ISSN 00194581

VOL. 57 NO. 4 APRIL, 2020

Price : Rs. 60/-

INDIAN COOPERATIVE REVIEW

IN THIS ISSUE

NATIONAL COOPERATIVE UNION OF INDIA
3, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi - 110016

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INDIAN COOPERATIVE REVIEW

[A QUARTERLY JOURNAL OF NATIONAL COOPERATIVE UNION OF INDIA]

Vol. 57 **April, 2020** **No. 4**

INDIAN COOPERATIVE REVIEW publishes articles having a bearing on current topics and problems of the Cooperative Movement. The authors, suggest solutions from their own point of view. The views contained in the articles are, therefore, the views of the authors themselves and do not necessarily reflect the policy of the National Cooperative Union of India. Views opposite to those contained in the articles published in the Journal would be welcomed for publication.— Editor

Developing and Marketing of Banking Products and Services by Rural Cooperative Banks in India—Options and Opportunities

T.S. RAJI GAIN* & MANIKUMAR, S. **

Abstract

Rural Cooperative Banks [RCBs] are an integral part of the banking system in India. These institutions, many of which are more than a century-old, have slowly evolved over time. Turning to technology much later than their counterparts in the sector, the RCBs are facing challenges on various fronts, viz., traditional products, cumbersome processes, increasing customer churn, over-stretched HR, tightening regulations and declining margins. Added to this is their questionable readiness to address technology risks, in the post-CBS scenario.

Very few of the RCBs seem to have a system for obtaining customer feedback for improving product and service offerings. Most of them continue to offer plain-vanilla products and services, many of which do not suit their customer's needs or their profiles. Even their customers have become more

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aware of the competitor's products and are demanding similar quality from the RCBs.

What are the alternatives available for these banks from a product development and marketing perspective? Where should they begin? How should they go about the process? Proper product delineation with a robust segmentation analysis could provide the answers: both for business development and for reducing customer churn. This article dwells on these and related aspects.

Introduction

Rural Cooperative Banks [RCBs] in India have a long and chequered history. Over the years, these banks have evolved, but their primary focus continued to be on financing for agriculture and its allied activities. Besides purveying rural credit, these banks also mobilised savings and other deposit accounts and, thus, played an important role in inculcating banking habits amongst the rural people.

Technology adoption by RCBs

The advent of technology in Indian banking, in the mid-90s, transformed the way banking was done. Many banks on-boarded what we now come to know as Core Banking Solutions, or CBS in short, which enabled Anywhere Banking. The introduction of alternate delivery channels like the ATMs, Mobile and the Internet, perhaps validated the popular quote attributed to Bill Gates, viz., *"We need banking, but do we need banks?"*

With so much change in the air, the rural cooperative banks realised that they cannot remain a mute spectator. They also had to jump onto the bandwagon. Some of these banks took the technological leap on their own, while many others, read the State Cooperative Banks [StCBs] and District Cooperative Banks [DCBs], joined the NABARD-led initiative and on-boarded CBS in their respective banks.

Eco-system developments

Around this time, the Govt. of India rolled out the *Pradhan Mantri Jan Dhan Yojana* [PMJDY][1], which envisaged a bank account for every household. *Aadhaar*[2], the National Identity initiative, was also gaining in enrolment all across the country. The frantic pace of mobile adoption[3],

1 38.25 crore beneficiaries banked so far, as on 22nd April 2020 [https://pmjdy.gov.in/]

2 125.75 crore Aadhaar generated, as on 22nd April 2020 [https://uidai.gov.in/aadhaar_dashboard/]

3 115 crore subscribers, as on 31st Dec. 2019 [https://main.trai.gov.in/notifications/press-release]

especially in the rural hinterlands, completed the JAM trinity: *Jan Dhan, Aadhar* and the Mobile; which became the vehicle for providing user-friendly financial products and services to the people. Banks, naturally, began to leverage the JAM platform for its offerings.

New Banking products and services in the era of technology-led banking

New products and services are the life blood of all businesses. The expectations of the customer are dynamic and the product should address them in full measure. Therefore, new product development is an important aspect of service marketing. It helps to attract new customers while retaining old ones and also contributes to increased business and improved profits. Banking sector is no exception. We have seen successful experiments of new banking products and services being introduced by various banks in our country.

Post-CBS, coupled with the growing popularity of the internet and the mobile, there has been a paradigm shift in the way both the customers and the banks, seek and provide, banking products and services. In this age of instant gratification, time is of the essence, as a growing number of customers want services at the time, place and convenience of their choice. Financial institutions in general, and banking entities in particular, are moving away from the era of 'customer service' to the digital era of 'customer delight'.

Indian banks, especially the new-age private sector ones, are designing innovative products and services, at times, even anticipating the customer's preferences! Who can forget the 811 Virtual Savings Bank Account of Kotak Mahindra Bank, conceived and marketed as the first *downloadable* bank account? The Bank, responding to the challenges posed by demonetisation, successfully leveraged the JAM platform and designed a very unique digital financial product, relevant to the times, and 811 went on to script a success story unheard of in the annals of Indian Banking. Its popularity and wide-spread acceptance can be gauged from the fact that within a short span of 18 months of launch since March 2017, more than 8 million accounts were opened. The relative simplicity and ease of use of this product were its major USPs!

Similarly, Kerala Gramin Bank, a Regional Rural Bank sponsored by Canara Bank, came out with a product called Selfie Banking, by which a customer, sitting in the comforts of his/her home, can open a bank account using a mobile app called 'DigiKGB'. The account is opened in the CBS of the bank immediately and the account number is generated. The bank has to ensure compliance to the KYC procedure within 30 days of account opening, till which time the account will be in 'debit- freeze' mode, viz., no debits allowed and only small value credits are permitted.

New Products and Services in RCBs: How to begin?

But where are the Rural Cooperative Banks amidst all these developments? Barring a few exceptions, most of the DCCBs and StCBs, albeit on CBS, are still seen to focus on traditional banking products and services only. Faced with the continuing threat of customer churn, these banks have to now get their act together and design new products / re-design existing ones in sync with customer expectations and competitor's offerings. This is urgently needed, at least for protecting their turf and retaining their customer base, if not for anything else!

Then, how do we begin this process? From where do we get ideas and inputs on what the banks' products and services should be? Having received these, how should we go about converting them into products and services?... Well, aren't these a few of the questions haunting you now!

Customer Meets

To begin with, it will be better if we go back to listening to the customer's voice. Earlier, bank branches used to have Customer Meets on a designated date every month. It is not certain whether the practice still exists, and even if so, whether it is being held in the spirit in which it was originally intended! This forum could provide the ideal ground for getting customer feedback about the bank's products and services. Ideas about how it could be made better, what are the pain points, what are the good features, etc., could all possibly emanate from here. Even the complaints and suggestion box could provide vital inputs and feedback about what the customers feel about the bank, its products and services. How many of the branches have this mechanism in place? Every complaint should be seen as an opportunity to improve. Are the complaints seen from this angle? An unhappy customer is an opportunity. Can the RCBs adopt this mind-set?

Staff Suggestion Scheme

Staff members, especially those in the branches, are the first point of contact for the customers. They are advantageously placed to glean vital customer insight which can lead to product features and service quality improvements. Does the bank has the mechanism to capture such market intelligence? Is there an appropriate recognition-linked Staff Suggestion Scheme in place in the Bank? Even if such a Scheme is in place, how many of the suggestions are acted upon.

Competitors

Keeping our eyes and ears open to gather market feedback is extremely important. Sometimes, what the bank's competitors do, or don't do, could provide critical inputs for improving its offerings. Ideas can also come from other sectors/industries. I remember a banker who said that he was influenced by an ad of a leading car-maker which said "Just Walk in and Drive Back in your Car", which focused on their extremely fast sale process. Taking a cue, this bank went on to design a simplified car loan product, tying up with a reputed dealer! We have all heard of advertisements that talk about getting a loan in 5 minutes and the like.

How to market effectively?

Having a good product or service is not the only thing. How to reach it to the right customer at the right time is equally, if not more, important. Herein, lies the importance of effective marketing. Banks that out-perform their competitors do so primarily because they execute a defined strategy. They don't try to go after everyone with the same message, product, or offering. They segment: then tailor everything they do to fit that segment.

Segmentation makes it easier to isolate the right opportunities and highlights the right strategies to win those opportunities. Because you have the right message and the right offering for the right customer, you can shorten your "time to sell" and increase your business. Effective marketing naturally leads to effective selling.

One of the ways of effective marketing is to adopt what is known as the **Four Quadrants** approach. This approach segments the catchment market into four quadrants, differentiated across customers and non-customers vis-a-vis existing products and new ones. Unlike other segmentation strategies that mostly focus on non-customers and can be difficult to implement, the Four Quadrants approach ensures that Banks look at the entire potential market for growth; including their existing customers, and new markets that they can enter. The characteristics of these Four Quadrants are indicated below:

• **Quadrant 1** • Selling **EXISTING Products** to **EXISTING Customers**	• **Quadrant 3** • Selling **EXISTING Products** to **NEW Customers**
• **Quadrant 2** • Selling **NEW Products** to **EXISTING Customers**	• **Quadrant 4** • Selling **NEW Products** to **NEW Customers**

In a risk-relationship continuum, Q1 has the least risk and the strongest relationship, while it is the exact opposite for Q4. Under a Q1 scenario, the Bank knows the customer well and the effort is limited to nudging the customer to avail more units of the same product/service. However, the Bank should take care to sustain the customer's interest, else it runs the risk of losing him/her. On the other hand, Q4 is akin to entering a new market, where both the customer as well as the offered product/service are new. Thus, the marketing strategy for each quadrant has to be different. Marketing to existing customers is totally different from marketing to non-customers. And even for existing customers, the kind of marketing necessary to get them to order more of what they already purchase is different from the strategy that gets them to try new products and/or services they haven't used before.

The Four Quadrants: Product and Market Development strategies for RCBs

Let us discuss the suggested product development and marketing strategies for RCBs under each of the Four Quadrants in the following paragraphs.

Quadrant 1 [Q1]: Selling Existing Products to Existing Customers

This is a low-touch environment, as the banks know their customers well. The objective is very clear: how to make the customers buy/use more of the existing bouquet of products/services. Here, the focus is on Market Deepening. The aim of the bank should be to improve the ease of doing business in this quadrant, from the point of view of cost reduction, while also ensuring an improved customer experience. How can we do that? *Standardization of Operations* is the key to success in the Q1 quadrant.

The following are some of the suggested interventions which the RCBs could consider to improve their footprints under Q1:

***A 'more delightful' ATM experience* :** Such of those RCBs having ATMs may ensure to keep the ATM environment as customer-friendly as possible. Added facilities to be provided may include:

- ramp to facilitate access to the physically-challenged,
- a neat, safe and clean environment, [e.g., in the present pandemic scenario]
- choice of currency notes [if such option is available in the ATMs],
- display of customer helpline numbers very prominently in the ATM

premises or as a static band in the ATM screen itself and ensuring that such distress calls are promptly attended to [may be, to have a practice of taking the call within the first three rings!],

- ensuring that the ATM never stays 'cash-out',
- offering more number of free ON-US transactions,
- having the lowest Turn Around Time [TAT] to settle disputed transactions [viz., 24- hr. TAT for OFF-US transactions; 6-hr TAT for ON-US, etc.]
- providing self-sealing envelopes to enable customers to deposit their passbooks for updating [beyond branch working hours] against paper tokens. [To begin with, these envelopes may be deposited with the bank's security personnel manning the ATM premises, who will issue these tokens. After updating, the passbooks can be collected back the next day.]

***A self-service portal* :** To let the customer pick up what they want, whenever they want. viz., e- lobbies which are like a one-stop shop offering facilities to deposit cheque/cash, make loan enquiries, get debit cards issued, facilitate updating of customer data, e.g., PAN, *Aadhaar*, etc.

***Knowledge Nuggets* :** Access Usage Gap [AUG] is a metric which is often used to measure the effectiveness of penetration and usage of digital banking products and services. AUG measures the ratio of number of customers who have been provided access to digital products like Debit Cards, money-transfer, ATMs, Micro ATMs, etc. and the number who are actually making use of them. This gap is usually high for most of the RCBs, presumably due to low awareness of such products, fear perception, etc. This information asymmetry can be effectively addressed by making short videos, not exceeding a couple of minutes, covering various aspects of Digital Banking, safe online practices, etc., in local language and sharing with the customers through social media, uploading in bank's website, etc. Banks can target high AUG areas/geographies for focused attention and consequently, better impact.

***Incentivise to 'Go Digital'* :** Wherever the RCBs have an effective online presence, either through their own website or e-mail marketing, those banks can encourage customers to submit online loan applications, for which lesser processing fees may be charged. This will incentivise at least digitally-savvy customers to go online, which also reduces the bank's operating costs. Consider giving incentives for Debit Card usage, based on average monthly spends. Send alerts to inactive *RuPay* card customers about the risk of missing out on free insurance cover, due to non-usage.

Remain in the customer's mind space **:** This is very important. The only way to ensure this is to constantly engage with the customer in some form or the other. It could be through promotional messages, sending birthday/anniversary wishes, product messages, etc., on a regular basis.

The above list is only illustrative. The RCBs can think of more ways to add value to Q1. It may also be seen that doing incremental Q1 business will be at considerably lesser costs vis-a-vis the other quadrants, which will add to the operating profits of the bank. But it is also a fact that Q1 is not a bottom-less market. There is a limit up to which business growth can be realised in Q1, with the existing range of products/services. Having maximised revenue therefrom, the only way to increase business from existing customers is to get them to buy some of the other products. That is the Q2 strategy.

Quadrant 2 [Q2] Selling New Products to Existing Customers

Quadrant 2 is all about cross-selling and upselling other products and services you offer, that your existing customers have not yet purchased. The most important of these are Upgrades, Add-ons, and Bundles or Packages. Quadrant 2 offers some highly attractive growth opportunities for a bank that is set up to take advantage of it. The operative Q2 philosophy is to *Innovate*.

The objective in Q2 is to continually market to existing customers by demonstrating how the value of their existing products increases significantly when used with another product that you sell, but which they don't currently use. For example, nudging an existing SB account holder to open an RD, then RD for their children, a Monthly Interest Deposit account wherein the interest goes to a new RD, etc. The essence of the Q2 philosophy is in widening engagement with existing customers to cover hitherto unavailed products/services.

For this to happen, there is need to put in place a mechanism for robust customer data analytics. The bank needs to target its marketing campaigns better. For e.g., "If a customer has product A, then use Campaign X. If a customer has products A and B, then use campaign Y".

Suggested product/marketing interventions under Q2 for RCBs are indicated below:

Add-ons to Fixed Deposits [FDs] **:** Plain vanilla FDs offer safety and assured returns. Most of the RCBs are offering this product. Can they now think of adding other features like growth, flexibility, life protection, etc., to existing FD products and offer new variants with added features?

We may call them as Life-stage Deposits, with every variant linked to a particular customer segment.

- FDs with term plan life cover
- FDs with monthly interest pay-outs towards SIP investments in Mutual Funds
- FDs with Annuity pay-outs: Initially, a normal cumulative FD for a fixed tenure; on maturity the Principal and Interest are re-invested as another FD for a fixed term and monthly annuity payments given till end of the extended tenure of the FD.
- Recurring Deposits [RDs] with monthly contribution for a fixed tenure, on maturity both Principal and Interest are re-invested as a FD with monthly annuity payment.

Leveraging data analytics **:** With CBS, banks are sitting on mountains of data. But how much of this data is analysed with a business imperative? There may be lots of customers of RCBs who are also maintaining banking relationship with other banks. Is it possible to nudge some of these customers to shift majority of their business to the RCBs? In one instance, the manager of a DCCB observed that one of its customers maintaining salary account had given a standing instruction to transfer a certain sum of money every month to his account with a nationalised bank. On enquiry, it was found that this payment was towards monthly repayment of housing loan availed from the other bank. Can we think of taking over such loan accounts? It will bring new business as well as deepen the existing relationship.

Providing Add-ons **:** RCBs are issuing *RuPay* cards to most of its SB customers. Can we think of widening the catchment to cover the spouse/ children of such account holders? Later on, they can also be brought into the fold of the RCBs. Can we think of providing a dispute registration mechanism for ATM transactions even through the BC points?

Upselling Loan accounts **:** RCBs give lot of loans for purchase of vehicles under SRWTO scheme. As a "Go Green" initiative, the bank can consider offering additional loan for converting the vehicles, wherever feasible, into either electric or CNG. This, while reducing emissions, can also leave more surplus in the hands of the borrower, facilitating in faster and timely loan repayments. Similar upselling opportunities exist in Housing Loan accounts for installing Rain Water Harvesting/Solar Home Lighting/ Water Heating structures, Dairy Loan accounts for installation of bio-gas plants, Crop Loans with biomass briquetting, etc. Differential Gold Loans based on loan value assessed as per Karat content: 22K, 24K, etc. Different

Loan To Value [LTV] ratios carrying different interest rates is another exciting loan variant. E.g., A higher quantum of loan [meaning, lesser margin] will attract higher interest rates and vice versa.

Again, once the RCBs start thinking, many more options are bound to emerge. The above alternatives are only the starting point. But, how much ever we innovate, there's a limit to the variant of products we can generate and deliver to the existing customers. At some point, the RCBs need to look beyond and try to rope in new customers. How to do that and what are the options available becomes the focus in Q3.

Quadrant 3 [Q3] Selling Existing Products to New Customers

In this age of technology-led banking, where banking products and services can be availed anytime, anywhere, customer loyalty is very fickle and customer churn is the new reality. Even with great service and a wide array of products, banks are bound to lose existing customers. Customer acquisition thus becomes imperative, not only from the point of growing business, but also for replacement of the existing customer base.

Q3 growth is what most banks seek very actively. Many RCBs also target growth in new accounts opened, new loans issued, etc. However, care should be taken to ensure that Q3 fixation should not be at the cost of untapped opportunities lurking in Q2 and Q1.

In Q3, we are not focusing on new products/services. The focus is on widening the customer base. How can we add new customers? Making processes very simple would definitely attract new customers. Even having unique services or products, which no one else has, will help in attracting new customers. Remember the 811 downloadable account; or the Digi KGB experience mentioned earlier. The USP of Q3 should be on *Customization*. Can we tailor the existing products in such a way as to make it seem unique for a new customer? Can we look at creating sub- segments within customer demographics to offer the bank's existing products?

A few of the Q3 interventions which could be considered by RCBs are as under:

***Identifying new customer sub-segments*:** Can RCBs devise exclusive strategies to cater to the Senior Citizens? Maybe, provide them a cash-at-doorstep service, once their pension is credited to their account. Is it possible to look at migrant labourers as an exclusive customer segment and offer, say, easy-to-use remittance facilities? Women could be another potential segment. Can RCBs design some festival-linked deposit products which mature during festival season? Alternately, an RD-like product, wherein, on maturity, a loan up to 2x the maturity value can be provided to women customers, based on their risk profile, against security of the matured deposits. Pygmy deposits for School-children is a very attractive product and also has the in-built advantage of catering to a segment which could potentially provide business to the bank, at a later stage. Self- employed persons could be another standalone category. RCBs need to urgently adopt this aggressive segmentation strategy and consider offering existing products even with minor tweaks, to increase its relevance to the particular customer segment, if need be.

***ATM facilities*:** Loading low-value denominations in ATMs [Rs. 100/- or Rs. 200/-] to attract even other bank customers to the bank's ATMs. Displaying notices at all ATMs indicating the denomination it is dispensing. This will help customers to plan withdrawals. From the bank's perspective, this will help in attracting customers of other banks also to its ATMs, thereby earning additional fee income.

Advertising of unique products of the bank in the ATM itself. This should be programmed in such a way that after the customer completes the transaction, these screens get activated. The card release mechanism on EMV-compliant ATMs may be set after a time-delay to ensure that the messages are read by the customer. This will help in reaching out to other bank's customers also.

***Debit card for students*:** This could be offered to wards of existing customers, as an add-on card linked to the main card, with in-built lower spending limits. This will attract the students, who can then be made full-fledged customers of the bank, going forward.

All these approaches can definitely help RCBs in acquiring new customers, but a stage will come when they reach saturation point. Now, the only option left would be to develop new products aimed at new markets/ customers, which is what Q4 is all about.

Quadrant 4 [Q4] Selling New Products to New Customers

Quadrants 1 to 3 are similar in some ways. In Q1 and Q2 we were dealing with customers whom we knew, while in Q3 we were customising existing products to meet the requirements of new customers. Quadrant 4, however, is different. It consists of non-customers and new products other than those you normally market to. It is actually an exercise in new business development and the ability should be to both *innovate* and *customize*, at the same time!

The following are some of the options which could be considered by RCBs, in this segment:

Cash @ PoS **:** RCBs are always worried about the cost of their operations. They want to offer their services at the lowest cost possible, because most of their clients cannot afford high-cost services. To keep costs low, these banks have to innovate. For e.g., instead of installing ATMs in all their branches, an option could be to consider placing Micro ATMs, especially in remote branches. Here, the branch cashier will operate the Micro ATM which can be enabled to provide cash withdrawal facility to both customers of the same bank [ON-US transactions] as well as those of other banks [OFF-US transactions]. This will attract other bank customers and thus provide opportunity to offer the bank's other products/services to them. One of the banks operating in the rural area even marketed this product as "*ATMs with denominations of your choice*!" Quite smart, isn't it?

Safe Deposit Lockers with flexible rental options **:** Most banks offer this facility with annual rental options. Can RCBs think of rental for shorter durations also, say quarterly or half-yearly? Offering this flexi-option only for the second locker hired by the same customer could be another interesting variant.

Graded RDs for Salary earners **:** In this product, every year, the monthly savings instalment gets increased by a certain percentage, in sync with annual salary increments. This will enable the customer to save a portion of the salary increase, unconsciously. This could be an offering to attract new customers also into the bank's customer fold.

Un-fixed Deposit **:** Every fixed deposit will be considered as smaller deposits in multiples of Rs. 1,000/-. For e.g.: a deposit of Rs. 10,000/- can be considered as 10 deposits of Rs. 1,000/- each. The customer can break the deposit, as per his/her need and the balance continues to earn the originally contracted rate. The amount of deposit broken shall earn lesser interest as also attract applicable penalty for fore-closure.

Paylater loans **:** A loan product which enables the customer to procure an asset and pay for it in installments. While this product already exists in various forms in the banking system, a unique variant of this would be a loan for buying gold. Banks can tie-up with leading jewellery outlets; customer approaches these outlets, selects the jewellery and gets an invoice: bank makes direct payment to the store [after collecting prescribed margin from the customer] and takes safe custody of the jewellery. Customer redeems the jewellery after the entire loan is repaid. Thus, at the time of purchase, Customer arranges funds only to meet the margin, with the balance funded by the Bank. Hence, customers with limited funds can also plan their gold purchases, especially during off-season, when prices are low, thereby insulating themselves from future price rise. Any upward movement in prices later on will benefit the bank also as the value of its security goes up, thus making the loan more secure!

It is important to note that all the 4 quadrants indicated above are not water-tight compartments. They are not strictly categorised as black or white, there are different shades of grey in between. A product or service offering in Q1 could remain valid in Q3 also, only that the marketing strategy may vary; or a strategy to widen interventions in Q2 may work in Q4 too, with appropriate changes. What needs to be ensured is that the outlook of each quadrant is not compromised.

Each quadrant has a different objective

This is a very important fact, not to be lost sight of. For ease of understanding, the objectives of each of the quadrant is indicated below :

• Quadrant 1 INCREASE USAGE	• Quadrant 3 INCREASE CUSTOMER BASE
• Quadrant 2 INTRODUCE NEW PRODUCTS	• Quadrant 4 FIND NEW LINES OF BUSINESS

The bank's customer acquisition and product development strategies should always be framed, keeping these objectives in view. This will ensure that the ultimate objectives of the Four Quadrant approach, viz., business growth and depth, are equally attained, in full measure.

Conclusion

With technology adoption, RCBs are now no different from their other banking counterparts. Its customers are also becoming increasingly tech-savvy and demanding the latest financial products and services. The time has come for the RCBs to face these challenges in right earnest and reclaim lost ground by diversifying its product and service offerings as also on-boarding more customers. While doing so, they would do well to ensure that these new offerings satisfy all regulatory requirements, especially from a risk perspective. This will go a long way in making these banks strong and relevant, while ensuring their sustainability, in the changing times.

A Study on Financial Performance of Indira Gandhi Cooperative Hospital, Kadavanthra, Kochi (IGCH)

ZITTA RAPHEL* & G. VEERAKUMARAN**

Abstract

Kerala is one of the very few states in India where cooperative hospitals and cooperative medical colleges were established in large numbers with the state aid. Cooperatives are considered to be the best institutional intervention to overcome economic barriers in access to health care. The early healthcare cooperatives were established with enthusiasm, social purpose and on felt needs. However, many healthcare cooperatives have failed because of various factors like politicalisation and high competition from the private sector. If the lapses and factors for not reaping continuing success in Kerala could be thoroughly studied and managed through appropriate remedial actions, healthcare cooperatives can really become the robust infrastructure in healthcare sector. Therefore the present study "Performance evaluation of Indira Gandhi Cooperative Hospital" has been undertaken with the objectives of examining the financial performance of the institution. Ten years data (2009-10 to 2018-19) were used for ratio analysis. The study reveals that there exists an idle maintenance of current assets. IGCH is using less leverage and has a strong equity position. The

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study showed that net profit decreased gradually during the period of study. It is because of an increase in establishment and construction expenses. A huge increase in hospital expenses like outside consultant charges, doctor hiring charges, purchase of hospital equipments, ward expenses, minimum wages scheme implementation etc. also contributed in the reduction of profit. However, a positive value in the net profit ratio in the year 2018-19, indicates the possibility of progress in the future.

Introduction

"Health is wealth" goes the maxim in Kerala and it is true for everyone in the world. India has a rich, centuries-old heritage of medical and health sciences. The healthcare system in India is a robust one with Ayurveda, Yoga, Naturopathy, Unani, Siddha, Homeopathy and Allopathy system of medicines. Over the years public investments in medical care have not only been inadequate, but in fact they have been declining. This has seriously affected the expansion of the public sector which has clearly not kept in pace with the rising demand. This has provided the space for growth of the private sector. Through network of health care facilities; this sector caters to the needs of both urban and rural population and has expanded widely to meet the increasing demands and challenges. But this has brought about the commercialization and the commoditization of healthcare.

Here arises the importance of Healthcare Cooperatives which can be considered as the best institutional intervention to overcome economic barriers in access to health care. The cooperative movement is a worldwide movement which has become an effective concept in everyday life to combat various social ills and exploitations. The cooperative sector continues to emerge even when country is in the face of economic hardship, giving hope for the future. It has established a strong presence in all the spheres of life such as agriculture, education, health care, information technology, small and large scale constructions etc.

Background and Justification

Kerala is one of the very few states in India where cooperative hospitals and cooperative medical colleges were established in large numbers with the state aid. Cooperatives are considered to be the best institutional intervention to overcome economic barriers in access to health care. The first cooperative society in the health care sector in India was 'Shri J.G. Cooperative Hospital & Research Institute' founded in the year 1951 in Karnataka. In Kerala, the first cooperative hospital came into operation from 1969 in Thrissur District. Even though cooperative hospitals are mainly concentrating on Allopathic system of medicine, Kerala's cooperative health care sector is also prominent for Ayurveda, Homeopathy, Unani and Siddha treatments. As on 31st March 2019, there were 202 cooperative hospitals and dispensaries in Kerala. Among these, 104 hospitals were working actively, 27 were under liquidation and 71 were not functioning (Department of Cooperation, Government of Kerala). Kerala Cooperative Hospital Federation (HOSPITALFED), headquartered at Ernakulum is considered to be the apex federation of cooperative hospitals in Kerala. In addition to hospitals, cooperatives are also running medical colleges, nursing schools, nursing colleges, pharmaceuticals, etc. for the benefit of people.

The early healthcare cooperatives were established with enthusiasm, social purpose and on felt needs. However, many healthcare cooperatives have failed because of various factors like politicalisation and high competition from the private sector. Notwithstanding this trend, there are some outstanding cooperative hospitals in Kerala such as The Irinjalakuda Cooperative Hospital Ltd., Kozhikode Cooperative Hospital, Kerala State Cooperative Hospital Complex and Centre for Advanced Medical Services Ltd., Pariyaram, EMS Memorial Cooperative Hospital and Research Centre, Perinthalmanna, Indira Gandhi Cooperative Hospital, Cochin etc.The services rendered by these successful hospital cooperatives and its resilience brighten our hopes for a renewed attempt in health cooperatives. If the lapses and factors for not reaping continuing success in Kerala could be thoroughly studied and managed through appropriate remedial actions, healthcare cooperatives can really become the robust infrastructure in healthcare sector.

Indira Gandhi Cooperative Hospital [IGCH], a highly progressive and enterprising hospital in Kochi, is pledged to provide quality healthcare with great emphasis on traditional values. Evaluation through financial analysis can reflect the state of affairs of the institution at a given point of time as well as financial performance over a period of time. The assessment of factors leading to the efficiency and weaknesses pave way to improve the services and profitability. The present study is intended to understand the financial performance of IGCH, Kadavanthra. This will help the management to realize their drawbacks if any, which will in turn help the institution to improve their performance.

Objective and Methodology

The objective of the study is to analyse the financial performance of Indira Gandhi Cooperative Hospital (IGCH), Kadavanthra. The study is based mainly on secondary data collected from the annual reports of IGCH for a period of ten years from 2009-10 to 2018-19. The study is restricted to Indira Gandhi Cooperative Hospital, Kadavanthra. Ratio analysis and Compound Annual Growth Rate (CAGR) were used to study the financial performance of IGCH.

Profile of IGCH

In order to create a healthcare cooperative society with the principle of social justice, transparency and popular approach a few residents of Cochin started a cooperative society namely, Cochin Cooperative Hospitals Society Ltd., E-288. Indira Gandhi Cooperative Hospital, a unit of Cochin Cooperative Hospitals Society Ltd., No. E. 288 is dedicated to ensure better health to the community. From the very beginning the motto of IGCH had been to assure “health care to all irrespective of wealth”. Cochin Cooperative Hospitals Society was registered on March 6, 1971. The society started its operation on March 19, 1971. The pioneers of the initiative were Shri K.A. Damodaran Menon , Shri R.M. Manakkalath, (Leaders behind Mathrubhumi daily), Dr. P.K. Eeppan and Dr. C.K. Balan. Later, Shri K. Damodaran Menon was elected as the president of the society and led it to progress. K.G.X hospital building, a private hospital operated near Ernakulum south railway station was taken over in April 20, 1980 for starting the cooperative hospital services. As the hospital expanded its operations, the space in the building became inadequate. In 1980, for carrying out the primary activities, a building was constructed in the government owned land by taking it for lease. Later, the modern setting has become a necessity for a full fledged hospital to function properly. Accordingly, the construction of hospital complex become a reality by taking loans from Kerala State Government & Ernakulum District Cooperative Bank, subsidies from government and Donations collected from public. On 16th September 1986, Shri Rajiv Gandhi, the then prime minister inaugurated the hospital building. From 15th January 1987, the hospital’s entire operations were moved to the new building. It was named Indira Gandhi cooperative hospital in honour of the former Prime Minister of India Smt. Indira Gandhi. The society started the Indira Gandhi School of Nursing in 1996. In 2006, Indira Gandhi College of Nursing was also established.

The area of operation of the Society extends to the Revenue District of Ernakulam. This flagship 250 bedded multi-super specialty hospital is situated in Kadavanthra, Ernakulam. Built in an area spanning across two acres, it offers an array of facilities. IGCH nests 23 specialty departments headed by eminent doctors from the respective fields. Cardiology, Orthopaedics, Gynecology, Pediatric, ENT, Ophthalmology, Urology, General Medicine, Pulmonary Medicine, General Surgery, Radiology, Gastroenterology, Diabetology, Neurology, Anesthesia, Dermatology, Plastic Surgery, Ayurveda, Oncology, Dental Surgery, Physio-Therapy, Casualty, Psychiatry, Psychology are some of the main departments in the hospital. In addition to this, hospital is running a Dialysis unit, 24 x 7 Pharmacy, Laboratory with X ray and Scanning facilities, and also has Ambulance Service and Canteen Service.

Any member of the public (non-medical) with competency to enter into contracts, residing or exercising profession in the area of operation of the society and possess the other required qualifications prescribed is eligible for ordinary membership in the society. Bodies corporate and institutions functioning in the area of operation of the society or having financial, professional or business interests in the said area, can also subscribe for institutional shares. In addition to this, members of the profession of modern medicine residing or having professional interests in the area of operation of the society can subscribe for professional shares. During the study period from 2009-10 to 2018-19, the membership position showed only a little variations with a CAGR of 0.01 percent. A decline in share capital is seen after the year 2009-10 with a CAGR of -3.14%. From 2010-11 onwards, share capital is showing a constant trend. A considerable growth in share capital is not seen afterwards. This is because; the number of ordinary members as per the byelaw is capped at 2000 and it has not been increased by an amendment.

Performance Evaluation of IGCH

Total revenue of IGCH is showing an increasing trend over the years with a CAGR of 4.67%. Revenue from the IGCH can be classified into Hospital income, Sales and Miscellaneous income. Hospital income include Consultation fee collected, Nursing care charges, Professional charges, Registration fee, Room rent, Theatre charges etc. Sales category includes revenue generated from ECG, Pharmacy, Laboratory and X-ray. Major part of miscellaneous income is Tuition fee from Indira Gandhi Nursing College and Nursing School. In the initial year of the study period, 61.4 % of revenue was obtained from hospital income, 31.09 % from sales and only 7.34 % from miscellaneous income. Later, the establishment of nursing college and its successful operation resulted in a change in the proportion of revenue generated by each category. Tuition fee from nursing college and nursing school created a hike in income generation from miscellaneous income category and it is evident in the year 2018-19, with 74.5% revenue generated from miscellaneous income category out of the total revenue. Another major finding is the increase in revenue from ECG, Laboratory, Pharmacy and X-ray (comes under sales) from 2009-10 to 2018-19.

Gross profit and Net profit are the measure of profitability. From 2009-10 to 2011-12 gross profit is showing an increasing trend and growth index showed an increase from 100 to 115.9. Later gross profit is decreasing gradually and in 2018-19 it shows a deep decline with a growth index of 18.27. During the period the Compound Annual Growth Rate (CAGR) of Gross profit was -15.63 %. A huge increase in hospital expenses like outside consultant charges, doctor hiring charges, purchase of hospital equipments, ward expenses, minimum wages scheme implementation etc.

resulted in the reduction of gross profit. During the period the Compound Annual Growth Rate (CAGR) of Net profit was -7.7%. Over the years, Net profit showed maximum value in the year 2011-12. Afterwards, Net profit decreased gradually. Because of not capitalizing the establishment and construction expenses, IGCH faced a loss in the year 2017-18. Now IGCH is in the path of progress and it is evident in the Net profit in the year 2018-19.

The study further, examined the financial performance of IGCH by using following ratios:

- Liquidity ratio
- Activity ratios
- Leverage ratio
- Profitability ratios

Current Ratio

Table 1 illustrates the details of Financial Performance Evaluation of IGCH from 2009-10 to 2018-19. The current ratios from 2009-10 to 2017-18 was showing high values than the thumb rule (2:1). This was because of the idle maintenance of current assets. High liquidity is not good for the hospital. In the year 2018-19, the hospital showed a tendency to keep its current ratio 2:1, which shows the ability of the institution to meet its current liabilities from current assets.

Current Assets Turnover Ratio

Current assets turnover ratio is showing a decreasing trend till 2016-17. Because, about 10 crores of rupees (allocated as development fund in the statutory audit) was invested in Cochin service Cooperative Bank without using it for the developmental activities in the hospital by the previous management. A progress in the ratio can be seen in the year 2017-18.

Fixed Assets Turnover Ratio

The Fixed assets turnover ratio is showing a lower value since the income from sales (Laboratory, X-ray, pharmacy, ECG) is only taken for the analysis, which is very less compared to the total revenue. Hospital comes under service sector and earns more revenue from Consultation fees, Nursing care charges, Professional charges, Registration fee, Room rent, Theatre charges, Tuition fee etc. Less revenue is generated from X-ray, ECG, Pharmacy and Laboratory which comes under the Sales. The analysis of fixed assets turnover Ratio shows that over the years a higher ratio is shown particularly in the year 2017-18. Because, an increase of Rs.

Table 1
Ratio analysis of IGCH from 2009-10 to 2018-19

Year	Current Ratio	Current Assets Turnover Ratio	Fixed Assets Turnover Ratio	Debt Equity Ratio	Gross Profit Ratio	Net Profit Ratio
2009-10	3.33	0.41	0.52	0.072	0.52	0.16
2010-11	3.47	0.44	0.47	0.069	0.52	0.53
2011-12	4.25	0.36	0.61	0.062	0.52	0.83
2012-13	5.07	0.29	0.61	0.058	0.49	0.72
2013-14	6.62	0.19	0.55	0.056	0.44	0.62
2014-15	5.71	0.22	0.58	0.056	0.44	0.15
2015-16	5.71	0.21	0.55	0.055	0.43	0.14
2016-17	6.03	0.22	0.58	0.05	0.34	0.04
2017-18	3.82	0.34	0.62	0.063	0.37	-0.08
2018-19	2.84	0.26	0.43	0.077	0.21	0.19

Source: Annual reports of IGCH from 2009-10 to 2018-19

79.9 lakhs in revenue was occurred exclusively from sales (Laboratory, X-ray, pharmacy. ECG) when compared to previous year. Improvement in hospital equipments, laboratory, successful operation of 24x7 pharmacy with a facility of getting medicines even for the outsiders are the main reason behind this growth.

Debt-Equity Ratio

Debt-Equity ratio 1 means that creditors and stakeholders equally contribute to the assets of the business. Creditors usually like a low debt-equity ratio because a low ratio is the indication of greater protection to their funding. Here IGCH have low ratio in all the years because society has increasing trend in equity. Society has no much long term debt. A lower percentage means that IGCH is using less leverage and has a strong equity position.

Gross Profit Ratio

Gross profit ratio shows a decreasing trend over the years. In the initial period of study, IGCH showed a gross profit ratio of 0.52. It declined gradually and reached to 0.21 in 2018-19. This is because of the reduction in gross profit due to huge increase in hospital expenses like outside consultant charges, doctor hiring charges, purchase of hospital equipments, ward expenses, minimum wages scheme implementation etc.

Net Profit Ratio

Net profit ratio showed a higher value in the year 2011-12. Later the ratio showed a declining trend and a negative value were obtained in the year 2017-18. In the year 2017-18, hospital faced a net loss because of not capitalizing the establishment and construction expenses. Later in the year 2018-19, a positive value was shown in the net profit ratio.

Conclusion

The study which is to analyse the financial performance of Indira Gandhi Cooperative Hospital reveals that there exists an idle maintenance of current assets. IGCH is using less leverage and has a strong equity position. A reduction in gross profit is seen over the year due to huge increase in hospital expenses like outside consultant charges, doctor hiring charges, purchase of hospital equipments, ward expenses, minimum wages scheme implementation etc. Net profit indicates a declining trend and it tends to a negative value in the year 2017-18. This is because financial statements were prepared without capitalizing the establishment and construction expenses. Later in the year 2018-19, a positive value in the net profit ratio indicates the possibility of progress in the future. The analysis leads us to recommend to use the fund ideally invested in other cooperative banks and to reduce the Establishment & Contingencies of the Hospital. The authors are of the opinion that the present management is doing yeoman service to the society and this model has replicable value.

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Appendix A

Table A1

Trends in Membership, Share capital, Gross Profit and Net Profit of IGCH from 2009-10 to 2018-19.

Year	Membership	Share capital (in Rs.)	Gross Profit (Rs. in crores)	Net Profit (Rs. in crores)
2009-10	2350	2090500	3.07	0.96
2010-11	2341	1488950	3.33	1.17
2011-12	2354	1492650	3.55	1.94
2012-13	2353	1490150	3.39	1.67
2013-14	2353	1490150	2.50	1.32
2014-15	2353	1490150	2.63	0.34
2015-16	2356	1490900	2.54	0.31
2016-17	2357	1491150	1.93	0.11
2017-18	2349	1487800	2.61	-0.25
2018-19	2353	1519550	0.56	0.43
CAGR	0.0001	-3.14	-15.63	-7.7

Table A2

Revenue of IGCH from 2009-10 to 2018-19

(Rs. in crores)

Year	Sales	Hospital Income	Miscellaneous Income	Total Revenue
2009-10	1.99 (31.09)	3.93 (61.40)	0.47 (7.34)	6.40 (100)
2010-11	2.25 (32.37)	4.11 (59.13)	0.58 (8.34)	6.95 (100)
2011-12	2.33 (30.82)	4.54 (60.05)	0.70 (9.25)	7.56 (100)
2012-13	2.32 (30.93)	4.50 (60.00)	0.69 (9.2)	7.50 (100)
2013-14	2.13 (29.66)	3.53 (49.16)	1.52 (21.16)	7.18 (100)
2014-15	2.33 (32.63)	3.55 (49.72)	1.26 (17.64)	7.14 (100)
2015-16	2.26 (31.17)	3.62 (49.93)	1.36 (18.75)	7.25 (100)
2016-17	2.45 (31.82)	3.16 (41.03)	2.09 (27.14)	7.70 (100)
2017-18	3.25 (35.40)	3.85 (41.93)	2.08 (22.65)	9.18 (100)
2018-19	2.29 (22.67)	0.30 (2.97)	7.51 (74.35)	10.10 (100)
CAGR				4.67

A Study on Performance of Namakkal Urban Cooperative Bank (NUCB) and Rasipuram Urban Cooperative Bank (RUCB)

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Abstract

The Urban Cooperative Banking (UCB) system has come a long way since 1905 when the first UCB was started in Namakkal and followed by Rasipuram (1921). UCBs remain not for profit, but are owned and controlled by the members who use their services. This paper is an analysis of deposits status, Net profit, income, expenditure, NPA, reserve and surplus, loans outstanding of urban cooperative banks in Namakkal district with special reference to Rasipuram urban cooperative bank and Namakkal urban cooperative bank.

Introduction

The origin of the urban cooperative banking movement in India can be traced to the close of nineteenth century. Inspired by the success of the experiments related to the cooperative movement in Britain and the cooperative credit movement in Germany, such societies were set up in

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India. Urban cooperative banks are one of the vital segments of the banking industry of the country. Urban cooperative banks are providing credit facilities to the urban and semi-urban people. They mobilize deposits from the public and extend credit facilities. The banks are the best vehicles for providing services to the doorsteps of common men, unbanked people in small trades, artisans and persons belonging to middle income group for various purposes like housing, business, education, consumer and other non-farm sector activities.

Cooperative banks in India are more than 100 years old. They came into existence with the enactment of Cooperative Credit Societies Act, 1904. Since their inception, these banks and their affiliated agencies have been playing a significant role in the socio-economic development of the country.

Objective of the study

- To study the growth and status of UCBs in the Rasipuram and Namakkal.

Methodology

- Secondary data have been collected from the annual reports of Namakkal Urban Cooperative bank (NUCB) Rasipuram urban cooperative bank (RUCB). A period of five years starting from 2014-15 to 2018 - 19 has been covered.

Tools and Techniques

- The present study is mainly based on secondary sources drawn from Annual Reports in NUCB and RUCB, other web sites, papers, books and journals relating to cooperative banking sector. Data were collected for a period of five years from 2014-15 to 2018-19. For analysis of the data, various statistical tools (Mean, S.D, C.V) has been used to arrive at conclusion in a scientific way.

Profile of the Study Area

The Urban Cooperative Banking (UCB) system has come a long way since 1905 when the first UCB was started in Namakkal, Vellore followed by Rasipuram (1921) and Trichengode (1924) banks. UCBs remain not for profit, and are owned and controlled by the members who use their services.

In the Namakkal district urban cooperative bank is one of the best banks as compared to other cooperative banks. In the study area, only two selected banks are there, which are Rasipuram urban cooperative bank (RUCB) and Namakkal Urban Cooperative Bank (NUCB).

The Namakkal Cooperative Urban Bank (1905) has been functioning for the past 114 years. It runs six branches in the taluk and provides services to the public. In the year of 2018 – 2019, the number of members were 18830, while the share capital was Rs. 338.80 lakhs.

The Rasipuram Urban Cooperative Bank (1921) has been functioning for the past 98 years. It has four branches in our taluk and provides services to the public. In the year 2018 – 2019, the number members were 15435, while the share capital is 240.04 lakhs.

Limitation of the Study

This paper has considered only two variables to compare these two banks. On the basis of only few variables, it is not fair to judge the actual extent of performance, and to generalize the findings.

Review of Literature

(Dr.) E. Gnanasekaran, Dr. M. Anbalgan, N. Abdul Nazar (2012)[1] A study of the urban cooperative banks' success and growth in Vellore District – statistical analysis, the overall financial performance of the UCB's on all fronts — membership, share capital, deposits, loans and advances, profit and reserve funds, working capital, overdues, loans issued etc., are showing a significantly and undistrubing trend through the application of different statistical tools applied in the study. Therefore, it may be undoubtfuly concluded that the UCB's are marching on the road of progress. It is also clear that the UCB's are enjoying a predominant position in the banking industry.

Dr. K.V.S.N. Jawahar Babu, B. Muniraja (2012)[2] Presently, the UCBs occupy an important place in the Indian financial system. However, the UCB's strengthen their uniqueness and growth in the banking industry. UCB's sector sustenance of its growth is dependent on professionalization of its management, inculcating good corporate governance, technology absorption and scrupulous adherence to regulatory framework. Let us hope that the urban cooperative banking sector will learn from its past experiences and adjust to new realities since banking is a risky business. In future the urban cooperative banks are ready to face many challenges in the competitive environment from both public and private sector.

Kumar (2013)[3] in his study on a comparative study of NPA of old private sector banks and foreign banks has said that non-performing assets (NPAs) have become a nuisance and headache for the Indian banking sector for the past several years. One of the major issues challenging the performance of commercial banks in the late 90s the accumulation of huge non-performing assets (NPAs).

Satpal. A, (2014) [4] in his study “A Comparative study of non-performing Assets in Public and Private Sector Banks in the New Age of Technology” concluded that extent of NPA is comparatively very high in public sectors banks as compared to private banks.

Although various steps have been taken by government to reduce the NPAs but still a lot needs to be done to curb this problem. The NPA level of our banks is still high as compared to the foreign banks. It is not at all possible to have zero NPAs. The bank management should speed up the recovery process. The problem of recovery is not with small borrowers, but with large borrowers, and a strict policy should be followed for solving this problem.

Cathrine Divya and V. Chitra (2016) [5] in their study a study on non-performing assets of Nilgiri District Central Cooperative Bank concluded that the banks can avoid sanctioning loans to the non-creditworthy borrowers by adopting certain measures. The bankers can constantly monitor the borrowers in order to ensure that the amount sanctioned is utilized properly for the purpose to which it has been sanctioned. The banker should get both the formal and informal reports about the goodwill of the customer. If they had already proven as defaulters, then there is no question of sanctioning loan them. The banker also has to educate the borrowers regarding the effects and consequences of defaulting. By considering all the above factors, the banker can reduce the non-performing assets in a bank. The study is based on secondary data. The paper discusses the conceptual framework of NPA, and it also highlights the trends, status and impact of NPA on urban cooperative bank during the period of seven years i.e. from 2011 to 2017.

Results and Discussion

From the table 1 the funds of RUCB and NUCB are analysed, and their trends in members are also presented. The RUCB members are 20449 in 2014 – 2015, it gradually decreased to 15435 in 2018 – 2019, with a net decrease of 5014. The NUCB members were 23384 in 2014 – 2015, it this gradually decreased to 18830 in 2018 – 2019, with a net decrease of 4554. The average of members is 17296 and 23010, standard deviation is 3106.26 and 2141.08, co-efficient of variation is 17.9594 and 9.3050.

The Trends of Share Capital of RUCB and NUCB

Share capital is the money invested in the company by the shareholders. Share capital is a long-term source of finance. In return for their investment, shareholders gain a share of ownership of the company. This is a common method of finance for a start-up.

The table 2, analyses the funds of RUCB and NUCB and their

Table 1

The Trends of Members of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	20449	23384
2	2015-2016	21605	23793
3	2016-2017	14129	24270
4	2017-2018	14862	24773
5	2018-2019	15435	18830
Total		**86480**	**115050**
Mean		**17296**	**23010**
Standard deviation		**3106.26**	**2141.08**
Co-efficient of variation		**17.9594**	**9.3050**
Increased/Decreased		**(-) 5014**	**(-) 4554**

Source: RUCB and NUCB Annual Reports

trends in share capital. The RUCB share capital is 148.82 lakhs in 2014 – 2015; it has gradually increased to 240.04 lakhs in 2018 – 2019, with a net increase 91.22 lakhs. The NUCB share capital is 309.01 lakhs in 2014 – 2015, it has gradually increased to 338.80 lakhs in 2018 – 2019. The average of share capital is 190.834 lakhs and 323.936 lakhs, standard deviation is 63.57 lakhs and 11.296 lakhs, co-efficient of variation is 33.3117 lakhs and 3.4871 lakhs.

The Trends of Deposits of RUCB and NUCB

A deposit in financial terms means money held at a bank. A deposit is transaction involving a transfer of money to another party for safekeeping. However, a deposit can refer to a portion of money used as security held collateral for the delivery of goods.

Table 3 analyses the funds of RUCB and NUCB and their trends in deposits. The RUCB deposits is 10421.54 lakhs in 2014–15, it has gradually decreased to 7276.78 lakhs in 2018 – 2019, with a net decrease of 3144.76 lakhs. The NUCB deposits is 11055.92 lakhs in 2014 – 2015, it has gradually decreased to 6582.81 lakhs in 2018 – 2019, with a decrease of 4473.11 lakhs. The average of deposits is 9233.90 lakhs and 8254.95 lakhs, standard deviation is 1797.59 lakhs and 1516.67 lakhs, co-efficient of variation is 19.4673 lakhs and 18.3729 lakhs.

Table 2

The Trends of Share Capital of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	148.82	309.01
2	2015-2016	168.50	314.50
3	2016-2017	182.07	323.17
4	2017-2018	214.74	334.20
5	2018-2019	240.04	338.80
Total		**954.17**	**1619.68**
Mean		**190.834**	**323.936**
Standard deviation		**63.57**	**11.296**
Co-efficient of variation		**33.3117**	**3.4871**
Increased/Decreased		**91.22**	**29.79**

Source: RUCB AND NUCB Annual Reports

Table 3

The Trends of Deposits of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	10421.54	11055.92
2	2015-2016	9866.56	9122.02
3	2016-2017	10157.36	7974.25
4	2017-2018	8447.20	6539.75
5	2018-2019	7276.78	6582.81
Total		**46169.44**	**41274.75**
Mean		**9233.90**	**8254.95**
Standard deviation		**1797.59**	**1516.67**
Co-efficient of variation		**19.4673**	**18.3729**
Increased/Decreased		**(-) 3144.76**	**(-) 4473.11**

Source: RUCB AND NUCB Annual Reports

The Trends of Reserve and Surplus of RUCB and NUCB

Reserves are the profits that are earmarked for particular purpose that a company plans to utilize in near future, for example to buy fixed assets, to pay bonus, payment for any repairs, pay for any legal statement (or) payments of any debts and so on, whereas surplus reflects an amount of the retained earnings (or) say profit which is recorded on the balance sheet of an entity which happens to be good. This shows that an entity has excess of resources available with it which can be utilized in future like for example for the payment of dividends.

Table 4 analyzes the funds of RUCB and NUCB and their trends in reserve and surplus. The RUCB reserve and surplus is 750.03 lakhs in 2014 – 2015, it has gradually decreased to 622.47 lakhs in 2018 – 2019, with a net decrease of 127.56. The NUCB reserve and surplus is 609.33 lakhs in 2014 – 2015, it has gradually increased to 758.46 lakhs in 2018 – 2019, with a net increase of 149.13. The average of reserve and surplus is 691.506 lakhs and 684.448 lakhs, standard deviation is 58.77 lakhs and 52.79 lakhs, co-efficient of variation is 8.4988 lakhs and 7.7128 lakhs.

Table 5 analyzes the funds of RUCB and NUCB and their trends in net profit. The RUCB net profit is 21.09 lakhs in 2014 – 2015, it has gradually decreased to 7.82 lakhs in 2018 – 2019, with a net decrease of 13.27 lakhs.

Table 4

The Trends of Reserve and Surplus of RUCB and NUCB

(Rs. in lakhs**)**

Sl. No.	Year	RUCB	NUCB
1	2014-2015	750.03	609.33
2	2015-2016	759.75	647.53
3	2016-2017	699.77	684.40
4	2017-2018	625.51	722.52
5	2018-2019	622.47	758.46
Total		**3457.53**	**3422.24**
Mean		**691.506**	**684.448**
Standard deviation		**58.77**	**52.79**
Co-efficient of variation		**8.4988**	**7.7128**
Increased/Decreased		**(-) 127.56**	**149.13**

Source: RUCB AND NUCB Annual Reports

The NUCB net profit is 102.18 lakhs in 2014 – 2015, it has gradually decreased in 93.58 lakhs in 2018 – 2019, with a net decrease of 8.6 lakhs. The average of net profit is 19.672 lakhs and 100.7 lakhs, standard deviation is 6.68 lakhs and 3.60 lakhs, co-efficient of variation is 33.9569 lakhs and 3.5750 lakhs.

The Trends of Loans Outstanding of RUCB and NUCB

The outstanding principal balance is the original amount of the loans that still needs to be repaid. The outstanding interest balance refers to the amount of interest that has yet to be paid. The term outstanding loans can be referred to the outstanding principal unpaid interest (or) the total value of both.

Table 6 analyzes the funds of RUCB and NUCB and their trends in loans outstanding. The RUCB loans outstanding is 5889.06 lakhs in 2014 – 2015, it has gradually decreased to 5124.47 lakhs in 2018 – 2019, with a net decrease of 764.59 lakhs. The NUCB loans outstanding is 102.18 lakhs in 2014 – 2015, it has gradually decreased to 4042.68 lakhs in 2018 – 2019, with a net decrease of 1300.33 lakhs. The average of loans outstanding is 5117.716 lakhs and 3912.486 lakhs, standard deviation is 440.12 lakhs and 814.33 lakhs, co-efficient of variation is 8.5999 lakhs and 20.8136 lakhs.

Table 5
The Trends of Net Profit of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	21.09	102.18
2	2015-2016	23.98	102.72
3	2016-2017	24.70	103.34
4	2017-2018	20.77	101.68
5	2018-2019	7.82	93.58
Total		**98.36**	**503.5**
Mean		**19.672**	**100.7**
Standard deviation		**6.68**	**3.60**
Co-efficient of variation		**33.9569**	**3.5750**
Increased / Decreased		**(-) 13.27**	**(-) 8.6**

Source: RUCB AND NUCB Annual Reports

The Trends of Income of RUCB and NUCB

Income is money what an individual (or) business receives in exchange for providing labour, producing a good (or) service (or) through investing capital. Individuals most often earn income through wages (or) salary, businesses earn income from selling goods (or) services above their cost of production.

From the table 7 the funds of RUCB and NUCB and their trends in income are analysed. The RUCB income is 1458.41 lakhs in 2014 – 2015, it has gradually decreased to 862.08 lakhs in 2018 – 2019, with a net decrease of 596.33 lakhs. The NUCB income is 1472.29 lakhs in 2014 – 2015, it has gradually decreased to 776.80 lakhs in 2018 – 2019, with a net decrease of 695.49 lakhs. The average of income is 1176.828 lakhs and 1081.49 lakhs, standard deviation is 203.85 lakhs and 258.40 lakhs, co-efficient of variation is 17.3220 lakhs and 23.8930 lakhs.

The Trends of Expenditure of RUCB and NUCB

Spending money (or) incurring a liability for some benefit service (or) property received is called expenditure payment of rent, salary, purchase of goods, purchase of machinery, purchase of furniture etc. These are clearly examples of expenditure.

Table 6

The Trends of Loans Outstanding of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	5889.06	5343.01
2	2015-2016	5120.41	3818.70
3	2016-2017	4541.99	2889.55
4	2017-2018	4912.65	3468.49
5	2018-2019	5124.47	4042.68
Total		**25588.58**	**49562.43**
Mean		**5117.716**	**3912.486**
Standard deviation		**440.12**	**814.33**
Co-efficient of variation		**8.5999**	**20.8136**
Increased/Decreased		**(-) 764.59**	**(-) 1300.33**

Source: RUCB AND NUCB Annual Reports

Table-7

The Trends of Income of RUCB and NUCB

(Rs. In lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	1458.41	1472.29
2	2015-2016	1268.75	1270.97
3	2016-2017	1245.19	1028.65
4	2017-2018	1049.71	858.74
5	2018-2019	862.08	776.80
Total		**5884.14**	**5407.45**
Mean		**1176.828**	**1081.49**
Standard deviation		**203.85**	**258.40**
Co-efficient of variation		**17.3220**	**23.8930**
Increased/Decreased		**(-) 596.33**	**(-) 695.49**

Source: RUCB AND NUCB Annual Reports

Table 8

The Trends of Expenditure of RUCB and NUCB

(Rs. in lakhs)

Sl. No	Year	RUCB	NUCB
1	2014-2015	1437.32	1370.10
2	2015-2016	1247.78	1168.25
3	2016-2017	1220.49	925.31
4	2017-2018	1028.94	776.81
5	2018-2019	854.26	683.22
Total		**5785.79**	**4923.69**
Mean		**1157.158**	**984.74**
Standard deviation		**199.18**	**252.93**
Co-efficient of variation		**10.2994**	**25.6850**
Increased/Decreased		**(-) 583.06**	**(-) 686.88**

Source: RUCB AND NUCB Annual Reports

Table 8 analyzes the funds of RUCB and NUCB and their trends in expenditure. The RUCB expenditure is 1437.32 lakhs in 2014 – 2015, it has gradually decreased in 854.26 lakhs in 2018 – 2019, with a net decrease of 583.06 lakhs. The NUCB expenditure is 1370.10 lakhs in 2014 – 2015, it has gradually decreased to 683.22 lakhs in 2018 – 2019, with a net decrease of 686.88 lakhs. The average of expenditure is 1157.158 lakhs and 984.74 lakhs, standard deviation is 199.18 lakhs and 252.93 lakhs, co-efficient of variation is 10.2994 lakhs and 25.6850 lakhs.

The Trends of Net NPA of RUCB and NUCB

The RBI defines Net NPA as Gross NPA minus (i) to (iv) the following (i) Balance in interest suspense account + (ii) DICGC/ECGC claims received and held pending adjustment + (iii) part payment and kept in suspense account + (iv) total provisions held.

Table 9 analyzes the funds of RUCB and NUCB and their trends in Net NPA. The RUCB Net NPA is 137.67 lakhs in 2014 – 2015, it has gradually increased to 191.53 lakhs in 2018 – 2019, with a net increase of 53.06 lakhs. The NUCB net NPA is – 419.15 lakhs in 2014 – 2015, it has gradually increased to 639.45 lakhs in 2018 – 2019, with a net increase of 220.3 lakhs. The average of net NPA is 118.10 lakhs and – 540.262 lakhs, standard deviation is 48.62 lakhs and 87.38 lakhs, co-efficient of variation is 41.1685 lakhs and – 16.1736 lakhs.

The Trends of Net Advance of RUCB and NUCB

It means principal amount of the outstanding advances minus the accounts then on deposits in the accounts representing principal proceeds.

Table 10 analyzes the funds of RUCB and NUCB and their trends in net advance. The RUCB net advance is 5587.47 lakhs in 2014 – 2015, it has gradually increased in 4983.96 lakhs in 2018 – 2019, with a net increase of 603.51 lakhs. The NUCB net advance is 4672.22 lakhs in 2014 – 2015, it has gradually decreased to 3271 lakhs in 2018 – 2019, with a net decrease of 1401.22 lakhs. The average of net advance is 4893.90 lakhs and 3183.95 lakhs, standard deviation is 411.37 lakhs and 836.13 lakhs, co-efficient of variation is 8.4058 lakhs and 26.2608 lakhs.

The Trends of Gross NPA of RUCB and NUCB

Gross NPA is the total amount of outstanding NPAs in the borrowed account, excluding the interest receivable. As per RBI regulation, once the account is classified as NPA, interest cannot be debited to the NPA account and apportions it as profit.

Table 9

The Trends of Net NPA of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	137.67	- 419.15
2	2015-2016	54.67	- 485.66
3	2016-2017	75.17	- 516.22
4	2017-2018	131.45	- 640.83
5	2018-2019	191.53	- 639.45
Total		**590.49**	**- 2701.31**
Mean		**118.10**	**- 540.262**
Standard deviation		**48.62**	**87.38**
Co-efficient of variation		**41.1685**	**- 16.1736**
Increased/Decreased		**53.06**	**220.3**

Source: RUCB AND NUCB Annual Reports

Table 10

The Trends of Net Advance of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	5587.47	4672.22
2	2015-2016	4812.32	3106.94
3	2016-2017	4315.24	2165.82
4	2017-2018	4770.49	2703.78
5	2018-2019	4983.96	3271
Total		**24469.48**	**15919.76**
Mean		**4893.90**	**3183.95**
Standard deviation		**411.37**	**836.13**
Co-efficient of variation		**8.4058**	**26.2608**
Increased/Decreased		**603.51**	**(-) 1401.22**

Source: RUCB AND NUCB Annual Reports

Table 11 analyzes the funds of RUCB and NUCB and their trends in Gross NPA. The RUCB gross NPA is 439.26 lakhs in 2014 – 2015; it has gradually decreased to 332.04 lakhs in 2018 – 2019, with a net decrease of 107.22 lakhs. The NUCB gross advance is 251.64 lakhs in 2014 – 2015, it has gradually decreased to 132.23 lakhs in 2018 – 2019, with a net decrease of 119.41 lakhs. The average of gross NPA is 341.92 lakhs and 200.43 lakhs, standard deviation is 57.05 lakhs and 60.28 lakhs, co-efficient of variation is 16.6852 lakhs and 30.0753 lakhs.

Table 12 analyzes the funds of RUCB and NUCB and their trends in gross advance. The RUCB Gross Advance is 5889.06 lakhs in 2014 – 2015; it has gradually decreased to 5124.47 lakhs in 2018 – 2019, with a net decrease of 764.59 lakhs. The NUCB gross advance is 5343.01 lakhs in 2014 – 2015, it has gradually decreased to 4042.68 lakhs in 2018 – 2019, with a net decrease of 1300.33 lakhs. The average of gross NPA is 5117.72 lakhs and 3912.49 lakhs, standard deviation is 440.12 lakhs and 789.95 lakhs, co-efficient of variation is 8.5999 lakhs and 20.1905 lakhs.

The Trends of Standard Asset of RUCB and NUCB

It is one which does not disclose any problems and which does not carry more than normal risk attached to the business. Such an asset should not be an NPA.

Table 11

The Trends of Gross NPA of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	439.26	251.64
2	2015-2016	362.76	226.1
3	2016-2017	301.92	267.51
4	2017-2018	273.61	124.68
5	2018-2019	332.04	132.23
Total		**1709.59**	**1002.16**
Mean		**341.92**	**200.43**
Standard deviation		**57.05**	**60.28**
Co-efficient of variation		**16.6852**	**30.0753**
Increased/Decreased		**(-) 107.22**	**(-) 119.41**

Source: RUCB AND NUCB Annual Reports

Table 12
The Tends of Gross Advance of RUCB and NUCB

(Rs. in lakhs**)**

Sl. No.	Year	RUCB	NUCB
1	2014-2015	5889.06	5343.01
2	2015-2016	5120.41	3818.70
3	2016-2017	4541.99	2889.55
4	2017-2018	4912.65	3468.49
5	2018-2019	5124.47	4042.68
Total		**25588.58**	**49562.43**
Mean		**5117.716**	**3912.486**
Standard deviation		**440.12**	**814.33**
Co-efficient of variation		**8.5999**	**20.8136**
Increased/Decreased		**(-) 764.59**	**(-) 1300.33**

Source: RUCB AND NUCB Annual Reports

Table 13 analyzes the funds of RUCB and NUCB and their trends in standard asset. The RUCB standard asset is 5449.80 lakhs in 2014 – 2015; it has gradually decreased to 4792.40 lakhs in 2018 – 2019, with a net decrease of 657.4 lakhs. The NUCB Standard asset is 5091.37 lakhs in 2014 – 2015, it has gradually decreased to 3910.45 lakhs in 2018 – 2019, with a net decrease of 1180.92 lakhs. The average of standard asset is 4775.80 lakhs and 3724.05 lakhs, standard deviation is 390.02 lakhs and 793.97 lakhs, co-efficient of variation is 8.1666 lakhs and 21.3201 lakhs.

The Trends of Sub-standard Asset of RUCB and NUCB

Asset which has remained NPA for a period less than (or) equal to 12 months.

Table 14 analyzes the funds of RUCB and NUCB and their trends in sub-standard asset. The RUCB sub- standard asset is 301.73 lakhs in 2014 – 2015; it has gradually decreased to 158.78 lakhs in 2018 – 2019, with a net decrease of 142.95 lakhs. The NUCB sub-standard asset is 150.42 lakhs in 2014 – 2015, it has gradually decreased to 50.52 lakhs in 2018 – 2019, with a net decrease of 99.9 lakhs. The average of sub-standard asset is 203.54 lakhs and 81 lakhs, standard deviation is 68.19 lakhs and 43.68 lakhs, co-efficient of variation is 33.5020 lakhs and 53.9259 lakhs.

Table 13
The Trends of Standard Asset of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	5449.80	5091.37
2	2015-2016	4757.65	3592.60
3	2016-2017	4240.07	2682.04
4	2017-2018	4639.04	3343.81
5	2018-2019	4792.40	3910.45
Total		**23878.96**	**18620.27**
Mean		**4775.80**	**3724.05**
Standard deviation		**390.02**	**793.97**
Co-efficient of variation		**8.1666**	**21.3201**
Increased/Decreased		**(-) 657.4**	**(-) 1180.92**

Source: RUCB AND NUCB Annual Reports

The Trends of Doubtful Asset of RUCB and NUCB

A sub standard asset is an asset classified as an NPA for less than 12 months. A doubtful asset is an asset that has been non-performing for more than 12 months. Loss assets are loans with losses identified by the bank, auditor (or) inspector that need to be fully written off.

Table 15 analyzes the funds of RUCB and NUCB and their trends in doubtful asset. The RUCB Doubtful asset is 129.96 Lakhs in 2014 – 2015; it has gradually increased to 165.71 lakhs in 2018 – 2019, with a net increase of 35.75 lakhs. The NUCB doubtful asset is 99.02 lakhs in 2014 – 2015; it has gradually decreased to 79.89 lakhs in 2018 – 2019, with a net decrease of 19.43 lakhs. The average of doubtful asset is 130.81 lakhs and 105.27 lakhs, standard deviation is 28.93 lakhs and 19.31 lakhs, co-efficient of variation is 22.1160 lakhs and 18.3433 lakhs.

The Trends of Loss Asset of RUCB and NUCB

Loss asset are usually defined as loans advanced by banks / financial institutions which are doubtful and have been declared as not recoverable by the auditors of the bank (or) by the central bank auditors / inspectors

Table 14
The Trends of Sub-standard Asset of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	301.73	150.42
2	2015-2016	261.22	108.08
3	2016-2017	133.80	68.94
4	2017-2018	162.19	27.04
5	2018-2019	158.78	50.52
Total		**1017.72**	**405**
Mean		**203.54**	**81**
Standard deviation		**68.19**	**43.68**
Co-efficient of variation		**33.5020**	**53.9259**
Increased/Decreased		**(-) 142.95**	**(-) 99.9**

Source: RUCB AND NUCB Annual Reports

Table 15
The Trends of Doubtful Asset of RUCB and NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	129.96	99.02
2	2015-2016	93.97	115.83
3	2016-2017	160.55	136.38
4	2017-2018	103.87	95.52
5	2018-2019	165.71	79.59
Total		**654.06**	**526.34**
Mean		**130.81**	**105.27**
Standard deviation		**28.93**	**19.31**
Co-efficient of variation		**22.1160**	**18.3433**
Increased/Decreased		**35.75**	**(-) 19.43**

Source: RUCB AND NUCB Annual Reports

From the table 16, that the funds of RUCB and NUCB and their trends in loss asset are analyzed. The RUCB loss asset is 7.57 lakhs in 2014 – 2015; it has gradually decreased to 7.55 lakhs in 2018 – 2019, with a net decrease of 0.02 lakhs. The NUCB loss asset is 2.20 lakhs in 2014 – 2015; it has gradually decreased to 2.11 lakhs in 2018 – 2019, with a net decrease of 0.09 lakhs. The average of loss asset is 7.56 lakhs and 2.16 lakhs, standard deviation is 0.01 lakhs and 0.044 lakhs, co-efficient of variation is 0.1323 lakhs and 2.037 lakhs.

Table 16
The Trends of Loss Asset of RUCB AND NUCB

(Rs. in lakhs)

Sl. No.	Year	RUCB	NUCB
1	2014-2015	7.57	2.20
2	2015-2016	7.57	2.20
3	2016-2017	7.57	2.20
4	2017-2018	7.55	2.11
5	2018-2019	7.55	2.11
Total		**37.81**	**10.82**
Mean		**7.56**	**2.16**
Standard deviation		**0.01**	**0.044**
Co-efficient of variation		**0.1323**	**2.037**
Increased / Decreased		**(-) 0.02**	**(-) 0.09**

Source: RUCB AND NUCB Annual Reports

Conclusion

One can say that there is forever a measureless impact of the banking sector. It shows the overall performance of banking sector. It is always not possible to make the NPA allotment to nil. It only requires appropriate management, sufficient precautions and suitable follow up of loan settlement from customers. Therefore, the management of urban cooperative banks should pay particular awareness towards the NPA management and undertake proper steps to capture the formation of new NPAs, besides making recoveries in the existing NPAs. Timely action is necessary to guarantee potential growth of the banks.

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Restructuring of Cooperative Credit in Tamil Nadu—Need of the Hour

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Introduction

Cooperative Banks are financial institutions promoted by the government to enable service to their members. The members are real owners as well as customers; they can elect their leaders democratically and do all the betterment activities oversighted by the bureaucrats. The banks have to be registered under the respective State Cooperative Societies Act, regulated by the Reserve Bank of India and governed by the Banking Regulation Act of 1949.

Cooperative Movement in India

The passage of the Cooperative Credit Societies Act in 1904, and the enactment of a more comprehensive Cooperative Societies Act in 1912 marked the beginning of a government policy of active encouragement and promotion of cooperatives. The Maclagan Committee (1915) advocated that "there should be one cooperative for every village and every village should be covered by a cooperative". This thinking gained wide acceptance and was adopted as a policy by provincial governments and thereafter, "cooperation" became a provincial subject in 1919. Besides, respective State Governments enacted separate Cooperative Societies Acts for their states. The number of cooperative societies increased in all parts of the country within a short duration and this became the largest movement in the world.

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The main aim of cooperative credit societies was to protect the farmers who were indebted to the money lenders against usurious interest charged by providing agricultural credit to the needy people. Later, central cooperative banks were established to regulate, monitor and guide the function of primary cooperative credit societies, thus making a three tier structure of cooperative credit and this was followed all over the country. In the meantime, the cooperative credit delivery system in the country was not stable, notably the rise and fall of functioning of the cooperative credit delivery system. The Task Force cannot but agree with Lord Tennyson that "the old order changed yielding place to the new, lest one good custom should corrupt the world". State partnership was introduced by the All India Rural Credit Survey (1954) to enhance the borrowing powers of cooperatives by increasing their capital base. This initiative has, over time, been the single most important cause for bureaucratisation of the system and for the intrusive and pervasive control by the state governments over all aspects of cooperative functioning. As stated by the Rangarajan Committee on Financial Inclusion (2008) the 1990s saw "an increasing realization of the disruptive affects of intrusive state patronage and politicisation of the cooperatives, especially financial cooperatives *that* resulted in poor governance and management and the consequent impairment of their financial health." The system became borrower-driven, and the concept of mutuality and self-reliance was lost. To overcome the issues related to cooperatives several expert committees were appointed by governments and gave a lot of suggestions.

Present Structure of Cooperative Credit in India

The short-term cooperative credit structure (STCCS) has a federal three-tier structure with PACS being the grass root level institutions, the Central Banks at the district level (DCCBs) and the apex bank at the state level (SCB). The three-tier structure of cooperatives is the model that has been adopted across the country, with some exceptions of states in the North-East and other smaller regions. As per the records of the National Federation of State Cooperative Banks (NAFSCOB), 19 states in the country have a three-tier structure while the other 10 states have a two tier structure. Historically there have been valid reasons for the cooperatives to have a three-tier structure. However, in the changing circumstances, there have been significant structural changes in the rural cooperative banking structure worldwide, and it is an appropriate time to review the structure with a view to provide better services to the members of the primary cooperatives.

At present, there are nearly 97,961 Primary Agricultural Cooperative Credit Societies (PACS), 363 District Central Cooperative Banks (DCCB) with 13,233 branches and 32 State Cooperative Banks (SCB) with 992 branches. On an average, there is one PACS for every 8 villages. These societies have a total membership of more than 120 million rural people, making it one of the largest rural financial systems in the world. More than 50% of the rural credit is disbursed by the cooperative banks and Regional Rural Banks.

Emphasized for Restructuring Cooperative Bank

The Hazari Committee (1975) recommended integration of short term and long term structures. Prof. A. Vaithiyanathan Committee (2004) recommended that a superstructure can only be as strong as the base. Recapitalisation and restructuring the intermediate and upper tiers of the cooperative credit structure, without addressing the infirmities at the primary level, would defeat the objectives of reviving and revitalizing the CCS. Primary Agricultural Cooperative Societies (PACS) are the foundation of the short-term cooperative credit structure and much of the weakness of the upper tiers is because of their poor financial health and deficiencies in the way they are organized and managed.

Prakash Bakshi committee (2013) recommends that the Cooperative Societies Act has provisions for amalgamation of a CCB with two or more such CCBs and assets and liabilities can be transferred from the existing unit to the amalgamated bank. PACS will also have to undergo a structural transformation while working as BCs and aim at providing multiple financial and non-financial services to member farmers and other rural population. These would require various policy measures and initiatives to be undertaken, not only by the STCCS, but also by the concerned state governments, RBI, Central Government and others.

Pioneering Integration of Cooperative Banks – International Scenario

Germany

The German Cooperative Network which represents around 18.3 million members has adopted a different path. While the diversity of more than 1,000 local banks was maintained, the central banks consolidated them over a period of time. From about 52 central institutions in 1904, they were gradually reduced through consolidation to 4 in 1990, 2 in 2001 and to one central institution in 2016. The logic of consolidation was indicated as "pooling of strategic competence; pooling of operative strength; continuing development of processes and structures which are network oriented, transparent and efficient; realization of revenues and cost synergies; and more efficient allocation of available resources".

Canada

For the Desjardins Movement in Quebec, Canada, the consolidation exercise has been slow and gradual. The movement had more than 1,200 caisse populaires (primary cooperatives) in 1998 and these have been through a process of amalgamation and restructuring reduced to a little over 300 cooperatives. The middle tier which had 11 regional federations at the turn of the century has been disbanded and the movement is now operating as a two-tier structure.

Netherlands

Rabobank restructured its banking structure into a single tier starting January 1, 2016. The bank operated on a two-tier structure, with primaries federating into a national structure. The group had 106 independent primary banks – all licensed by the Central Bank in Netherlands. The federal unit – Rabobank Nederland – worked as a service center for the independent banks being responsible for supervision and other support services.

Pioneering Restructuring of Cooperative Banks – Indian Scenario

Jharkhand State

The Government of Jharkhand has taken a decision to have two tier cooperative credit structures. Under this, all eight cooperative banks and their branches will merge and become branches of JSCB. There will be one management at JSCB. All affiliated LAMPS/PACS will act as service providers.

Merging of Bidar DCCB

The aim should be the satisfaction of the ultimate borrowers at minimum cost. Cost reduction per unit of business can be achieved by integration of short- and long-term wings, rationalisation of cooperative structure by removing one of the tiers, exploiting scope and scale economies available in rural lending. The limitations of the cooperative system such as inability to offer all types of financial services that commercial banks/RRBs do such as money transfer, restricted area of operation and activities, inability to cater to credit needs for all purposes from a single outlet, low level of professionalisation, etc. need to be overcome. Real success comes when cooperatives take full advantage of their ability to have close interface with the clientele.

Jammu and Kashmir

The present 3-tier structure of banks will be restructured to 2-tier by merging the District Central Cooperative Banks and SCARD Bank and J&K State Cooperative Bank. This bank will be linked to panchayats and a professional board will manage the bank till it is put on track. Government of J&K is considering consolidation and merger of all Cooperative Banks of the union territory. Merger of cooperative banks is highly appreciable as merger will not only salvage these banks from insolvency but also save them from falling prey to local politics in future.

Kerala Model

The Reserve Bank of India has given its final approval for the formation of 'Kerala Bank', which involves the merger of 13 District Cooperative Banks (DCBs) with Kerala State Cooperative Bank. Eventually, when the completion of the structural change happens, it is expected that Kerala will have a people owned and people managed modern bank that has a significant market share in the entire banking operation. This bank will be non-exploitative, customer friendly, transparent and fair. As such the cooperative system has about 30% market share in the deposits and loans, but this may significantly increase and hopefully would add other sophisticated financial services to the benefit of the members.

Punjab State

Punjab Government demanded an early merger of District Central Cooperative Banks into Punjab State Cooperative Bank with a single focus of the restructuring of cooperative banking apparatus in the state. To take the welfare steps for the farming community in Punjab there was a dire need of restructuring the Cooperative Banking System for providing cooperative loans to the farmers and the Union Finance Ministry must take up this issue with RBI on a priority basis for early merger of these banks. The much-needed merger of DCCBs into PSCCB would help provide services on a much better scale that would add to the prospectus for the welfare of the state farming community.

Uttar Pradesh

The move to amalgamate DCCBs in Uttar Pradesh into one single entity is taking a positive shape. The merger proposal of 50 District Central Cooperative Banks and a State Cooperative Bank is ready and will soon be sent to the government for approval. With the merger, the 1200 branches will come under one umbrella. The UP State Cooperative Bank is having over 27 branches in the state. About 7500 active PACCS (PACS) operating in rural areas of the state will work as extension counters of the new bank.

Cooperative Credit Structure in Tamil Nadu

Tamil Nadu is the first state in cooperative movement which plays an important role in the socio-economic development of India. The first Cooperative Credit Society in India was started in Thirur, Thiruvallur District, in 1904. The short-term cooperative credit structure, a federal structure, consists of Primary Agricultural Cooperative Credit Societies at the village level, Central Cooperative Banks at the Intermediate level and Tamil Nadu State Apex Cooperative Bank at the State level with 45 branches. These cooperative institutions fulfill the credit requirement of the agrarian population and immediate credit needs of people, especially in rural areas. At present, there are 4,450 Primary Agricultural Cooperative Credit Societies and 23 Central Cooperative Banks functioning in the State. All the 23 Central Cooperative Banks are functioning in profit in the current year profit and all the banks have been granted banking licenses by the Reserve Bank of India, providing banking services to their customers with CBS.

Structural Reforms need for Tamil Nadu

The present three tier structures has to be recapitalized into a two tier model i.e. All the Primary Agricultural Cooperative Societies at bottom level and the Tamil Nadu State Apex Cooperative bank at top level in order to provide services to customers as well as their real owners i.e. members. The primary cooperative societies' members are the real owners and pillars of the cooperative credit structure. The intermediate level district cooperative banks have to be merged with the Tamil Nadu State Apex Cooperative Bank as branches of TNSCB.

Advantages of Mergers of Banks

Large Scale Operation:

The first and foremost advantage of merging banks is ensuring the large scale operation when compared to previous position. The quantum of deposit and lending of other non-interest income to the bank is enormous. The RBI guidelines are very stringent in banking operations. So, in order to make strong financial base, merging is necessary.

Overheads Expenses Minimized

The overhead expenditure like paying rent for bank premises (particularly as most of the DCCB branches run on rented buildings) will be minimized. This should be followed by cutting down the expenditure on stationeries and printing, electricity, depreciation on fixed assets in the new model of a two tier credit structure.

NPA Management

Better NPA management will be ensured. All the banks nowadays have complied with NPA. The biggest issue faced by the banks is to face NPA and minimize its percentage.

Better Asset Liabilities Management:

The banks should maintain better Asset Liabilities Management (ALM) practices to avoid mismatches and this is also mandatory as per the regulatory guidelines. Due to ALM mismatches, liquidity as well as profitability issues will arise, resulting in short term borrowings at higher rate of interest that affect the profitability of the banks.

Implementation of Basel III accord:

Bank for International Settlements comes up with a lot of measures to be followed by all the banks to avoid financial risks, particularly credit, market and operational risks. These are not within the control of banks. On a yearly basis, these risks have shown an increasing trend. Therefore, to ensure uniformity in implementation of risk management practices to comply with Basel III accord, the cooperative banks need to adopt these norms. The deadline fixed for complying with minimum requirements has been deferred to 1 January 2023. So, this is the right time to amalgamate these banks.

Better Customer Service with IT enabled

Already, the state apex bank is providing latest IT enabled banking services like CBS and ATM/Rupay Debit Cards. These cards can be used anywhere in the country on par with that of other commercial banks. The bank is also equipped with facilities for transferring funds using RTGS, NEFT, IMPS, and Mobile apps, SMS alert facilities have been provided to the customers. But the DCCBs are far behind in these facilities. Therefore, merging of these banks will enable all the customers of the banks to get latest IT enabled banking services.

Uniformity in implementation of Best Banking Practices, system and procedures

The DCCBs functioning in the states are not following uniform systems and procedures, particularly organizational structure, HR practices, and so on. These anomalies lead to difference in business performance results. On account of a merger, all branches of the acquiring bank will implement the same systems and procedures and thereby benefits will accrue. Implementation of revised and new systems and procedures is possible across all branches resulting in good results. Implementation of best banking practices is also possible at all branches in a merged environment due to size.

Increase in Productivity Levels

The DCCB employees will feel proud to work in a larger bank and will strive to maintain the good will and brand image through cooperative work culture of the organization, ultimately resulting in increase in the productivity level of the bank.

Conclusion

The advantages of merging smaller banks to form larger entities has been proved in the case of the Tamil Nadu Grama Bank and the Kerala Cooperative Bank which have recently got approval from the RBI. This has also been the rationale behind the merger of 12 commercial banks into four banks. This is the appropriate time for merging the cooperative banks, especially the upper and middle level cooperative banks, into one with the name of the 'Tamil Nadu Cooperative Bank', to provide best, innovative and cost-effective banking facilities to customers and enable them to compete with other commercial banks within their localities.

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Cooperatives and Big Data

Dr. HEMANT GARG*

Abstract

The purpose of this research is to describe the "Big Data" phenomenon, explain its characteristics, identify how Big Data is used by cooperatives to achieve their goals, and to highlight its significance for cooperatives. This has been done by examining various research resources. The large companies like Software AG, Oracle Corporation, IBM, Microsoft, SAP, EMC, HP and Dell have spent billions of dollars on software firms specializing in data management and analytics as Big Data is being used in governments, international development, manufacturing, healthcare, media, education, information technology and internet of things to name a few. It has been concluded that proper utilization of Big Data has a key role in the growth of cooperatives.

1. Introduction to Big Data

Data has been defined as "the quantities, characters, or symbols on which operations are performed by a computer, which may be stored and transmitted in the form of electrical signals and recorded on magnetic, optical, or mechanical recording media." (oxforddictionaries, 2018) One form of data is known as the Big Data, which has been defined as "data sets, typically consisting of billions or trillions of records, that are so vast and complex that they require new and powerful computational resources to process". (dictionary.com, 2018)

Big data usually includes data sets with sizes beyond the ability of commonly used software tools to capture, curate, manage, and process

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data within a tolerable elapsed time. (Snijders, et al., 2012) Additionally, Big Data impliedly represents the Information assets characterized by such a High Volume, Velocity and Variety to require specific Technology and Analytical Methods for its transformation into Value. (De Mauro, et al., 2016)

Some of the examples of Big Data include stock exchanges, social media, jet engines, data mining of farmers. For instance, the New York Stock Exchange generates about one terabyte of new trade data per day. Social Media networks such as Facebook generates around 500+ terabytes of new data every day. This data is mainly generated in terms of photo and video uploads, message exchanges, putting comments etc. Similarly, a single Jet engine can generate *10+terabytes* of data in *30 minutes* of a flight time. With many thousand flights per day, generation of data reaches upto many *Petabytes*.

2. Categories of 'Big Data'

2.1 *Structured*

Any data that can be put away, got to and handled as settled arrangement is called as an 'structured' data.

2.2 *Unstructured*

Any data with obscure shape or the structure is called unstructured data. Notwithstanding the size being immense, un-structured data represents numerous difficulties as far as its handling is concerned. Ordinary worth of unstructured data is, a data source containing a blend of straightforward content documents, pictures, recordings and so forth. Presently, big corporates have abundance of data and information with them, however sadly they don't know how to determine an incentive out of it, since this information is in its crude shape or unstructured configuration.

2.3 *Semi-structured*

Semi-organized information can contain both the types of information. Case of semi-organized information is data contained in an XML document.

3. Characteristics Of 'Big Data'

3.1 *Volume*

The term 'Big Data' itself is identified with a size which is gigantic. Size of information assumes exceptionally vital part in deciding an incentive out of information. Likewise, regardless of whether a specific information can really be considered as a Big Data or not, is endless supply of information.

Consequently, volume should be considered as a key characteristic while managing Big Data.

3.2 *Variety*

Variety alludes to heterogeneous sources and the idea of data. Amid prior days, spreadsheets and databases were deemed as the main sources of data. Presently, data as messages, photographs, recordings, observing gadgets, PDFs, sound, and so on are likewise being considered in mainstream applications. This variety of unstructured information represents certain issues for capacity, mining and investigating information.

3.3 *Velocity*

The term Velocity with reference to data is used to determine the pace at which data is produced and handled to meet the requests, which decides genuine potential in the data. Big Data Velocity manages the speed at which information streams in from sources like business forms, application logs, systems and online networking locales, sensors, mobile gadgets, and so forth.

3.4 *Variability*

Variability alludes to the irregularity which can appear in the data now and again, consequently hampering the way toward having the capacity to deal with and deal with the information successfully.

4. Types of Big Data

4.1 *Transactional big data*

The purchaser part of clients produces transactional Big Data. When buyers buy products online, a huge quantity of transactional data is generated. A stand-out amongst the most regularly utilized sorts of huge information is sourced incompletely from online requests created by clients. As clients shop on the web, their exchanging conduct is recorded creating value-based enormous information, including value, item classification, shading, numbers, purchasing cycle, area, etc.

4.2 *Communication big data*

Correspondence with firms when acquiring through intuitive sites, text, and phone lines produce unstructured correspondence information. What's more, client item audits or new item trial reports are additional segments of the correspondence information.

Group communication produces communication Big Data which is non-value-based. Clients utilize virtual social stages that are either given or worked by firms. The data created from client aggregate interchanges conceals piles of significant worth. Their most loved subjects, enthusiastic sentiments, or attributes could be reflected by such type of information.

4.3 *Participative big data*

The designer part of clients produces participative Big Data. This kind of data alludes to the information created by clients who effectively take an interest in item or administration advancement utilizing their insight, assets, and aptitude. Participative Big Data is situated toward the reset up of particular items or new administrations.

4.4 *Transboundary big data*

The intermediary customer role generates transboundary Big Data. Transboundary Big Data alludes to information produced by clients who share distinctive administration biological communities and encourage the fare and import of learning crosswise over various ecosystem boundaries.

Customers go about as delegates on the grounds that the Internet fundamentally diminishes exchanging cost and looking expense for clients and empowers them to attempt distinctive brands, items, or buys on various online stages. This transboundary client conduct encourages learning partaking in various biological communities.

5. Uses of Big Data by Cooperatives

In any case, Big Data can have significantly more genuine results than that anticipated. Big Data touches all zones of life. At the turn of the twentieth century new streams of data through stations, for example, the broadcast and phone upheld large scale manufacturing. Today the accessibility of bottomless information empowers organizations to take into account little specialty advertises anyplace on the planet. Economic Production was once a feature of industrial facility, where directors pored over each machine and procedure to make it more effective. Presently statisticians mine the data yield of the business for new ideas.

Artificial Intelligence (AI), portable devices, social media and Internet of Things (IoT) are driving information of multifaceted nature. Big Data analytics is the utilization of cutting edge systematic procedures against expansive, assorted informational collections that incorporate organized, semi-organized and unstructured information, from various sources, and in various sizes from terabytes to zettabytes.

Big Data is a term connected to informational collections whose size or sort is beyond the capacity of conventional social databases to catch, oversee, and process the information with low-dormancy.

What's more, it has at least one of the accompanying attributes – high volume, high speed, or high assortment. Big Data originates from sensors, gadgets, video/sound, systems, log documents, value-based applications, web, and online networking - quite a bit of it produced continuously and in an extensive scale.

Breaking down huge information permits examiners, scientists, and business clients to settle on better and speedier choices utilizing information that was already blocked off or unusable. Utilizing progressed examination systems, for example, content investigation, machine learning, prescient examination, information mining, measurements, and characteristic dialect handling, organizations can break down already undiscovered information sources free or together with their current undertaking information to increase new bits of knowledge bringing about better and quicker choices.

5.1 *Smart agriculture with SMAG*

SMAG designs and publishes agreo and atland, online software for managing agri-data adapted to regulatory and environmental issues in crop growing, livestock breeding, wine-growing and agro-industry. By paving the way for the "agricultural cloud", SMAG supports all the players in the agricultural sector both nationally and internationally, helping them to implement and integrate agricultural information systems with a view to optimising the technical and economic management and the traceability of their production.[1]

5.2 *Scigility*

Scigility is the leading Swiss-based big data specialist solution provider offering a combination of big data engineering, data science, training services and support. In addition, it provides legal and governance services to ensure compliance with applicable data protection and privacy laws.

Scigility helps organisations to identify use cases to address their big data challenges and more importantly realise value from it. This encompasses end-to-end consultancy from data strategy, technology enablement and application of data science techniques.[2]

They provide services in Strategy & Design, Development, Training & Support, Legal & Governance.

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1 http://www.invivo-group.com/en/big-data-and-agriculture

2 https://www.linkedin.com/company/scigility

5.3 *Science*

The Large Hadron Collider experiments represent about 150 million sensors delivering data 40 million times per second. There are nearly 600 million collisions per second. After filtering and refraining from recording more than 99.99995% of these streams, there are 100 collisions of interest per second.[3]

As a result, only working with less than 0.001% of the sensor stream data, the data flown from all four LHC experiments represents 25 petabytes annual rate before replication (as of 2012). This becomes nearly 200 petabytes after replication.

If all sensor data were recorded in LHC, the data flow would be extremely hard to work with. The data flow would exceed 150 million petabytes annual rate, or nearly 500 exabytes per day, before replication. To put the number in perspective, this is equivalent to 500 quintillion (5×10^{20}) bytes per day, almost 200 times more than all the other sources combined in the world.

5.4 *Technology*

eBay.com uses two data warehouses at 7.5 petabytes and 40PB as well as a 40PB Hadoop cluster for search, consumer recommendations, and merchandising.[4] Similarly, Amazon.com handles millions of back-end operations every day, as well as queries from more than half a million third-party sellers. The core technology that keeps Amazon running is Linux-based and as of 2005 they had the world's three largest Linux databases, with capacities of 7.8 TB, 18.5 TB, and 24.7 TB.[5]

Facebook handles 50 billion photos from its user base.[6] Worldwide, there are over 2.13 billion monthly active Facebook users for Q4 2017.[7]

Google Search Statistics. Google now processes over 40,000 search queries every second on average (visualize them here), which translates to over 3.5 billion searches per day and 1.2 trillion searches per year worldwide.[8]

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5.5 *Cambridge Analytica (CA)*

It is a British political consulting firm which combines data mining, data brokerage, and data analysis with strategic communication for the electoral process. CA collects data on voters using sources such as demographics, consumer behaviour, internet activity, and other public and private sources. According to The Guardian, CA is using psychological data derived from millions of Facebook users, largely without users' permission or knowledge.[9] Another source of information was the "Cruz Crew" mobile app that tracked physical movements and contacts and according to the Associates Press, invaded personal data more than any other app of presidential candidates.[10]

> "Today in the United States we have somewhere close to four or five thousand data points on every individual. So we model the personality of every adult across the United States, some 230 million people."
>
> —*Alexander Nix, chief executive of Cambridge Analytica, October 2016.*[11]

The data about the 50 million Facebook users were acquired from 270,000 Facebook users who shared the data with the app "this is your digital life". By giving this third-party app permission to acquire their data, back in 2015, this also gave the app information about the friend network of those people, which resulted in information about 50 million users. The app developer breached Facebook's terms of service by giving the data to Cambridge Analytica.[12]

6. Tools employed by Cooperatives to process Big Data

A large amount of information should be processed by methods for more intricate techniques than the standard factual methodology. Tragically, a particular skill about these techniques isn't promptly available.

Big Data explanatory strategies have been singled out by Manyika

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et al. (2011) and Chen et al. (2012). They have come up with a rundown of the most normal methodology that incorporates: bunch examination, hereditary calculations, characteristic dialect preparing, machine learning, neural systems, prescient displaying, relapse models, informal organization investigation, supposition examination, flag handling and information perception.

As indicated by Chen et al. (2012), given the present, organized information driven business condition, organizations ought to put resources into interdisciplinary business insight and examination training, in order to cover "basic logical and IT abilities, business and area learning, and relational abilities". In the meantime, a social change ought to go with this procedure, including the organization's whole populace, asking its individuals to "proficiently oversee information legitimately and fuse them into basic leadership forms" (Buhl et al., 2013).

New expert aptitudes could get from such inventive instruction that would help in preparing specialists to acclimatize different orders (Mayer-Schönberger and Cukier, 2013). These information researchers can be viewed as half and half masters ready to oversee both innovative learning and scholarly research (Davenport and Patil, 2012). There is a hole in the instruction for this expert profile (Manyika et al., 2011), and new beneficial learning subjects and strategies are required for showing future information pros.

Moreover, it must be noticed that Big Data advancement has turned the strategy for basic leadership from a static procedure into a dynamic one; without a doubt, the examination of the connections among the numerous occasions got from data information has supplanted the quest for customary, sensible associations. It is sensible to assume that the outcome of the utilization of Big Data to organizations, research and college foundations could alter both the basic leadership rules (McAfee et al., 2012) and the logical technique (Anderson, 2007).

Finding out about the qualities and shortcomings of Big Data strategies' application speaks to a certain asset for open and private establishments while doing key basic leadership forms (Boyd and Crawford, 2012). Unmistakably, the understanding into the domain of future conceivable outcomes progressed by Big Data applications ought to be deliberately checked, by decision of their high level of multifaceted nature with the most extreme cognisance.

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Innovative Leadership: The New Domain of Business

Dr. ANANTA KUMAR ROY*

Relevance

Today, the perception of Executive Leadership is changing as corporate structure evolves and innovative that thinking gains predominance. A study reveals that 78% of future business leaders believe innovation is necessary for business growth. A leader is a goal setter and achiever. A great leader taps into the emotions of its employees. A great leader has a vision. He can see into the future. As well stated by David Horth and Dan Buchner ;" Innovative Leadership is the use of innovative thinking and the leadership that supports it- is the key to finding what's new, what's better ,and what's next." In other words, innovative leadership is the ability to both think and influence to create "new and better ideas" to move towards positive results. Innovative leadership describes a leadership style that helps to stimulate and capitalise employee's creative potential. Innovative Leadership encompasses a variety of different activities, actions and behaviours that interact to produce an outcome. We need creative leaders who can navigate complex situations.

"Corona virus has plunged world into recession" and brought the global economy to a standstill that will be 'way worse' than the global financial crisis a decade ago, the Head of IMF said calling it "humanity's darkest hour" (The recent statement of Kristaline Georgieva, the MD of IMF on April5, 2020). As reinforced by our Hon. Prime Minister Narendra Modiji in his statement (TOI Dated April 20, 2020), the novel corona virus outbreak has changed the contours of professional life and the need of the hour is to

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think of business and life style models that are easily adaptable. Today, the world is in pursuit of new business models with innovative zeal and zest while providing a lead in providing a new work culture. This tantamount to a clarion call to the strategists on the ways how to manage the economic downturn and roll back a period of normalcy through effective management control system through innovative leadership. It is well said; "Novel Problems Demand Novel Principles". To become a great innovation manager, you actually need to be much more than just an enabler. Innovation in the new economy is about much more than inventing. Change management is the essence of leadership to make a chain break as a carrier to arrest the economy from endemic economic slowdown.

Activiser

Innovative leaders are creative visionaries who have big ideas and most importantly, can motivate people around them to turn these ideas into reality. Creative genius is less important in an innovative leader than is the ability to form a vision around an idea or set of ideas. Innovative leadership is the ability to both think and influence others to create "new and better ideas" to move towards positive results. Innovative leadership describes a leadership style that helps to stimulate and capitalise employee's creative potential. Every successful business innovation starts with idea generation capitalising the following components; Innovative Strategy, Innovation Culture, Incremental innovation, continual improvement and radical innovations. Things happen fast when we are not paying attention. That is the main reason how corona virus transformed itself from endemic to pandemic. So, innovation leadership is to nudge yourself to envision better way to bring people together as a team through active collaboration and cooperation with the supply chain stakeholders.

Innovation management is a combination of management of innovation processes, and change management. It refers to products, processes, marketing and organisational innovation. It is a philosophy and technique that combines different leadership styles to influence employees to produce creative ideas, products and services. As an approach to organisational development, innovative leadership can support achievement of the mission or vision of an organisation or group. (en. Wikipedia. Org.wiki/ innovation /leadership).

However, managers must, never sacrifice quality, and should meet the needs of the market. Innovative leaders have a vision of the future, looking not just for immediate success but also at long-term goals. They establish a trust in their employees, which will be reflected back to themselves. They always think of alternative ways to conduct the business.

This may be digital, virtual or physical so as to follow the technique of Just-In-Time Delivery.

Promoter

- Innovative leadership promotes creativity through defined objectives and limitations
- Innovative Leadership stimulates intrinsic motivation
- Innovative leadership acts as "Chief Inspiration Officer"
- Enabler of a Company's innovative culture
- Innovation Management requires at all levels – a rethinking
- Many organisations would like their leaders to create more innovative teams.

Critical Leadership Skills

It is worth quoting the six innovative Leadership skills everybody needs to master as suggested by Robert Trucker (forbes.com.sites) as follows:

- Continuously embrace opportunity mode of thinking (Alert to possibilities where others see problems, you see potential)
- Adapt to Assaulting Assumptions (Help people blast away at assumptions" perceptual Shortcuts')
- Develop Empathy for the End Customer (Bottom of the Pyramid)
- Proactively Think Ahead of the Curve (Out of the box)
- Continuously Fortify Your Idea Factory (Think Tank)
- Adept in Building the Buy-in. (Selling New Ideas)

David and Dan viewed innovative leadership which has two vital components

1. An innovative approach to leadership & 2. Leadership for innovation. It is well said that management innovation can create enduring success. The next question arises how to become a management Innovator? Few Issues:
   - Commit to a big Problem
   - Search for New Principles

- Deconstruct your management orthodoxies
- Exploit the power of analogy(servant leadership)
- Get the Rubber on the board

Ten Distinctive Behaviours of Innovative Leaders (In Descending Order)

- Display excellent strategic vision
- Have a strong customer focus
- Create a climate of reciprocal trust
- Display fearless loyalty to doing what's right for the organisation and the customer.
- Put their faith in a culture that magnifies upward communication
- Are persuasive
- Excel at setting stretch goals
- Emphasis Speed
- Are candid in their communication.
- Inspire and Motivate through action

(Research; 10 Traits & innovative Leaders by Jack Zenger & Joseph Folkman) Harvard Business Review hbr.org/2014/ research -10 – traits of innovative leaders)

Collaboration and Cooperation

With the rapid evolution of technology and the progressive shifts in customer behaviours and expectations, the topic of innovation is growing importance. Cooperatives being a dynamic sector have a key role to play using their innovation capacities. Cooperative leadership requires a visible commitment to community. Cooperative leaders embody a fundamentally different perspective by placing their energy and ability in re-building cooperative enterprises. As well stated by COPAC (Transforming our world : A Cooperative 2030); cooperatives are a powerful economic and social force, present in most countries of the world and in most sectors of the economy. The cooperative movement counts more than a billion members. Achieving sustainable development means that we have to rethink the way in which we produce and consumer goods and services.

Issues of innovation:

- Think local and Act Global

- ❖ Innovation in member involvement
- ❖ Reconciling Agility, Efficiency and proximity

Innovative Approaches of Cooperatives to achieve the SDGs: Opinion of Leaders

- ❒ A cooperative is social responsibility in enterprise form. (Ariel Guraco)
- ❒ What makes cooperative unique and different is its enormous capacity to empower its members (Daniel Bag)
- ❒ Cooperatives will continue to be natural in creating good-quality employment, in providing social protection for their member-owners and communities" (Gilbert)
- ❒ As we search for innovative solutions to today's development challenges, we should consider what the cooperative movement can offer. (Mahamoud)
- ❒ Cooperatives, for their extensive development in the world, and their ability to create wealth and distribute it in an autonomous and democratic way, are indispensable players in this process.(Ariel Guraco, President, COOPERAR)

Source: un.org/development/desa/cooperative/2016/07/22/innovative- approaches-of – coops- to achieve the SDGS

AMUL: The Beacon in Cooperatives

Vision: Amul's vision is to provide more satisfaction to the farmers, their customers, employees and distributors."

Mission: "Committed to produce wholesome and safe foods of excellent quality to remain a market leader through development of quality management system, state of art technology, innovation and eco-friendly operations to achieve delightment of customers and milk producers."

Philosophy; "Value for Money for its farmers, and value for money for its customers."

The uniqueness of Dr. Verghese Kurian, being an innovative leader, propelled lateral thinking and ability to find innovative ideas and solutions to problems which gave birth to AMUL- an awesome step in white Revolution. As Mr. Sodhi, the present MD puts it "innovation is a mind set'' to elevate the charismatic concept of " Cow to Consumer" as its strategic strength in the organisational development of AMUL. While justifying the trust of 3.6 million farmers of AMUL, the recent statement of R.S. Sodhi, "Give More to Earn More" is worth mentioning .That is why "AMUL – The Taste of India", "Amul Peeta Hey India" from its "Utterly Butterly Delicious" are the flag marks of AMUL.

Innovative Leadership to Upheld Cooperatives

Agriculture, being the main anchor in uplifting agrarian economy of the nation, there is a renewed attention of the GOI to bring agriculture reform from time to time to make farmers more competitive. Stress on modern methods of E-Marketing (e-NAM Portal)/e-commerce for agricultural produce marketing and various strategic measures were highlighted by PM in his recent high level meeting (TOI Dated 3.5.20) for Reforms in agriculture which included agricultural marketing, management of marketing surplus, access of farmers to institutional credit, freeing of various restrictions with appropriate backing of statute for agriculture sector. Besides, concessional credit flow to strengthen agriculture infrastructure and supplementing Kisan Credit Card (KCC) etc. have to be implemented to augment farmers income. Similarly, the RBI Governor is emphasizing upon digital mode of financial transactions through electronic gadgets like mobile Banking, e-transfer and digital technology in the banking sector to ensure ease of doing business with the customers. NABARD guidelines for cooperative banks and credit institutions in terms digital transformation are being adhered to as regulatory measures.

The Thrust

The social pioneers who established cooperatives had a clear vision: they could see that by enabling people to collaborate and work together, they could meet their individual and collective needs for having access to goods and services. Due to the global financial crisis due to corona pandemic, the needs of the citizens have dramatically changed.

The cooperative movement in India encompasses both cooperative credit and its non-credit activities covering a wider gamut of activities. In this direction, the focus should be wider use of latest technology and modern management techniques to provide the global standard products and services. Focus on technology, connectivity with members and clientele, vertical and horizontal linkages and strengthening supply chain management are the critical factors to strengthen the cooperative sector.

A Sunrise Mindset

The resilient spirit of the cooperative sector can rejuvenate the business development plans commensurate with the need and expectations of the community. The new set of goals will aim at creating value-added ventures in engaging the members in a more creative and innovative ways. The strategy will focus on the long term planning for building performance attributes of cooperatives that attract and retain the members.

7 S's Strategy

Today's dynamic market and technologies arising out of the present crisis are quite different in satisfying the needs of the vast clientele. The cooperative Strategy should focus on a system or method to bring out a desired futuristic outcome. To strengthen the strategy, the structure or reporting pattern needs to be customer-focused and the people need to be empowered in making decisions. Remember, members are at the heart of every cooperative. Developing a system is to fulfill the aim of cooperative management for attaining strategic goals. The shared values are the core values which get reflected with the organisation culture of cooperatives or influence the code of ethics. The style of leadership is to inculcate a certain kind of entrepreneurial spirit, a desire to create something new and better. Staff connotes about the capabilities of employees to develop and maintain a positive public image and member relations. Skills are the core competencies of the employees which play a vital role in defining the organisational success. The 7 S's mutually reinforcing strategies are rejuvenated to achieve the vision of cooperatives for a competitive advantage through innovative leadership.

End Note

Organisations are evolving in a dynamic and complex context due to the globalisation nowadays. In order to deal with this complex environment, innovation is said to be a key factor to gain competitive advantage. Leadership is one of the crucial factors to manage innovation, and try to make them successful. Cooperative organisations need to have to be more creative and innovative to survive, to grow and to lead.

Leadership is the engine of an organisation and innovation is recognised as a critical success for an organisation survival. Leadership is at the core of creating an innovative culture within an organisation and employees play a vital role in the execution of innovative outputs. Innovative leadership is the ability to both think and influence others to create "new and better ideas' to move towards positive results. Cooperatives have to respond in a proactive way to new ideas while facing threats in the competitive environment. In addition, it is suggested that cooperatives need to prepare themselves to review their business models. It is well said; Innovation is a big idea with a big potential. But it is wise to approach in small steps, implementing just one or a few of the idea. To put George Couros:

> *" Don't fear change. You may lose something good, but you may also gain something Great."*

Quality and Determinants of Primary Education in Rural India

SUBHASISH DAS* & DR. AMIT K. BISWAS**

Abstract

Even though India's achievement in the elementary level of education in terms of enrollment is praiseworthy, this paper tries to examine whether or not India's performance is equally impressive from the qualitative perspective. An overview of elementary education in rural India is presented in this context. This will have implications for cooperatives, more particularly in rural India. For cooperatives which are in the field of primary education, or who want to venture in this field, this study may have a deeper significance. The study is based on secondary cross-section state level data on the ability of the students to read (vernacular) and calculate. The study identifies the high and low performing states in India and analyses their performance over the years, especially after the introduction of right to education (RTE)

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Act, 2009. It also discusses the factors that have positive or negative impacts on the learning outcome. The analysis unveils retrogression of the quality parameter over the years. The policies have emphasized on steady expansion in enrolment without paying required attention to the learning outcome. As a result, the quality of primary education has been compromised in the process. This diminishes the splendor of India's achievement in education.

1. Introduction

Education is a crucial determinant of development and a prime indicator of Human Development Index (HDI) of any country. Needless to say, in today's world, it plays a vital role in determining a person's economic and social empowerment. So we need a robust and equitable education system which is accessible to all in our society. The education structure and policies followed by Government of India were designed to fulfill the promise of reaching the Millennium Development Goal (MDG) of ensuring universal primary education by 2015.

So far as expansion and equity are concerned, the Gross Enrolment Ratio (GER) at the primary level was 83.8 in 1990-91 and it increased to 95.7 in 2000-01 and to 116.0 in 2010-11. For the middle/upper primary level, the GER was 66.7 in 1990-91 which declined to 58.6 in 2000-01 but again gradually increased to 85.5 in 2010-11.[1] However, while focusing on these expansion and equity aspects successfully, concerns have been raised about the quality of education. According to the latest Annual Status of Education Report (ASER), more than 50% of students in fifth standard cannot read a paragraph from their class two text book and nearly 75% of students of the same class do not know how to divide a three digit number by a one digit number.[2] Thus, the qualitative issues have been overshadowed by the quantities, i.e., high enrolment achievement. Although we are on right track towards universal education, the quality of learning in our classrooms remains a matter of concern. Many positive developments have been placed in the literature, especially after the Right to Education Act (2009). Demand for basic education continues to grow as parents and guardians understand the importance of educating their children. Infrastructural facilities have also improved over the past decade, gross enrolment is almost universal, dropout rates have declined even for girls at the primary level, and teachers have been appointed in large numbers. More school incentives (such as free textbooks and the serving of cooked meals) have led to better outreach and coverage. This paper addresses the concern on quality in the context of elementary education in rural India. It begins by taking stock of the nation-

1 SAARC Development Goals, India Country Report, 2013.

2 ASER, 2016.

wide scenario by considering some of the major states of India. It focuses on gaps in performance between the highly and lowly performed states. A study of determinants of learning quality has been done based on data on rural West Bengal to find out the reasons behind degradation of performance. In a nutshell, this paper makes an attempt to verify whether the quality concern has lost ground in the course of delivering education to the masses.

2. Literature Survey

There is no dearth of literature on this very important issue especially from the perspective of a poor and populous country like India since lack of skill and education are two of the major impediments to the path of rapid growth and development. Kremer, Muralidharan, Chaudhury, Hammer and Rogers (2005) did not find that higher pay was associated with lower absence. Htey observed that only 25% of teachers were absent from the school and about half were teaching during an unannounced visit to a government primary school in India. According to Blum and Diwan (2007), in a country like India, multi-grade classroom sometimes become inevitable. In such cases, special training for multi-class classroom and consistent with the ground realities should be provided. Study by Francis and Kingdom (2007) indicated, through regression analysis, the clear evidence of advantage of private schooling over public one in India. Raising wages encouraged better quality candidates to apply for teaching professions, thereby improving the average quality of teachers and ultimately improved student achievement by increasing teachers´ effort at any given level of teachers´ quality. According to Kingdon (2007), despite progress in attendance and retention rates learning achievement level was seriously low and teachers' absenteeism were high, signaling poor quality of schooling. In an interesting study, Finlayason (2008) found that average score and providing free lunch were inversely related. So, giving too much (non- academic) incentive to the children can spoil them actually. Dholakia and Iyengar (2008) identified that, different household activities were some of the commonly stated reasons, mainly by girls, for non-enrolment. Another reason was being employed at the school going age. Two basic reasons for the meager qualities of learning were multiple classes being conducted simultaneously in the same room due to lack of classrooms and/or teachers and involvement of teachers in many non-teaching activities.

According to Ramachandran (2009) old teachers were caught in the conventional trap of being over authoritative, discouraging students from asking questions and pursuing the rote method of teaching. Jalan (2010) examined the quality of primary education of seven districts of West Bengal. The study revealed that students' performance in reading and arithmetic were positively related, with low mean and high variation among the districts. Kumar and Rustagi (2010) focused on the gender aspect in their study.

According to them, most parents expressed much stronger interest in their sons' education than in that of their daughters. Marginalised and socially backward groups such as the scheduled caste (SC) and scheduled tribe (ST) as well as religious minorities, especially Muslims, continued to fall out of the loop of schooling. They also drew attention to teachers/students absenteeism.

Banerjee and Duflo (2011) stated that, on an average, the private school teachers are 8 percentage points more likely to be in school on a given day than public-school teachers in the same village. The gap between private and public school students in performance was close to ten times the average gap between the children from the highest and lowest socio-economic categories. According to the Pratichi Report (2013), participation in elementary education had increased manifold in recent years but a huge amount of enrolment was lost during the transition from fifth standard and ninth standard. Lower ratio of upper primary schools to that of primary schools was another concern as a large proportion of students of upper primary level dropout due to non-availability of schools and facilities therein.

3. Data and Methodology

Our study is based on the database on quality of primary education in rural India provided in the Annual Status of Education Report (ASER) which is conducted yearly by Pratham organization since 2005. Our analysis is divided into two parts. The first part explains the overall scenario of the quality of learning outcome prevailing in the rural India since the past decade. Two tests that have been taken into account for judging quality are reading skill (in vernacular) and arithmetic skill. Both the tests have five categories: in case of reading, these are: read nothing, read letter (set of common alphabets), read word (common familiar words with 2 letters and 1 or 2 *matras*), read paragraph of class 1 level (set of simple 4 linked sentences, each having no more than 4-5 words) and read story of class 2 level (short story with 7-10 sentences). For arithmetic test, these are: do nothing, recognize number 1-9, recognize number 10-99, do subtraction (2 digit numerical problems with borrowing) and do division (3 digit by 1 digit numerical problems). We use these data in different ways to achieve several objectives. As the aim is to focus on primary education (i.e. 1st to 4th standards), only the children of 5th standards are taken into consideration. To check the learning outcome, the following benchmarks are set to evaluate the ability of a child of class five. The vernacular reading ability is measured by the fact that whether the child can read at least a paragraph of class two. Performance in arithmetic is measured by the fact that whether the child can solve a division problem.

The second part of the paper concentrates on the important factors that influence the quality of learning. For this exercise, Probit regression technique has been used on the pooled cross- sectional data of rural West Bengal for the year 2012 to 2014 given by ASER. The dependant variables are dummies of reading (Y^R) and arithmetic level (Y^A) and assume 1 if the child passes the aforementioned ability test floor accordingly and 0 otherwise. The vectors of explanatory variables (X^R, X^A) are income status, private tuition, types of school (public or private), mother's education, father's education and total member in the household. The gender of the child is also controlled and the clustering has been done at the village level to overcome the problem of heteroscedasticity. The models do not suffer from multicollinearity as it has been checked by calculating VIF (<10).

iEquation for reading: $Y^R = A^R + B_i * X^R_i + U^R$

Equation for arithmetic: $Y^A = A^A + B_i * X^A + U^A$

Where, A^j's and B^j_i's are intercept and slope coefficient respectively and U^j's represent the residual terms (j= R, A).

We should bear certain things in mind in this context. First, as income of the family is unknown, it is approximated by the type of the household. There are three categories in this regard: we are assigning the value 1 for *pucca* (brick & cement house), 2 for semi-*kuchha* (brick & mud) and 3 for *kuchha* (made of only mud). Second, private tuition assumes value 1 if the child takes private tuition and 0 if not. Third, the variable type of school assumes value 1 if the child is from private and 0 if from public school. Forth, parental education varies from 0 (if the parents have never gone to school) to class 12. Fifth, the variable "gender" assumes the value 1 if the child is male and 0 if female. After running the regressions, the marginal effects of the independent variables are computed. The variables with their descriptions are summarized in the table 3.1.

Table 3.1
Descriptions of the Variables Used in the Regression Models

Variable	**Description**
Reading score	1 if the student passes the test, 0 if fails
Arithmetic score	1 if the student passes the test, 0 if fails
Type of household	1 if *pucca*, 2 if semi-*kuchha*, 3 if *kuchha*
Gender	1 if male, 0 if female
Tuition	1 if the child takes private tuition, 0 if does not
Type of school	1 if the child goes to private school, 0 if public school
Number of family member	Total member in the family of the respondent
Parental education	0 if parents have never gone to school. Otherwise years of study is taken as the education level. Maximum value is 12 (more than twelve years of education is included in the last category, i.e.,12)

4. Analysis of results

4.1. *Trend of learning quality over the past decade in India:*

After the introduction of Right to Education Act in India in 2009, number of schools, teachers, infrastructural facilities have increased manifold but the quality has been on the decline unexpectedly. Thanks to free education, Mid-Day Meal schemes, free study materials and other cash and in-kind transfers and incentives, the quantity which is measured through enrolment status has increased both among boys and girls but, it seems, takes place at the cost of quality. The quality of class five students in rural India in the year 2016 is shown in table 4.1.1. It is very disappointing that even now 6 percent of total students in class five cannot read even a letter in his/her own language and 4 percent of them fail to recognize even a one digit number. Less than half of the children can read a text from class two and approximately one in four children of class five can divide a three-digit number by a one-digit number. So it can be observed that the reason of their promotion into higher classes is mainly due to the abolition of detention in case of failure and is not caused by their improved quality. The deterioration in performance is not a new phenomenon; it is continuously persisting since the last decade (see figure 4.1.1). A comparison among the performances in the years 2005, 2010 and 2016 is shown in the figure 4.1.2. The reason of taking 2005 as the starting year is that it's the oldest possible dataset of ASER. 2016 is taken as the terminate year as it's the most recent survey. The intuition behind highlighting year 2010 as benchmark is due to the fact that the RTE Act has came into force in that year. It is found that both the reading and computational ability are falling over the years and arithmetic performance has been deteriorating more severely than reading. Sometimes, it has been found that the children are usually able to solve the calculations in their daily life, (e.g. when children are engaged in shops in local markets

Table 4.1.1

Percentage of Students in Class Five at Different levels of Reading and Arithmetic Test in 2016

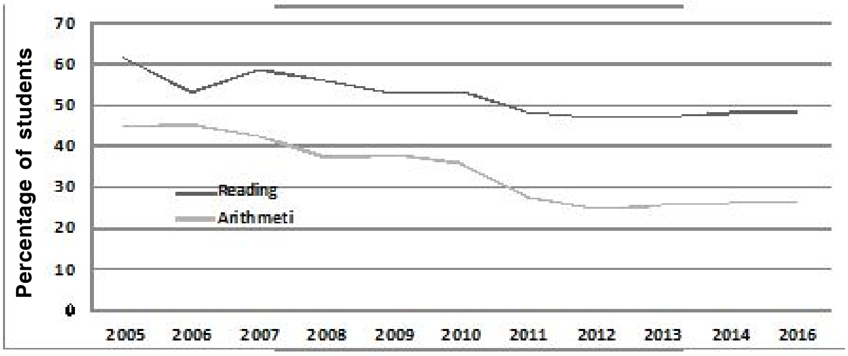
Reading performance		Arithmetic performance	
Parameter	**Percentage of students**	**Parameter**	**Percentage of students**
Nothing	6	Nothing	4
Letter	13.3	Recognize 1 to 9	15.5
Word	14.2	Recognize 10 to 99	30
Text of class one	18.6	Subtraction	24.6
Text of class two	47.9	Division	25.9

Source: *ASER, 2016*

they efficiently do the same calculation). So the drastic fall in the performance in computational ability may be caused by the lack of interest to the curriculum which may not be based on ground reality (real life examples).

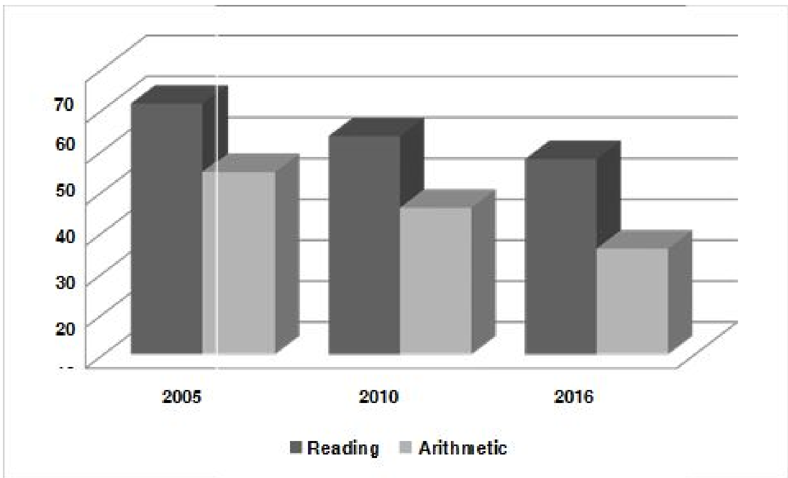
Figure 4.1.1

Reading and Arithmetic Performances of Students of Class Five over Years



***Source*: ASER, 2005-2016**

Figure 4.1.2
Reading and Arithmetic performances of students of class five in different years



***Source:* ASER, 2005, 2010 & 2016**

4.2. Analysis across States:

In the previous section, the overall scenario of India has been analyzed. In this section, we'll try to analyze at the disaggregated level among the major Indian states and take a closer look at the relative movements of major states of India. For doing so, we adopt the methodology used by Mukhopadhyay and Chatterjee (2016). Here, fifteen States of India are considered; Andhra Pradesh, Bihar, Chattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. The other States and united territories are ignored in the study to make the study area more comparable. As the hilly states consist of highly heterogeneous sub groups and their living conditions differ by regions, it is very difficult to draw generalized inference about them. They face many types of infrastructural, religious and cultural difficulties which increase the disparity among the regions. In most of the cases the missionary schools and their activities lead to an improvement in their performance. The main thing is that the hilly states are very much different in many aspects than those fifteen states. So to draw any general implication by taking all the states of India will be misleading and so those north and north-eastern hilly states and union territories are excluded from our analysis and concentrate on the fifteen major states in India.

To analyze the performance of the states, year 2016 is taken as the current year and 2010 is taken as the base year. With this set up, the change after the introduction of RTE Act should be understood more vividly. Table 4.2.1 shows the distribution of the states in the years 2010 and 2016 across the levels of learning.

This table gives the percentage of children in each state, that clear the reading and mathematical tests (benchmarks of the tests are given in section 3) in different years. In the last row the average performance for each test is shown. The table shows that most of the states have performed badly over the years in their learning outcome. In case of reading, except Gujarat, Haryana, Odisha, Rajasthan and Tamil Nadu all states show deteriorating performance and in case of arithmetic, Tamil Nadu is the only exception. Bihar, Jharkhand, Maharashtra and Punjab are in dire condition as these states have experienced double digit decline in both test performances. It is more interesting that the states with improvement in learning have mean performance either less than or very near above the all-India level. So, from this fact, it may be inferred that the relatively low performing states are improving whereas the better performers are deteriorating.

To analyze this point more clearly and rigorously, the fifteen states' average is taken as the benchmark to classify the States into high and low performing states. States with reading/arithmetic levels higher than the average are considered to be high performing states and the ones with lower levels are classified as low performing states. Box 4.2.1 shows the

Table 4.2.1
Percentages of students of class five who pass the test of Reading and Arithmetic across states of rural India

States	Reading			Arithmetic		
	2016	2010	Change	2016	2010	Change
Andhra Pradesh	55.1	60.3	-5.2	37.2	40.5	-3.3
Bihar	42	58.5	-16.5	32.6	51.9	-19.3
Chattisgarh	55.9	61.6	-5.7	23	39	-16
Gujarat	53	45.5	7.5	16.1	21.1	-5
Haryana	68.3	67.5	0.8	48.9	58.4	-9.5
Jharkhand	36.4	49.7	-13.3	23.5	40.9	-17.4
Karnataka	42.1	45	-2.9	19.7	20	-0.3
Kerala	69.2	76.1	-6.9	38.6	48.6	-10
Maharashtra	62.5	73.1	-10.6	20.3	41.4	-21.1
Odisha	51.6	46	5.6	26.6	32.2	-5.6
Punjab	69.2	69.7	-0.5	47.9	69.8	-21.9
Rajasthan	54.2	51.1	3.1	28.2	32.8	-4.6
Tamil Nadu	45.2	30.6	14.6	21.4	15	6.4
Uttar Pradesh	43.2	44.1	-0.9	22.6	25	-2.4
West Bengal	50.2	53.9	-3.7	29	37.7	-8.7
India	47.8	53.4	-5.6	25.9	35.9	-10

Source: **Self-calculated from ASER, 2010 & 2016**

states with this classification. Now the average performance of each group is calculated and is represented in the table 4.2.2. The last row shows the gap in performance among these two groups. As the gap is decreasing over the period, it may apparently seem that there is a convergence between the groups, i.e. the low performing states are catching up the high performing states. But if one observes the change in average performance of each group, the actual story becomes clearer. The convergence is due to the huge fall in performance of the good states and it is not contributed by the improvement by the bad states. Though there is some success story in case of reading performance in the bad states, degradation in arithmetic performance outweighs it. So, in general, it can be concluded that, both the high and low performing states are deteriorating over the years and the magnitude of the fall of traditionally good states is greater than that of traditionally bad states.

Box 4.2.1

Distribution of High and Low Performing States in Reading and Arithmetic in 2010

High performing States		Low performing States	
Reading	**Arithmetic**	**Reading**	**Arithmetic**
Andhra Pradesh	Andhra Pradedh	Gujrat	Gujrat
Bihar	Bihar	Jharkhand	Karnataka
Chattisgarh	Chattisgarh	Karnataka	Odisha
Haryana	Haryana	Odisha	Rajasthan
Kerala	Jharkhand	Rajasthan	Tamil Nadu
Maharashtra	Kerala	Tamil Nadu	Uttar Pradesh
Punjab	Maharashtra	Uttar Pradesh	West Bengal
	Punjab	West Bengal	

Source: **Author's own calculation**

Table 4.2.2

Change in average performance of high and low level states

Category of States	Reading			Arithmetic		
	2016	**2010**	**Change**	**2016**	**2010**	**Change**
High performing States	60.31	66.69	-6.37	34	48.81	-14.81
Low performing States	46.99	45.74	1.25	23.37	26.26	-2.89
Performance Gap	13.32	20.95	-7.63	10.63	22.55	-11.92

Source: **Author's own calculation**

4.3. Factors Determining Learning Outcome

Using the econometric framework mentioned in the previous section, two probit models are used to ascertain the impact of different variables on a child's learning achievement. Table 4.3.1 gives the marginal effects of the different variables on reading and arithmetic score respectively. This table is used to determine the impact of the different variables on a child's reading performance. It has been found that income status, private tuition and parental education remain significant for both reading and arithmetic achievements. Private tuition explains the variation in the dependant variable most significantly both in terms of statistical and economic importance.

Taking private tuition increases the probability of scoring high both in case of arithmetic and reading. This is as we expect generally because a private tutor is likely to give more attention to her students than in school.

Table 4.3.1

Marginal Effects of the Determinants of Variation in Quality of the Students

Dependent Variable: **Model I: Reading score (1 if pass, 0 if fail)** **Model II: Arithmetic score (1 if pass, 0 if fail)**		
Explanatory Variables	**Model I**	**Model II**
Type of House hold	0.165***	0.139**
	(0.0700)	(0.0703)
Gender	0.0782	-0.103
	(0.0995)	(0.114)
Tuition	-0.452***	-0.462***
	(0.127)	(0.136)
Type of School	0.413	0.455
	(0.285)	(0.284)
No. of Family Member	0.0327	0.0449*
	(0.0232)	(0.0231)
Mother's Education	0.0522***	0.0825***
	(0.0182)	(0.0201)
Father's Education	0.0355**	0.0456***
	(0.0143)	(0.0164)
Constant	-0.841**	-1.443***
	(0.400)	(0.397)
Sample size	661	661
Pseudo R squared	0.1002	0.1514
Wald chi squared	69.73	104.13
p > F	0.0000	0.0000

***Notes*: i) Figures in first brackets are standard errors.**

ii) *, **and * imply significance at 1, 5 and 10 percent levels respectively.**

One can explain this through the increased accountability and/or teacher student ratio. Income, reflected by the type of household, impacts a child's learning achievement significantly. Students from rich households perform better as compared to their poorer counterpart. It is, of course, obvious. Children from affluent families are likely to get better education because of several reasons. One of the major reasons is that, they don't need to go for work to earn money to bear the daily expenses of their family. In this sense their opportunity cost of getting education is low. Role of parental education is statistically significant but not economically as the coefficient is low (less than 0.1). It explains very small percentage of the total variation in the test scores. Being male negatively affects reading achievement but opposite scenario is prevailing in case of mathematics performance albeit marginally. But gender discrimination should not be a matter of concern, at least as far as the quality is concerned, as the difference is not statistically significant. Going to a government school negatively impacts child's reading and mathematics score. This result may explain the reason behind the increasing popularity of private schools in India. Lastly, total number of member in the household has a significant impact on arithmetic performance but it loses importance in case of reading.

5. Conclusion

The paper aims at enquiring whether India's educational achievement exhibits a balance between the quantitative and qualitative dimensions. The learning outcome shows a better performance in reading compared to arithmetic test and this is uniform over the years. The rate of fall picks up the pace after 2010 which may be caused by the abolition of pass-fail mechanism in the elementary level. As we go deeper in the form of cross-State analysis, we found deterioration of all most every States over the year. This fall in performance is higher in case of arithmetic. Both the groups of high and low performing States have deteriorated in each of the categories and the fall of performance of the good group is greater than that of their bad counterpart. To estimate the "true" effect of a wide range of factors on children's cognitive achievement, it has been found that there is consistent evidence of parental education, family affluence, private schooling and private tuition bearing advantage in better development. From the gender perspective females are performing marginally better than boys in reading whereas arithmetic test reveals the opposite result. The paper identifies the States which need immediate attention along with the influencing factors of quality of learning outcome. One drawback of the study is that: most of the determinants that are taken into account are either household or individual characteristics which fail to explain the maximum variation in the test score. Absence of school characteristics may be one reason behind obtaining such result. Due to lack of compatible data such observations could not be included into the analysis which paves the way of future research.

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Registered with the Registrar of Newspaper for India under Registered No. 10662/63

Printed by N. Satya Narayana published by N. Satya Narayana on behalf of National Cooperative Union of India, New Delhi and Printed at National Cooperative Printing Press, 3, Siri Institutional Area, August Kranti Marg, New Delhi-110016 and published at National Cooperative Union of India, 3, Siri Institutional Area, August Kranti Marg, New Delhi-110016
Editor : Sanjay Kumar Verma