 UCBs. On 31.3.2018, due to the various policy initiatives of the government and RBI (Reserve Bank of India), the total number of cooperative banks increased to 98163 which comprised of 96612 rural co-operatives and 1551 UCBs. It was decided to include only UCBs in the study due to the crucial role played by them in financial inclusion of urban population. Since the research paper focused on the technological advancement in UCBs, it became pertinent to study the current scenario in respect of technology used. Hence a period of 5 years from 2013-14 to 2017-18 was selected for the study. Again non-scheduled UCBs and rural cooperatives were eliminated due to non-availability of data. And 42 banks which implemented IT enabled systems were finally included in the study, out of 49 scheduled UCBs having continued operation during the study period (from 2013-14 to 2017-18). A descriptive research design was found suitable for the analysis of the data. E-banking, a means to survive in the intense competition, is inclusive of various e-banking products and services to customers such as ATMs, Internet Banking, Mobile Banking, Phone Banking, ECS (Electronic Clearing Services), Credit/Debit Cards, ETF (Electronic Fund Transfer) and many others. The analysis in the present paper is based on 3 parameters, namely NEFT, RTGS and Mobile banking. The data for the study were gleaned purely from the internet or RBI website, indicating reliance on secondary data sources. Statistical analysis involves use of line diagrams for describing statistical data and percentage technique.

Scope and Limitations

The study covers a period of 5 years from 2013-14 to 2017-18. It is inclusive of only scheduled UCBs and no other types of cooperatives. Gathering information in respect of non-scheduled UCBs is like finding a needle in the straw. It is very difficult to assess the level of technology in each of the scheduled UCBs because the exact status of UCBs in respect of technological development is not easily available in the desired format either at RBI or at Department of Cooperation of the respective States. Moreover, there is no published data in respect of the amount spent by UCBs on y-o-y basis on meeting their targets for IT. Most of the data about cooperative banking sector in India emanates from the RBI as the most of cooperative banks do not have their own web sites for disseminating information.

Urban Cooperative Banks (UCBs)

Definition and Meaning

The term Urban Co-operative Banks (UCBs), though not formally defined, refers to primary cooperative banks located in urban and semi-urban areas. Primary co-operative banks each with demand and time liabilities of over Rs50 crores have been included in the second schedule to the Reserve Bank of India Act, 1934 and 11 such banks became the first scheduled UCBs during the year 1988-89.

Till 1996 UCBs were allowed to lend money only for non-agricultural purposes[13]. Now the scope of their activities has widened considerably. UCBs undertake all kinds of banking business including the acceptance of all types of deposits from members as well as non-members, advancing loans to members, discounting hundis and bills. And, just as commercial banks, they also provide other banking facilities to their customers such as making advances on personal surety, issuing drafts, undertaking collection of bills, safe custody of valuable documents of members, acting as agent for the joint purchase of domestic and other requirements of the members etc.

The uniqueness of UCB sector is the significant degree of heterogeneity in terms of size, geographical distribution, performance and financial strength. The sector has unit banks, multi-branch UCBs operating within a state and multi-state UCBs with the area of operation in more than one state. In spite of being heterogeneous, their potential to maintain a smooth flow of credit is praiseworthy. They come handy as a powerful means of financial inclusion and financial empowerment.

Importance of UCBs

By catering to small depositors and borrowers, classified as non-creditworthy by the commercial banks, UCBs strive relentlessly to address the issues of economic inequality. Being local in nature and intricately interwoven with the local community, they are in a better position to gain the trust of small savers and borrowers. They have an edge over commercial banks in turning them towards organized banking channel. Hence UCBs in India play a critical role in the financial inclusion and save marginal income earners from falling prey to the moneylenders. It is time for the UCBs to revitalize themselves with new technology to retain their customer base and play a still better role in the financial inclusion.

Information Technology in Banks

IT (Information Technology) in banking sector refers to the use of sophisticated information and communication technologies together with computer science to enable banks to offer better services to its customers in a secure, reliable and affordable manner and sustain competitive advantage over other banks.

By introducing sophisticated product development, better market infrastructure and reliable risk management techniques, IT has enabled banks to spread wings in geographically far-flung and diversified markets by overcoming the difficulty of distance. It has increased the value of banks by strengthening and standardizing infrastructure of banks in respect of security, communication and networking, achieving inter branch connectivity, moving towards RTGS environment, forecasting of liquidity by building real time databases, use of Magnetic Ink Character Recognition (MICR) and Imaging technology for clearing of cheques, ATM to name a few. An increase in penetration, productivity and efficiency in banking operations is observed with the use of technology. New generation techno-savvy customers of banks want traditional banking services besides an instant access to information on their account status and on many other services. IT enables banks to meet their multiple expectations in terms of *instant, anytime and anywhere banking facilities.* Besides IT solutions are useful to banks in their accounting and back office requirements. By increasing the cost effectiveness IT has made small value transactions viable, flourishing thereby the retail banking in a big way.

E-banking [14] which has emerged due to introduction of IT encompasses the entire sphere of technology (computers and electronics)[15] initiatives that have taken place in the banking industry4. It implies use of electronic channels through telephone, mobile phones, internet etc. for rendering banking services and products. It has set a new business paradigm – shift from branch banking to relationship/virtual/home banking. It has enabled banks to offer convenient, queue-less and 24x7 services on all days in a year. It means offering banking services and products in an innovative way by using computers and electronic channels[16].

With further advancement in computer science and telecommunication technology, it has become possible for different branches of a bank to share information between them quickly and efficiently. *Core (Centralized Online Real-time Exchange) banking*[17] is a banking service provided by a group of networked bank branches through which customers can have access over bank account from any of the member branch offices to perform transactions. Core banking function[18] which covers basic depositing and lending of money is often associated with retail banking while wholesale banking is usually managed through the corporate banking division of the institution.

Use of IT reduces the costs of financial transactions besides improving the allocation of financial resource and increasing the competitiveness and efficiency of financial institutions. It is the time now for UCBs to implement new technologies and information-based systems in a full-fledged manner to provide financial service the markets in urban and semi-urban areas and achieve the goal of financial inclusion.

Challenges in adoption of E-banking

Preparedness of staff and customers for new methods and making e-banking safe, secure and cost effective are challenges in adopting technology while those when the technology is adopted are:

- Loss of data due to technical defaults
- Economies of operations are enjoyed only when the volume of transactions is large
- Required capital and infrastructure for the installation of e-delivery channels are lacking in most banks.
- It gives rise to a new risk- Cyber Risk

Analysis and Interpretation

A Review of Growth of UCB Sector

Over the years, UCBs have registered a significant growth in number, size and volume of business handled and in many other respects. The following select indicators explain the overall development of the sector.

a. **Number of UCBs:** Geographically speaking, the UCBs are located in five states, - Maharashtra, Gujarat, Karnataka, Andhra Pradesh and Tamil Nadu. There were 1606 UCBs (scheduled and non-scheduled together) on 1st April, 2013, out of which 51 were scheduled banks. While as on 31.3.2018, the total number of UCBs decreased to 1551 (inclusive of 54 scheduled banks). The decline in number of UCBs can be attributed to merger/amalgamation of weak but viable UCBs

and closure of unviable ones as per the regulatory and supervisory policies laid down by RBI in Vision Document (2005). The largest number of mergers took place in Maharashtra - the state having the highest number of UCBs, followed by Gujarat.

b. **Growth of Business:** The total deposits collected by UCB sector amounted to Rs 2769 billion as on 1.4.13 which rose to Rs.4565 billion as on 31.3.2018, registering 164.86% increase in deposits during the study period. On the other hand, as on 1.4.13, the advances (loans) given were Rs.1810 billion which became Rs.2805 billion as on 31.3.2018. It records 154.97% increase in a period of 5 years and clearly explains their tremendous ability to attract funds and earn more business.

c. **Capital Adequacy:** The total capital with reserve as on 1.4.2013 amounted to Rs.380 billion which increased to Rs.483 billion as on 31.3.2018 showing 127.11% increase in capital with reserve over the period of 5 years. On 1.4.2013, 1,415 UCBs (both scheduled and non-scheduled) maintained Capital to Risk-Weighted Assets Ratio (CRAR) above the statutory minimum of 9% while 191 UCBs reported CRAR below the statutory minimum (9%). On 31.3.2018, CRAR of 1500 UCBs (both scheduled and non-scheduled) was found to be above 9% and only 51 UCBs reported CRAR below the statutory minimum.

   It is observed that the UCBs growing financially stronger have increased in number during the period besides an enlargement in their capital base.

d. **NPAs:** As on 1.4.2013, Gross NPA ratio was 6% and Net NPA ratio was 1.4% while as on 31.3.2018, the same were 7.1% and 2.7% respectively. Growing NPAs may be due to diverse reasons such as unsatisfactory repayment, defective loan policy, disbursement of loans due to pressure of friends, relatives, directors, politicians.

   It can be concluded that growing NPAs give the danger signal to the rapidly growing UCBs in terms of size, number, capital and business.

Technology in the Retail Segment of UCBs

Adoption of technology has enabled interconnectivity between banks, modernizing thereby the regular banking transactions. Out of that, NEFT, RTGS and mobile banking (M-banking) are analyzed below. NEFT and RTGS are the modes of interbank transfer that allow an individual to transfer funds electronically to the accounts held by individuals in the same bank/other banks in India.

NEFT

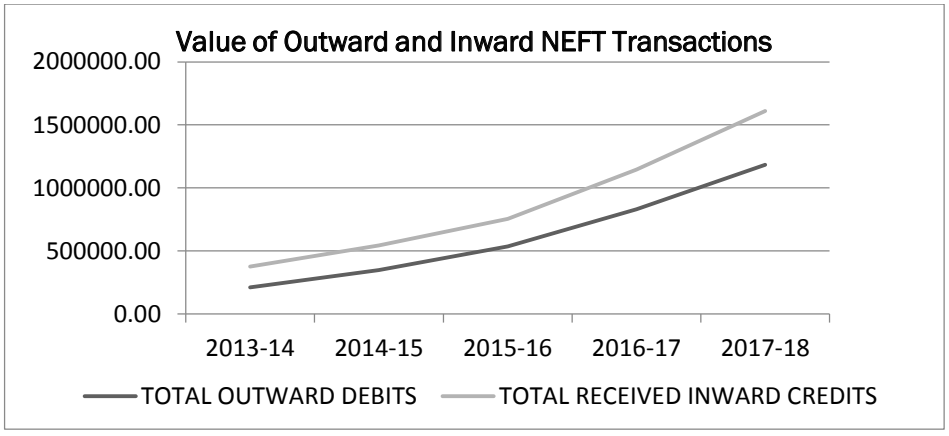
NEFT is a nation-wide electronic fund transfer system that operates on a Deferred Net Settlement (DNS) basis which settles transactions in batches. In DNS, the settlement takes place with all transactions received till the particular cut-off time. This facility enables bank customers in India to transfer funds between any two NEFT-enabled bank accounts on a one-to-one basis via electronic messages. These transactions are netted (payable and receivables) in NEFT. Any amount below Rs.200,000 may be transferred, and this system is generally for smaller value transactions involving smaller amounts of money. The benefits are ease of making payments, transfer at free of cost, safety of money.

Table 1

NEFT: VALUE OF TRANSACTIONS OF OUTWARD DEBITS AND INWARD CREDITS		
YEAR	TOTAL OUTWARD DEBITS	TOTAL INWARD CREDITS
2013-14	212623.89	376366.57
2014-15	349281.72	543923.37
2015-16	537385.64	755405.53
2016-17	832115.65	1145432.67
2017-18	1183647.46	1611378.37
Source: www.rbi.org.in		
Note: Amounts are expressed in millions of Rupees		

Table 1 shows that the number of inward and outward transactions made by customers of UCBs has increased over the years. In a period of 5 years the increase in outward transactions through NEFT is 556.69% while that in inward NEFT transactions is 428.14% though the absolute increase in them reveals that value of inward transactions is higher as compared to outward transactions. Figure 1 depicts the increasing use of NEFT services by the customers for both payments (outward) and receipts (depositing of money).

Figure1



It can be concluded that the number of UCBs having IT enabled system has increased over the years, showing increase in values outward and inward NEFT transactions.

RTGS

According to RBI, RTGS means continuous or real-time settlement of fund transfers individually on an order by order basis, without netting (without bunching with other transactions). 'Real Time' means the processing of instructions at the time funds are received, rather than at a later time; 'Gross Settlement' means the settlement of fund transfer instructions occurs individually, on an instruction by instruction basis. Considering that the funds settlement takes place in the books of RBI, the payments are final and irreversible. RTGS transactions involve large amounts of cash - only funds above Rs 200,000 may be transferred using this system. Usually RTGS costs more than NEFT Transactions. Benefits are real time

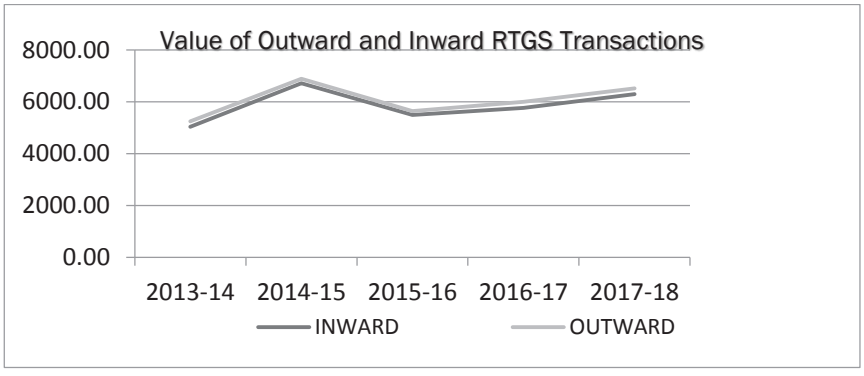
and faster online settlement system for fund transfer, helps in interbank transaction of any amount, safe and secure electronic transfer and only on a small amount of fee is charged for the transaction.

Table 2

VALUE OF RTGS TRANSACTIONS OF UCBS		
YEAR	INWARD	OUTWARD
2013-14	5035.20	5245.49
2014-15	6721.80	6890.01
2015-16	5500.99	5643.53
2016-17	5767.34	5999.43
2017-18	6302.92	6527.11
Source: www.rbi.org.in		
Note: Value of transactions is expressed in billions of Rupees.		

Table 2 shows that the value of inward and outward RTGS transactions has reported increase over the previous year during the study period except for the year 2015-16. Though the value of outward transactions is higher as compared to inward transactions in 2017-18, there is 125.18% increase in inward transactions while the increase in outward transactions is 124.43%, which is almost same. Figure 2 emphasizes these trends pictorially.

Figure 2



It can be concluded that the number of UCBs having IT enabled system has increased over the years, showing increase in outward and inward RTGS transactions in terms of value.

Mobile Banking

Mobile banking or m-banking enables mobile phone users to access basic financial services by using phone when they are miles away from their nearest branch or home. It is very convenient in today's digital age with many banks offering impressive apps to deposit cheques, pay shopping bills or transfer money. Advantages to mobile banking include the ability to bank anywhere and at any time. Disadvantages include security concerns and a limited range of capabilities when compared to banking in person or on a computer.

The rising trend in the value of mobile banking transactions is explained in the table 3. There is 36384.59% increase in the value of mobile banking transactions during the study period over the base year.

Table 3

Value of Mobile Banking Transactions	
YEAR	UCBS
2013-14	449147.67
2014-15	1394939.45
2015-16	4673328.54
2016-17	18696503.04
2017-18	163420545.54
Source: www.rbi.org.in	

Figure 3

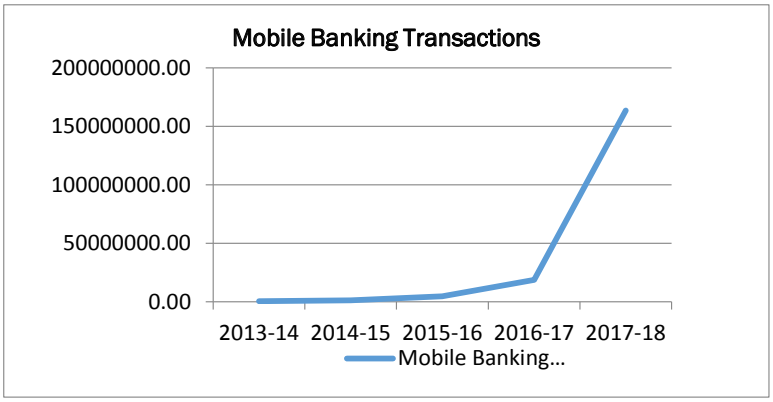


Figure 3 depicts the rising trend in the mobile banking transactions. The curve starts rising after the year 2014-15 and becomes steep after 2015-16 which indicates that mobile transactions show a sharp shoot up in terms of value in the subsequent years.

It can be inferred that increase in the value of NEFT, RTGS and mobile banking transactions is due to entry of more and more UCBs in the technological era. It proves that UCBs have begun to use IT based systems to render sophisticated banking services to their customers. It also can be inferred that their customers are techno-friendly who find it convenient and comfortable to use apps devised by their bank for various banking transactions. Their preference to use of new technology is also proved by whooping increase in the mobile banking transactions in the subsequent period of study. This gesture on the part of UCBs to keep their customers satisfied by providing instant, 24x7 services shows their preparedness to face competition which will pay dividends to them in the long run.

Contribution

Indian UCBs are still catching up with digital technologies. It is their experience that the customers demand availability of banking services any time during the day and are not ready for any compromise

when it comes to meeting their demand for banking services. Moreover financial inclusion calls for customer centricity and smart technology applications. The study throws light on the digital progress made by UCBs and makes it clear to them/policy makers how much is still to achieve so as to march ahead in financial inclusion.

Conclusion

Due to the policy initiative of government and RBI, an increasing trend in adopting technology is observed although the progress made by every bank is different. Rejuvenation through technology will enable UCBs to offer services such as digital banking and payments related services and serve their clients better. A solid and loyal customer base can be created/more will be attracted which will strengthen the UCBs.

Suggestions

Following could be the part of plan of action of UCBs:

- A cost-effective, user friendly (easy to use by staff and customer) technology solution which is in local languages may be helpful.
- The technology solution should at least cover basic banking transactions on deposits and that on different types of non-agricultural loans such as savings bank, term deposits, recurring deposits, personal loans, consumer loans, gold loans, etc.
- Putting in place a robust cyber security/resilience framework to ensure security of data and assets on an ongoing basis may be helpful in addressing cyber risks invariably posed to banks due to use of IT.
- For mitigation of cyber threats, a well defined cyber security policy giving a framework and the strategy to deal with cyber issues may be put in place with the approval of Board/Administrator.
- A well thought of plan to tackle the cyber attacks, if any; may be kept ready on hand.
- Good governance, reporting system and internal audit (IT) and control may be helpful.
- A strong capital base or a provision in state/union budget or financial support from RBI would enable them to fund IT infrastructure and the expertise.
- A periodical training to the staff and to the clients may be helpful in acquiring/updating their knowledge.

Scope for Further Study

- Study of technological progress in rural cooperatives.
- A comparative study of technological progress in UCBs and rural cooperatives.
- Study of technological progress in cooperative sector.

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13. The first known mutual aid society in India was probably the "Anyonya Sahakari Mandali" (Mutual aid society) organised in the erstwhile princely State of Baroda (Vadodara). It was started by the middle class Maharashtrian families settled there on 5th February 1889 under the leadership of Sri Vithal Laxman also known as Bhausaheb Kavathekar.

14. The concept of e-banking was originated in the UK and USA in 1920s while the concept of web-based banking came into existence in Europe and USA in the beginning of 1980s. In India, banks started rendering non-branch banking services only in the early 1990s. The ICICI Bank is the pioneer of launching internet banking in India. Citibank and HDFC Bank followed with internet banking services in 1999.

15. Some of the recent IT devices include (a)Electronic Payment and Settlement System which has automated the clearing process, (b)Use of MICR Technology enabled banks to clear the cheques within banking hours and customers to get the credit quickly, (c)CTS (Cheque Truncation System) has eliminated the need to move the physical instruments across branches, except in exceptional circumstances, resulting in an effective reduction in the time required for payment of cheques, the associated cost of transit and delays in processing etc., (d)Electronic Clearing Services (ECS), the first version of "Electronic Payments" in India, is a mode of electronic funds transfer from one bank account to another bank account using the mechanism of clearing house which is very useful in case of bulk transfers from one account to many accounts or vice-versa. There are two types of ECS are ECS Credit and ECS Debit, (e)Electronic Fund Transfer (EFT) – EFT was a nationwide retail electronic funds transfer mechanism between the networked branches of banks. NEFT provided for integration with the Structured Financial Messaging Solution (SFMS) of the Indian Financial Network (INFINET). The NEFT uses SFMS for EFT message, (f)Real Time Gross Settlement (RTGS) – RTGS system is the fastest funds transfer mechanism in which transfer of money takes place from one bank to another on a 'real time' and on 'gross basis'. Settlement in 'real time' means the transactions are settled as soon as they are processed. "Gross settlement" means the transaction is settled on one to one basis without bunching with any other transaction.

16. Development of Distribution Channels – The major and upcoming channels of distribution in the banking industry are: (a)Automated Teller Machine (ATM) – Automated Teller Machine: An automated teller machine is a computerized device that provides access for financial transaction in a public place. The customer can have access to his bank account through plastic cards with magnetic strip to make cash withdrawals and check balances. Apart from these functions ATM facilitates to transfer money from one account to another and can request for a cheque book. (b)Phone Banking – Customers can now dial up the banks designed telephone number and he by dialling his ID number will be able to get connectivity to bank's designated computer. By using Automatic voice recorder (AVR) for simple queries and transactions and manned phone terminals for complicated queries and transactions, the customer can actually do entire non-cash relating banking on telephone. (c)Tele Banking – It is another innovation, which provided the facility of 24 hour banking to the customer to provide information about balance in his account or other transaction history. Tele-banking is based on the voice processing facility available on bank computers. (d) Internet Banking – Internet banking also known as online banking means conducting financial transaction through a website. Customers have an access to their account through a server and can operate their bank account from anywhere in the world from any personal computer at any time with an internet connection. It provides various services like online trading, online bill payment, shop online etc. (e)Mobile Banking – Mobile banking facility is an extension of internet banking. Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct financial transactions remotely using a mobile device. Unlike the related internet banking it uses software, usually called an App, provided by the financial institution for the purpose. Mobile banking is usually available on a 24 hour basis. Some financial institutions have restrictions on which accounts may be accessed through mobile banking, as well as a limit on the amount that can be transacted. Transactions through mobile banking may include obtaining account balances and lists of latest transactions, electronic bill payments, and fund transfers between a customer's or another's accounts. SMS banking is a technology-enabled service in which customers are permitted to operate banking services over mobile phones using SMS messages. (f)Debit cards: A Debit card is a plastic card with a magnetic strip that can be used by a consumer as a means of payment. Funds charged to a debit card are directly deducted from the bank account it is associated with. It is card that provides an alternative payment method to cash for making purchases. (g)Credit card: Credit card is a plastic card with a magnetic strip authorised to purchase upto a predetermined credit limit. Banks issue it to their customers to enable them to purchase on credit.

17. Core Banking Solutions (CBS): Computerization of bank branches had started with installation of simple computers to automate the functioning of branches, especially at high traffic branches. Core Banking Solutions is the networking of the branches of a bank, so as to enable the customers to operate their accounts from any bank branch, regardless of which branch he opened the account with. The networking of branches under CBS enables centralized data management and aids in the implementation of internet and mobile banking. Besides, CBS helps in bringing the complete operations of banks under a single technological platform.

18. Core banking functions will include transaction accounts, loans, mortgages and payments. Banks make these services available across multiple channels like automated teller machines, Internet banking, mobile banking and branches. Computer software is developed to perform core operations of banking like recording of transactions, passbook maintenance, interest calculations on loans and deposits, customer records, balance of payments and withdrawal. This software is installed at different branches of bank and then interconnected by means of computer networks based on telephones, satellite and the Internet.

Others:

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