A STUDY OF DISTRICT CENTRAL CO-OPERATIVE BANKS IN UTTAR PRADESH, INDIA USING CAMEL MODEL

Mr. RAJ SANKRIT

ID: 5817192037

SUBMITTED IN THE PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS IN BUSINESS ADMINISTRATION

INTERNATIONAL PROGRAM, GRADUATE SCHOOL OF BUSINESS,

SIAM UNIVERSITY, BANGKOK, THAILAND

2018

A STUDY OF DISTRICT CENTRAL CO-OPERATIVE BANKS IN UTTAR PRADESH, INDIA USING CAMEL MODEL

CERTIFICATE

To

Mr. RAJ SANKRIT

Student ID :5817192037

This is Independent study has been approved to be partial Fulfillment of the Requirement for Degree of Master in Business Administration in Finance and Banking Management.

.....

Date 4 / 04 / 2019

(Asst. Prof Dr.Om Havanand)

(Supervisor)

.....

(Associate Professor Dr. Jomphong Mongkhonvanit)

Acting Dean, Graduate School of Business Administration

Date 21 / 05 / 2019

Siam University, Bangkok, Thailand

Abstract

Research Title: A study of District Central Co-operative Banks in Uttar Pradesh, India Using the Camel Model

Researcher: Mr. Raj Sankrit

Degree: Master of Business Administration (International Program)

Major: Finance

Advisor: Asst.Dr. Om Hayanand

1 / Jun / 2019

Retrieval of credit is an utmost important process for clinching smooth and free movement of credit cycle. Convenient and well-timed recovery of advances is one of the vital causes for proper functioning of business; continuous flow of funds reduces bad debts and enables the genuine borrower to opt for credit from the financial institutions. Co-operative bank in India engages a crucial capacity in the economic development of the country. They offer appropriate and guarded assistance to the rural people in the form of loans, advances and other services for general purpose, as well as for the agriculture related activities. The triumph of co-operative credit structure in a district is to be conditional of their financial forte. In the present scenario, majority of district co-operative banks are dealing with the problems of deposit mobilization, recovery of loans and advances, bad-debts and non-performing assets. The present study made an attempt to study the trends in components of District Central Co-operative Banks (DCCB's), deployment of funds, to analyze the issues in relation to funds management in terms of liquidity and earning capacity, capital fairness, quality of assets and to evaluate the financial performance of district co-operative banks with reference on impact of non-performing assets on the working of these banks. This study was embarked with an objective of analyzing the business performance of all district co-operative banks in Uttar Pradesh, India through selective financial components such as number of offices, memberships, cash & bank balances, share capital, reserves, borrowings, investments, deposits, working capital, over dues, profitability and non-performing assets. Present study used secondary source of data of district co-operative banks from the period 2007-2008 to 2016-2017. The financial performance of all 50 branches of the district central co-

operative banks were analyzed using trend analysis, compound annual growth rate (CAGR), CAMEL model analysis, mean, standard deviation, range, maximum and minimum.

Keywords: District central co-operative Bank (DCCB's), CAGR, CAMEL model

Approved By

.....

Acknowledgement

The task of acknowledging the help that was offered to me through this study by my teachers and friends is bigger than the study itself. I feel scanty of words to the magnitude of their help. I could not have completed this work, without enjoying their endless patience and affection. It gives me immense sense of gratification to place on records my profound gratitude and sincere appreciation to each and every one of those who have helped me in this endeavor.

I would like to place on record my deep sense of reverence and gratitude to chairman of my advisor ***Associate Professor Dr. Ohm Havanand, Graduate School of Business Administration, Siam University, Bangkok, Thailand***. I owe him a lot for his valuable suggestions, versatile guidance, intellectual discussion, unceasing support, untiring patience, constant incitement, stimulating ideas, critical comments, close console, punctuality, friendly atmosphere and a lot more. I feel privileged to have enjoyed an opportunity to be associated with him during my master degree programme.

I wish to place on record with great pleasure, my sincere thanks and gratitude to the ***Acting Dean***, ***Associate Professor Dr. Jomphong Mongkhonvanit Graduate School of Business Administration, Siam University, Bangkok, Thailand***. I am indebted for many valuable suggestions and constructive criticisms, which have helped me to steer the study in the right direction.

I express my sincere thanks to the staff of the Department of International Business Management and junior friends.

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

1. INTRODUCTION

1.1 RESEARCH BACKGROUND

The cooperative bank in India is an apex institution which comprises two pillars namely production credit (Short-term credit structure) and the investment credit (Long-term credit structure) as the production credit categorized into three different layers such as Primary Agricultural Credit Societies (PACS) at the base level, District Central Cooperative Banks (DCCB) at the intermediate level and lastly the State Cooperative Banks (SCB) functions at the supreme level and on the other hand the investment credit (Long-term credit structure) includes State Cooperative Agriculture and Rural Development Banks (SCARDBs) at the supreme level and Primary Cooperative Agriculture and Rural Development Banks (PCARDBs) functions at the base to intermediate level (Hegde, V 2012).

Co-operative bank in India engages a crucial capacity in the economic development of the country as they offer appropriate and guarded assistance to the rural people in the form of loans, advances and other services for general purpose as well as for the agriculture-related activities (Preety & Maheshwari, 2017).

The co-operative banks operate throughout the country and achieved huge accomplishments in terms of providing loans and advances, accepting fixed deposits through investments, locker facilities for valuable items, investment opportunities for farmers and rural population and also broadened their horizons in relation with area coverage in order to extend the functional and operational reach (Naqvi, Samreen, 2016).

In spite of huge achievements through financial offerings and market area coverage, the majority of DCCB's had been performing below substantial standards in relation to profitability, liquidity, and efficiency as DCCBs growth factor also depends upon the higher margin proportion, lower bad-debts, movement of cash flow freely, lower provision of doubtful debts, enough reserve capital to meet unprecedented requirements, ample amount of working capital to meet personnel monthly expenses and day-to-day expenses (Devi Uma, R 2013).

Retrieval of credit is also a very important process for clinching smooth and free movement of the credit cycle and most importantly convenient and well-timed recovery of advances is one of the vital causes for the proper functioning of business; a continuous flow of funds reduces bad debts and enables the genuine borrower can opt for credit from the financial institutions (Ruchi, 2017).

In Uttar Pradesh, there are 50 districts comprise of various branches and the performance of DCCBs are not very encouraging in terms of capital fairness, quality of assets, effective management of funds in relating

profitability, deposits and loans and advances, earning capacity and liquidity with reference on impact of non-performing assets(NPA's) on the working of these banks (Nafscob, 2007-2017).

This study will investigate the cause of poor performance of DCCB's in Uttar Pradesh district which impacts the profitability and functioning of these banks. This research will include the techniques in order to investigate the cause of poor performance of DCCB's that are going to be used in this study are trend analysis, compound annual growth analysis (CAGR), a test of strength analysis, mean, standard deviation, minimum, maximum, range and CAMEL MODEL.

The study covers the DCCB's of 50 different districts in Uttar Pradesh and takes into consideration a period of 10 years of data, ranging from 2007 to 2017. The data are readily available on National Federation Of State Co-Operative Banks Limited which is commonly known as Nafscob and gathered for this research from the same source. Moreover, this study also aims to analyze the issues commonly occurred in the functioning of DCCB's in relation with the management of funds, profitability, liquidity and to provide recommendations in order to reduce the NPA's followed by an increase in reserves.

1.2 RESEARCH PROBLEM

Narayana, Kalyan & Panigrahi, (2015) explained in their research that deposit mobilization is an essential task for the banking sector especially in India and it's an uphill task as well at the same time also obtaining funds from the depositors is a first and foremost job in banking sector and then with those deposits, banks need to channelize those deposits in different financial securities markets such as money market, capital market and foreign exchange market in different form of deposits such as demand deposit, savings deposit and term deposit in order to ensure the optimum utilization of available resources, to raise additional resources required for meeting credit demands and to manage market and liquidity risks and the deposit mobilization is one of the pivotal innovative approaches that major banks in India pursuing

Increase in Non-performing assets is the outcome of lack of repossession of loans and advances so in order to procure and safeguard the interest of financial institutions, managing NPA's are an essential task for financial institutions such as bona fide recognition of NPA's, protecting the securities, collection of loans and advance and proper method of collecting loans and advances (Singa, 2008).

District Central Co-operative Banks contributes an important share in the overall economic development in terms of providing credit to the general public in rural areas for farming and general purposes as in Uttar Pradesh, there are 50 districts which comprise more than 1,300 DCC banks and the summative amount of NPA's are increasing considerably every year and on the top of that deposit mobilization is also decreasing or even very low in some branches as a result the revenue resulting from an increase in NPA's and decrease

in deposit mobilization is low, negative or even uncertain and it has a tendency to create the direct impact on the profitability, liquidity, management and the overall financial position of the bank (Nafscob, 2007-2017).

1.3 IMPORTANCE OF THE STUDY

The DCC Banks in Uttar Pradesh have played an important role in providing credit to farmers and general in rural areas and in the recent years, DCC Banks witnessed immense challenges from commercial banks, private banks and some public banks in India (Ruchi, 2017). These banks have always been bringing something on the table in order to make customer banking experiences at ease such as remodeling and restructuring business models for banks are always developing (Mavaluri, Boppana, and Nagarjuna, 2006).
The chronic problems with DCC Banks are lack of providing credit facilities, to advance consumption loan, to enlarge banking facilities to rural areas, to mobilize and channelize deposits efficiently, to supervise the use of loans effectively and these problems are affecting the business performances of DCC Banks in Uttar Pradesh, India, and borrowers, in general, are looking for alternative choices in order to meet their financial borrowings and to what extent it has affected the business performances of DCC banks in Uttar Pradesh (Ramappa and Sivasankaraiah, 2007).
This study will analyze and evaluate the performance of DCC banks in Uttar Pradesh, India with the help of CAMEL model in the context of capital adequacy, assets quality, management ability, earning capacity and liquidity considering the following objectives mentioned below.

1.4 OBJECTIVE OF THE STUDY

1. To study and analyze the capital fairness of DCCB's in Uttar Pradesh, India by using the CAMEL model.
2. To analyze the issues in relation to funds management of DCCB's in terms of liquidity and profitability through CAMEL model.
3. To evaluate the financial performance of DCCB's with reference on the impact of non-performing assets on the working of these banks through CAMEL model.
4. To suggest measures needed for efficient and effective management of funds in order to minimize non-performing assets in DCCB's.

1.5 RESEARCH QUESTIONS OF THE STUDY

As stated research objectives above, the following research questions adopted for this study are as follows:

1. Discuss in detail the capital adequacy of DCC Banks in Uttar Pradesh.
2. What are the assets qualities factors affecting the financial performances of all DCC Banks in Uttar Pradesh?
3. Discuss the issues in relation to funds management of DCCB's in terms of liquidity and profitability.
4. What conclusion and recommendation be providing in order to increase effective funds management and the decrease in NPA of all DCC banks in Uttar Pradesh?

1.6 SCOPE OF THE STUDY

This study made an attempt to explain the performance of District co-operative banks in all aspects; for example membership, investments, reserves, cost of management, compound growth, profitability, liquidity, solvency, capital fairness, management ability, assets quality and test of strength. The general features of all central co-operative banks are different. No financing system same in all the DCCB's. The result of this study might not be applicable to all the co-operative institutions in U.P.

1.7 CONCEPTUAL FRAMEWORK

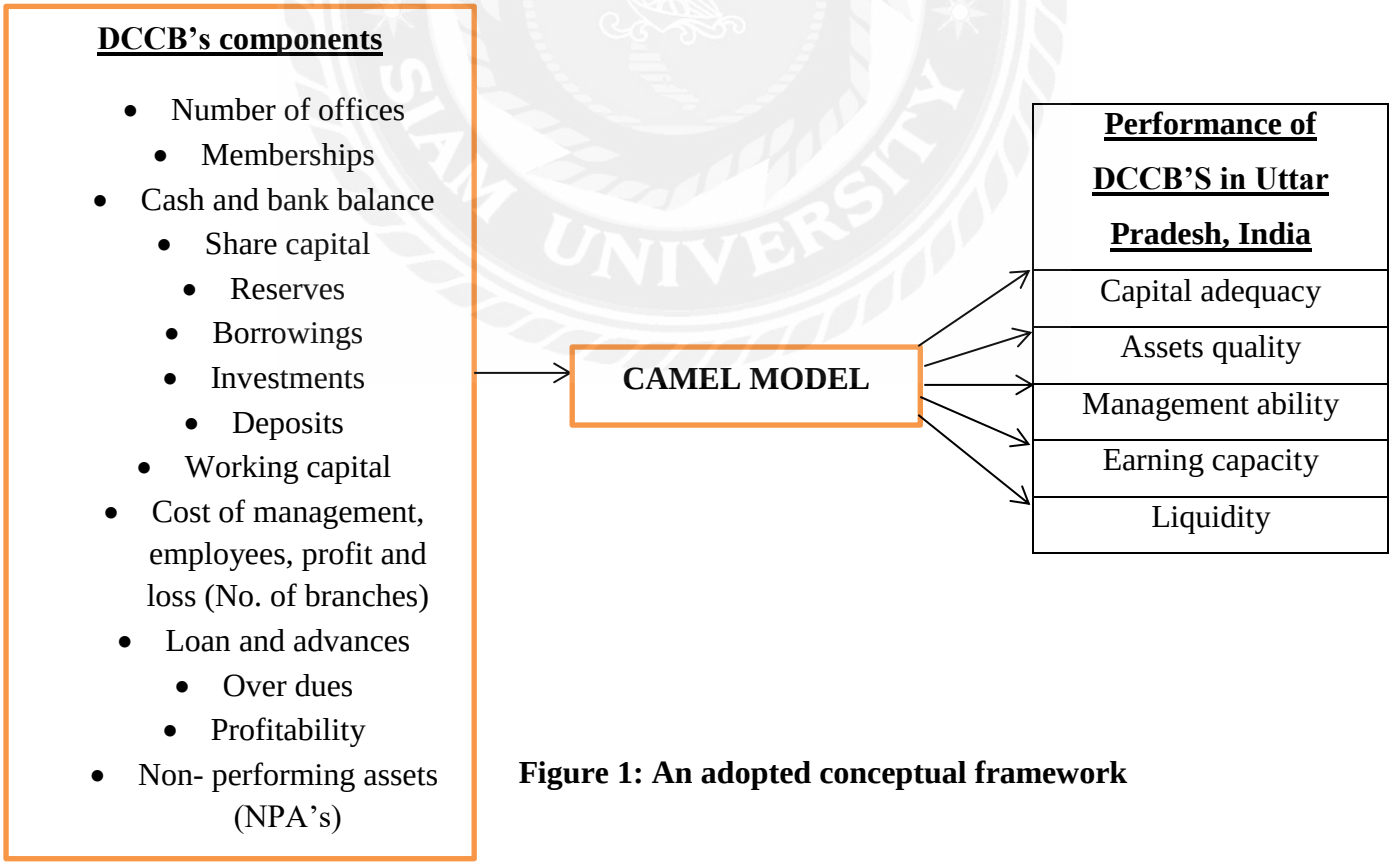

Figure 1: An adopted conceptual framework

1.8 PRESENTATION OF THE STUDY

This study comprises five chapters. The first chapter explains a brief introduction of the topic accompany with specific objectives, research questions, importance and the scope of the study. In the second chapter, literature reviews are presented in relation to the study objectives. Chapter –III examines the main attributes of the study location, sampling method and structure, research design and analytical tools used in the analysis of data. The empirical results are explained in chapter-IV. Finally, Chapter-V summarizes the conclusion, recommendation and major findings of the study.

CHAPTER 2

REVIEW OF LITERATURE

A review of literature helps in finding conceptual and methodological constraints pertaining to the study. This will allow the researcher to accumulate relevant data, scrutinize and interpret the data to depict consequential explanations. This chapter undertakes a brief review of past relevant research associated with the present study. Considering in view the objectives of the study, reviews are presented under the following headings.

2.1 District Central Co-operative Banks (DCCB's)

2.2 Components of District Central Co-operative Banks

2.3 Organization chart of District Central Co-operative Banks

2.4 Important policy developments

2.5 Factors affecting the performance of DCCB's

2.6 CAMEL MODEL

2.7 Conclusion

2.1 District Central Cooperative Banks (DCCB's)

The DCCBs hold an important place in the three-level cooperative credit structure. The DCCBs come into PACS credit scheme and establish a vital bridge between the Apex cooperative bank and PACS. The DCCBs perform at the district level, directly connected with PACS at the base level. As a district level credit provider institution, it offers promotional and development activities for the loan seekers. Moreover, in addition to meeting the credit requirements of affiliated PACS also lends a supportive gesture to other types of requirements for people in rural areas.

The rural areas consumer can seek loans and advances for a different array of activities like agriculture purposes, marketing, weaver cooperatives, and cooperatives sugar federation, cooperative spinning mills etc., in addition to this, and it also offers lending services, supervising it members for recoveries. DCCBs can increase its banking facilities simply by passing a resolution under the supremacy of RBI (Reserve Bank of India, Central Bank) and meeting the criteria according to the guidelines prescribed by the Central Bank of India (**Hegde, 2012**).

In the present scenario, DCCBs is competing with commercial banks in terms of mobilizing its resources chaperone with other marketing of banking services in rural as well as in urban areas consists of 363 DCC main banks in all over India with 14,252 branches considering the total number of members as on March 2017 was 3,233,864 including 4, 78,374 cooperative societies members and 2,755,490 individual members and as of March 2017 in Uttar Pradesh, the total numbers of DCC banks were 1,406 in 50 districts and 20,103 cooperative society members followed by1,016 individual members **(Nafscob, 2017).**

2.2 Components of District Central Co-operative Banks

This part explains the components District central co-operative banks in Uttar Pradesh. It includes all the banks in 50 districts. The data collected from the annual reports of Nafscob from the period of 2007-2017.

2.2.1 Number of Offices:

In 2007-2008 the total number of offices of district central cooperative banks in Uttar Pradesh was 1,369. These all offices include all 50 districts in Uttar Pradesh. The number of offices in the following year was recorded as 1,363 and 1,356 in 2008-2009 and 2009-2010 respectively. In 2010-2011, it was 1,373 followed by 1,384, 1385, and 1,395 in 2012, 2013 and 2014 respectively. The number of DCCB's offices was 1,406 in 2016 and 2017.

TABLE 2.1: NUMBER OF OFFICES

Year	***Number Of District Central Co-Operative Bank Offices In Uttar Pradesh (50 districts)***
2007-2008	1,369
2008-2009	1,363
2009-2010	1,356
2010-2011	1,373
2011-2012	1,384
2012-2013	1,385
2013-2014	1,395
2014-2015	1,394
2015-2016	1,406
2016-2017	1,406

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

2.2.2 Memberships:

DCCB's memberships include the co-operative society's members and individual members. The data mentioned below show the summative memberships of DCCB's in Uttar Pradesh from the period 2007 to

2017. It states that total memberships in 2007-2008 were 24,908 members and 21,119 members in 2016-2017.

TABLE 2.2: (MEMBERSHIPS- CO-OPERATIVE SOCIETIES & INDIVIDUALS)

Year	Co-Operative Societies (50 districts)	Individuals (50 districts)	Total Memberships (50 districts)
2007-2008	21,243	2,855	24,098
2008-2009	20,377	1,706	22,083
2009-2010	20,425	1,542	21,967
2010-2011	51,086	2,634	53,720
2011-2012	258,036	2,547	26,058
2012-2013	20,304	1,508	21,812
2013-2014	20,412	1,506	21,918
2014-2015	19,674	1,500	21,174
2015-2016	19,504	1,489	20,993
2016-2017	20,103	1,016	21,119

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

2.2.3 Cash and bank balance

TABLE 2.3: (CASH ON HAND & CASH BALANCE WITH BANK)

Year	Cash On Hand (INR, LAKHS)	Cash Balance With Bank (INR, LAKHS)
2007-2008	14,011	30,146
2008-2009	17,015	56,862
2009-2010	19,179	85,583
2010-2011	19,085	86,959
2011-2012	19,988	73,087
2012-2013	25,553	67,685
2013-2014	23,453	71,769
2014-2015	24,065	100,501
2015-2016	25,130	99,182
2016-2017	35,435	84,685

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

DCCB's cash on hand was INR14, 011 lakhs in 2007-2008 followed by INR 25, 553 lakhs in 2012-2013 and INR 35,435 lakhs in 2016-2017. On the other hand, cash balance with the bank in 2007-2008 was INR 30,146 lakhs and INR 73, 087 lakhs in 2011-2012 followed by INR 84, 685 lakhs in 2016- 2017.

2.2.4 Share capital

TABLE 2.4: (SHARE CAPITAL (PAID UP) – INR, LAKHS)

Year	Co-Operative Societies (50 districts)	Government (50 districts)	Individual (50 districts)	Total (50 districts)
2007-2008	23,337	9,675	962	33,974
2008-2009	25,856	8,291	214	34,361
2009-2010	27,936	8,113	157	36,206
2010-2011	29,595	7,774	782	38,151
2011-2012	34,758	7,067	1,023	42,848
2012-2013	39,088	6,645	130	45,863
2013-2014	39,318	10,772	341	50,431
2014-2015	51,157	7,506	129	58,792
2015-2016	57,685	17,725	906	76,316
2016-2017	65,776	58,028	256	124,060

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

In DCCB's share capital is paid up capital which includes paid capital from Co-operative societies members from all 50 districts in Uttar Pradesh and certain portions are from government followed by individuals. In 2007- 2008, paid-up share capital was INR23, 337 lakhs from cooperative society's members, INR 9, 675 lakhs from government sourcing and INR 962 lakhs from individuals. In 2016-2017, it was INR 65,776 lakhs from cooperative society's members and INR 58, 028 lakhs from government followed by INR 256 lakhs from individuals.

2.2.5 Reserves

TABLE 2.5: (RESERVES AND OTHER FUNDS

Year	***Statutory reserve fund***	***Agricultural stabilization fund***	***Other reserves***	***Total***	***Trend (%)***
2007-2008	13,221	4,442	95,839	113,502	100
2008-2009	14,065	4,931	100,832	119,828	105.5735
2009-2010	16,224	5,970	126,915	149,109	131.3713
2010-2011	17,105	6,372	13,9271	162,748	143.3878
2011-2012	20,620	6,935	134,500	162,055	142.7772
2012-2013	20,599	9,428	136,907	166,934	147.0758
2013-2014	25,458	9,625	139,113	174,196	153.4739
2014-2015	25,343	10,331	147,877	183,551	161.7161
2015-2016	44,743	10,758	209,472	264,973	233.4523
2016-2017	31,773	11,835	191,739	235,347	207.3505

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

The District Co-operative Banks in Uttar Pradesh mainly maintained three categories of reserves:

- Statutory Reserve Fund,
- Agricultural Credit Stabilization Fund, and
- Other Reserve Funds.

The statutory reserve funds were INR 13, 221 lakhs in 2007-2008 followed by INR 31, 773 lakhs in 2016- 2017 and agricultural stabilization fund was INR 4, 442 lakhs in 2007- 2008 and INR 11, 835 lakhs in 2016- 2017. On the contrary, other reserves were INR 95, 839 lakhs in 2007- 2008 and INR 191, 739 lakhs in 2016-2017.

2.2.6 Borrowings

TABLE 2.6 (BORROWINGS)

Year	Total Borrowings
2007-2008	176,039
2008-2009	186,468
2009-2010	189,271
2010-2011	232,343
2011-2012	325,815
2012-2013	361,320
2013-2014	793,826
2014-2015	486,572
2015-2016	537,068
2016-2017	962,887

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

District Co-operative Banks borrowed from SCB (State co-operative bank) and NABARD (National bank for agriculture and rural development) for agricultural and non-agricultural purposes. These borrowings include both short term and long term. It also includes loans from Government, Commercial banks etc. In 2007 -2008, the borrowings of DCCB's from SCB and NABARD were INR 176, 039 lakhs and in 2012-2013 were INR 361, 320 lakhs and INR 962, 887 lakhs in 2016-2017. (Nafscob, 2007-2017)

2.2.7 Investments

TABLE 2.7: (INVESTMENTS)

Year	Total
2007-2008	347,645
2008-2009	444,575
2009-2010	582,934
2010-2011	641,313
2011-2012	760,770
2012-2013	777,487
2013-2014	793,826
2014-2015	785,768
2015-2016	893,211
2016-2017	962,887

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

The District Central Co-operative Banks have been investing its funds in different investment avenues and the details of investment by DCCBs are an investment in Govt. Securities, Other trustee securities, purchasing the Debentures of Land Development Banks, fixed deposits and other investments also total investments of DCCB's were INR 347, 645 lakhs in 2007-2008 and it got more than doubled in 2013-2014 as accounted for INR 785,768 lakhs. In 2016- 2017, investments were INR 962, 887 lakhs (Nafscob, annual report 2007-2017).

2.2.8 Deposits

In DCCB's, deposits include two categories; a) source wise b) type wise as the source wise deposits include deposits from co-operatives, individuals, local bodies and from others. On the flip side, type wise deposit include deposits from current and savings, fixed, reserve funds and other deposits. The total deposits of DCCB's were INR 679, 472 lakhs in 2007-2008 and INR 1,509,768 lakhs in 2016-2017(Nafscob, annual report, 2007-2017).

TABLE 2.8 (DEPOSITS, INR, LAKHS)

Year	***Total***
2007-2008	679,472
2008-2009	762,678
2009-2010	897,209
2010-2011	963,457
2011-2012	1,081,179
2012-2013	1,129,675
2013-2014	1,163,014
2014-2015	1,213,761
2015-2016	1,306,987
2016-2017	1,509,768

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

2.2.9 Working capital

Working capital of DCCB's was INR 1, 063, 991lakhs in 2007-2008 followed by 1,830, 439 lakhs in 2013-2014. In 2014-2015, it was recorded as INR 1, 962, 287 lakhs and then in 2015-2016, it was accounted as INR 2, 188, 882 lakhs. In 2016-2017, the working capital of DCCB's was collectively INR 2, 442, 259 lakhs (Nafscob, annual report, 2007-2017).

TABLE 2.9: (WORKING CAPITAL, INR, LAKHS)

Year	Total
2007-2008	1,063,991
2008-2009	1,159,617
2009-2010	1,310,253
2010-2011	1,407,633
2011-2012	1,537,508
2012-2013	1,720,833
2013-2014	1,830,439
2014-2015	1,962,287
2015-2016	2,188,882
2016-2017	2,442,259

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

2.2.10 Cost of management, number of employees, profit and loss-making branches

TABLE 2.10: Cost of management, number of employees, profit and loss (No. of branches),

Years	Cost of management (INR, LAKHS)	Total number of employees	Profit (No. of branches)	Loss (No. of branches)
2007-2008	22,802	7,561	775	537
2008-2009	23,350	7,537	889	407
2009-2010	27,188	7,532	943	367
2010-2011	36,948	7,500	874	580
2011-2012	38,586	7,456	894	446
2012-2013	38,976	7,371	876	467
2013-2014	40,974	7,304	855	496
2014-2015	42,738	6,973	824	526
2015-2016	45,050	6,862	817	542
2016-2017	51,128	7,004	858	501

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

Cost of Management of District Central Co-operative Banks includes salaries and other operating expenses. It is a parameter of the bank to measure the efficiency of DCCB's. The cost of management was INR 22,802 lakhs for 7,561 employees in 2007-2008 and INR 36, 948 lakhs for 7,500 employees and finally, in 2016-2017, it was INR 51, 128 lakhs for 7,004 employees (Nafscob, annual report, 2007-2017).

2.2.11 Loans and advances

TABLE 2.11: (TOTAL LOAN AND ADVANCES, INR, LAKHS)

Year	**Total loan and advances**
2007-2008	504,480
2008-2009	546,564
2009-2010	570,140
2010-2011	648,577
2011-2012	861,745
2012-2013	961,008
2013-2014	1,053,460
2014-2015	1,139,157
2015-2016	1,228,934
2016-2017	1,243,160

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

Loans are given on short term and medium term basis. The purpose of the loan in short-term is seasonal agricultural operations, marketing of crops, supply & distribution, industrial purposes; while medium-term includes minor irrigation, animal husbandry, purchase of shares etc. The loans and advances of district central cooperative banks in U.P. were INR 504,480 lakhs in 2007-2008. This had increased to INR 1,139,157 lakhs in 2014-15 and INR 1,243,160 lakhs in 2016- 2017. The loans and advances of these banks were found continuously rising trends during the study period (Nafscob, annual report, 2007-2017).

2.2.12 OVERDUE

TABLE 2.12: (OVER DUES, INR, LAKHS)

Year	Total over dues
2007-2008	449,618
2008-2009	446,173
2009-2010	427,005
2010-2011	466,840
2011-2012	602,110
2012-2013	695,056
2013-2014	754,680
2014-2015	866,024
2015-2016	988,687
2016-2017	1,142,310

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

At the end of the year 2007-2008, the over dues of district central cooperative banks in Uttar Pradesh were INR449, 618 lakhs, which was raised to INR 866, 024 lakhs in 2014-15. In 2016- 2017, it was recorded as INR 1, 142, 310 lakhs. The over dues for this study period had shown a rising trend continuously. The over dues of DCCB's include dues from medium-term agricultural and medium term non-agricultural categories (Nafscob, annual report, 2007-2017).

2.2.13 profitability

TABLE 2.13: (PROFIT AND LOSS)

Year	Total profit or loss
2007-2008	-22,981
2008-2009	-9,127
2009-2010	-13,512
2010-2011	-17,284
2011-2012	-20,332
2012-2013	-21,318
2013-2014	-21,570

2014-2015	-10,491
2015-2016	-15,900
2016-2017	-38,150

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

The above data shows the large majority of DCCBs were reporting a profit in 2014-15, while some reporting losses too. The number of profit-making DCCBs is 824 and Loss makers are 526 for 2014-15. In 2007-2008, the number of profit-making DCCB's were 775 banks and loss makers were 537 banks in Uttar Pradesh followed by in 2016-2017 it was 858 profit-making branches and 501 were loss makers. The net profit or losses combined of all DCCB's in 2006-2007 were INR -22, 981 lakhs followed by INR -38, 150 lakhs in 2016-2017. The losses of DCCB's had increased over the years (Nafscob, annual report, 2007-2017).

2.2.14 Non-performing assets

An asset becomes Non-performing when it ceases to generate income for the bank. A non-performing asset (NPA) refers to a classification for loans on the books of financial institutions that are in default or are in arrears on scheduled payments of principal or interest. In most cases, debt is classified as non-performing when loan payments have not been made for a period of 90 days and the nonpayment of 90 days is the standard period of time for debt to be categorized as non-performing, the amount of elapsed time may be shorter or longer depending on the terms and conditions set forth in each loan (Maheshwari, K, p.76, 2017).

(TABLE 2.14: NON-PERFORMING ASSETS. INR, LAKHS)

Year	***Total non-performing assets (NPA)***
2007-2008	54,862
2008-2009	100,391
2009-2010	143,135
2010-2011	181,737
2011-2012	259,635
2012-2013	119,641
2013-2014	116,593
2014-2015	121,205
2015-2016	96,906
2016-2017	102,224

(Source: National Federation of State Cooperatives Banks, Nafscob, Annual report, 2007-2017**)**

Carrying non-performing assets also referred to as non-performing loans, on the balance sheet places three distinct burdens on lenders. The nonpayment of interest or principal reduces cash flow for the lender, which can disrupt budgets and decrease earnings. Loan loss provisions, which are set aside to cover potential losses, reduce the capital available to provide subsequent loans. Once the actual losses from defaulted loans are determined, they are written off against earnings (Maheshwari, K, p.77, 2017).

2.3 Organization chart of District Central Co-operative Banks

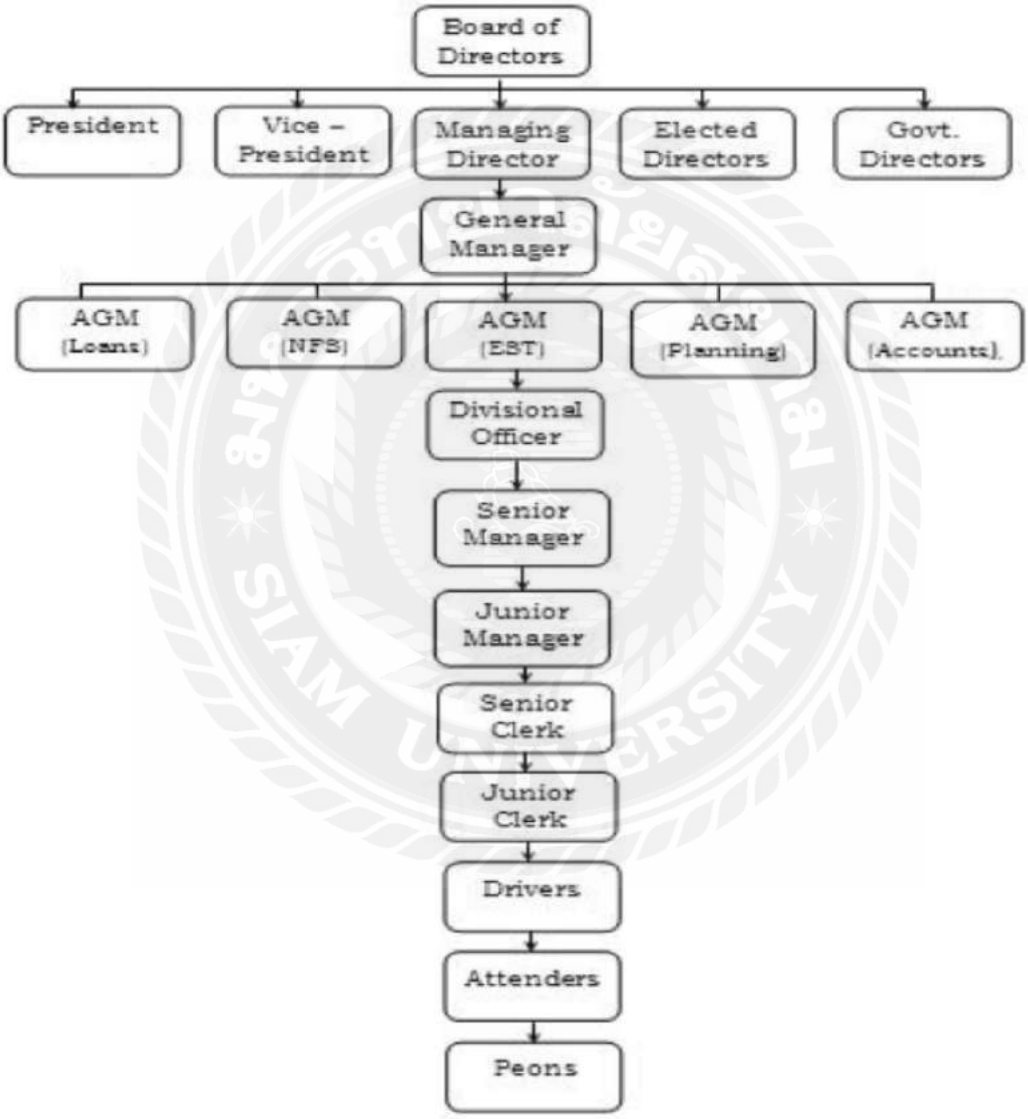

Figure 2: Organizational chart of DCCB's **(**Hegde, V, p.18, 2012)

2.4 Important policy developments

2.4.1 Cooperative credit societies Act (1904)

In this act, no provision was made for the organization of DCCBs which left this organization starving for money and this act only helped the organization from the primary societies only. It enables the demand for loan and money from the members was started to increase. This shortcoming introduces the inception of DCCBs in order to link PACS and coordinate with it. In 1912 this act was renamed as cooperative societies act underlined with an objective of collocating DCCBs. Furthermore, an ample amount of DCCBs has been cataloged in several years in order to marshal funds predominantly in the configuration of deposits and also to borrow money from higher financial institutions in order to encounter the financial needs of affiliated primary societies.

2.4.2 The Maclagan Committee (1914)

In 1914, E.D. Maclagan committee was appointed in order to review the progress of cooperative banking operations and to provide a suggestion for corrective measures. This committee was mainly strengthened to boost certain factors mentioned below;

- To push the cooperative banks in order to expand the business operation
- To limit the business operations to its members only.
- To entrust the work of supervision of cooperatives to its union only.
- To provide supervision and management guidance in assessing and sanctioning the credit limits.
- To restrict the DCCBs operation to a district level only.
- To set up the provision of production oriented loans and measures for adequate deposit mobilization.

2.4.3 Cooperative Planning Committee (Saraya Committee) 1945

The Cooperative Planning Committee recommended possible ways in order to improve the financial advantage of DCCBs and to cover more areas by attracting more population under cooperative societies. The additional recommendation was provided in the committee to entrust the supervision responsibility at times when cooperative unions are not active.

2.4.4 All India Rural Credit Survey Committee (AIRCSC) 1945

The primary recommendation of AIRCSC was as follows

- Linking of borrowing process with shareholdings members only
- The contribution of share capital by Apex Bank towards DCCBs.
- Maintenance of funds regarding agriculture credit related borrowings.
- Contribution and support from RBI towards DCCBs through financial assistance.

2.4.5 All India Rural Credit Review Committee (B. Venkatappaiah committee) 1969

The vital recommendations of the committee included

- To increase the share capital regarding financial assistance towards poor performer DCCBs.
- To provide training and supervision DCCBs working staffs.
- To reorganize the working culture in DCCBs in order to increase business turnover
- To maintain the financial discipline in the organization.

2.5 Factors affecting the performance of DCCB's

(Urs et al. 2000) explained in their study "Measuring the performance of District Co-operative Banks" highlighted 23 parameters to measure the performance of District Co-operative banks. The results found the high deployment of funds followed by a high level of recovery accompanied by lower transaction cost is important parameters to measure the performances of District Co-operative Banks.

(Bhaskaran et al. 2000) explained in their study entitled as "Non-performing Assets (NPAs) in Co-operative Rural Financial System: A major challenge to rural development examined that even after the change in banking regulation, recovery performances of DCCBs persistent to be substandard and mediocre. This restricts the overall profitability and liquidity of DCCBs.

(Mavaluri et al. 2006) examined the efficiency of DCCBs to be contingent of elevated profitability ratio, prominent productivity, and top asset quality and in this study result achieved that public sector banks more potential to flourish than other kinds of banks maneuvering in India.

Krishna Swami (1972) tried to highlight the progress of co-operatives registered during the post-independence period i.e. taken under plan period to held co-operative is an effective manner and then explained the recommendation of various committees and results of various surveys like all India rural

credit survey (1954) etc. It is observed that the structural defects were rectified and the gap filled in for the effective performance of co-operatives. The resource position was strength through liberal financial support from the RBI (Reserve Bank of India) and special new corporations like agricultural finance corporation (AFC) and national co-operative development corporation (NCDC) etc. Even though many measures were taken, the position of co-operatives is far from satisfactory and its foundation is weak. The author found that the proportion of over dues to outstanding loans was 28.3% in 1961 -62 where it has come down to 25.3% in 1970-71 and again standing to 35% in 1980-81.

Goel (1984) made an in-depth study of the menacing problem of over dues of credit co-operatives, the author has studied the over dues position of primary agricultural credit societies, central co-operative banks(CCB's) state co-operative bank, PLDB's state land development banks and attempted a comparative analysis of those institutions for the period 1975-76 to 1980-81. It was found that at primary level the overdue of the PACS varied in a range of 27 to 46 % to outstanding, whereas for CCB's it was found that the overdue position of the state co-operative bank was better when compared to all the others. They fluctuated in the range of 9.5% to 15% during the study period. The overdue position of primary land development banks is worse when compared to that of PACS. It was 29% to 61% during the study period.

The "Report on the Survey of Co-Operative Banks (1957 -58)" stated the main object of the survey was to study the pattern of financial resources of co-operative banks from their outlets for the investments and the factors underlying the success or failure in their working. The survey was also expected to throw light on the part played by institutions in the financing of small-scale industries. The report also emphasized the need for active support of the state government in the development of co-operative banks by ensuring adequate arrangements for their audit, inspection, and supervision **(Dr. N.S.R Shastry, 1961).**

(Ghatak, 1976): Has made a pioneering study of the Indian rural money market. The objectives of the study were

(a) To investigate the nature and composition and working of the organized and unorganized money markets in the Indian rural economy,

(b) To examine the factors affecting the demand for agricultural credit,

(C) To analyze the nature and determinants of rural money markets and to drive any policy implication this may emerge from the study.

(**Staysail, 1987)**: compared the overdue, recovery performance of co-operatives and commercial banks in West Godavari district of Andhra Pradesh. They ascertained the reason for the irregular and nonpayment of loans. The study found, that in all categories of farmers more than 50 percent were defaulters and the proportion of defaulters was more in case of marginal farmers. A similar trend was also observed in the case of commercial banks. Almost all the sample farmers who obtained co-operative credit for Kharif were found to fail to repay the loan, which was due to the sale of crop production.

(**Mohan Kanda, 1994)** suggested crucial characteristics of a well-managed system of distribution and of providing a support system to agricultural credit. He said that through providing a support system to credit, a greater degree of optimal realization of basic objectives become possible and the tendency towards misuse will also be reduced. He analyzed the date for a decade i.e. from 1985-86 to 1995-96 and found that the share of co-operative in agricultural credit shows a declining trend till 1991-92 and recovered thereafter from 46.4% to 60.3%.

(Mirra, D.P.Maruti Ram V. & Sundar, 2004) studied the relevance of prudential norms and their impact on the co-operative structure. The study tried to understand how prudential norms are really responsible for the deterioration in the financial health of co-operative banks. There is an adverse short-term impact on the functioning of both SCB's and DCB's. This has also resulted in a deceleration in the growth of loans issued. According to this article discussed the non-performing assets management. He studied the NPA management as an important indication of a healthy banking system and is its ability to recycle its fund, in such a way as to ensure its optimum utilization further the study observed that for a sound and efficient banking system it is essential that banks should have a) Sound accounting policies b) Sound internal system c) Effective recovery (**Phadnis S.G, 1998)**

(Puyalvannan P., 1997) made on attempt to study the over dues, recovery performance and erosion of funds in CCB's in Raj state and stressed on the fact that, while lending is a fire are requiring sharp, commercial advent, efficient and effective recovery of advances in perhaps a still fine art, requiring of specialization.

2.6 CAMEL MODEL

In 1979, the bank regulatory agencies in the US had created the uniform financial institution rating system (UFIRS) to detect overall banking conditions (Datta, 2012). In 1988, the Basel Committee on Banking Supervision of the Bank of International Settlements (BIS), firstly proposed the CAMEL framework in order to assess financial intuitions subjected to market sensitivity (Dash & Das, 2009).

The CAMEL rating system is an international and top notch method to disclose banking performances or related financial institutions working capacity and widely accepted all over the world by using six factors: Capital adequacy, Asset quality, Management soundness, Earnings and Profitability, and Liquidity and sensitivity (Datta, 2012). In 1997, the sixth factor, sensitivity to market risk was included in the CAMEL framework (Dash & Das, 2009, Gunsel, 2005).

Riyani, 2010 explained CAMEL rating is the most effective model and technique in order to justify the performance of financial bodies all over the world. It was first used in the US for on-site and off-site monitoring purposes (Kaya, 2001).

A primitive model such as financial ratios in order to evaluate bank and financial institution performances had been used for a very long time, CAMEL model is now widely accepted and used by bank management to evaluate the health and performance of banks (Rozanni & Rahman, 2013). The study of the financial performance of banks by using the CAMEL rating system considered to be an ideal, useful and effective model for benchmarking and evaluating the health of its operations (Nimalathasan, 2008).

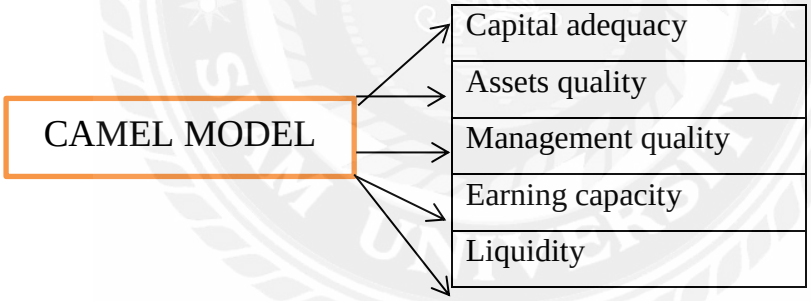

Figure 3: Components of CAMEL MODEL (UFIRS, 1997)

Capital adequacy

Capital adequacy is the expectation of capital to sustain balance with the risk exposure of financial institutions in order to safeguard financial institution from credit risk, market risk, and operational risk to digest the potential losses and protect the financial institution from becoming solvent (Uniform Financial Institutions Rating System, 1997, p.4).

Ratios

There are various ways to calculate the capital adequacy ratios as this study selected the authors are mentioned below (Dang, U. 2011) and (Srinivasan, Dr., Saminathan, Y. 2016) as ideal ratio in order to calculate capital ratio analysis is required to meet ≥ 8% settled by Bank for International Settlement (BIS, 1988).

Table 2.15: Capital ratio analysis

Year	Author	Title	Formula	Criteria
2011	Dang, U.	The camel rating system in banking supervision-A case study	Total capital / Total assets	≥4-6%
2016	Srinivasan, Dr., Saminathan, Y.	A Camel model analysis of public, private and foreign sector banks in India	(Share Capital + reserves)/ (Deposits + Borrowings + other liabilities).	Lower the better

Asset quality

According to Grier (2007), "poor asset quality is the major cause of most bank failures". A most important asset category is the loan portfolio; the greatest risk facing the bank is the risk of loan losses derived from the delinquent loans. The credit analyst should carry out the asset quality assessment by performing the credit risk management and evaluating the quality of loan portfolio using trend analysis and peer comparison. Measuring the asset quality is difficult because it is mostly derived from the analyst's subjectivity.

Ratios

There are various ways to calculate the assets quality ratios as this study selected the authors are mentioned below (Dang, U. 2011), (Channaveere Gowda B.N., Anand M.B., and Arun Kumar D.C. 2013) and (Srinivasan, Dr., Saminathan, Y. 2016) as ideal ratio in order to calculate capital ratio analysis is required to meet ≤ 1% settled by Bank for International Settlement (BIS, 1988).

Table 2.16: Assets quality ratios

Year	Author	Title	Formula	Criteria
2011	Dang, U.	The camel rating system in	NPAs/ Total loans and	≤1%

		banking supervision-A case study	advances	
2013	Channaveere Gowda B.N., Anand M.B., and Arun Kumar D.C.	Bank performance in India: A study based on CAMEL framework	Net NPA= Net NPA/ Total loan	≤1%
2016	Srinivasan, Dr., Saminathan, Y.	A Camel model analysis of public, private and foreign sector banks in India	Non-performing Assets / Net advances	Lower the better

Management quality

Management quality is basically the capacity and ability of superior level management, to deduce, scrutinize and control the risks of an institution's activities and to ensure the safe and friendly along with an efficient operation in relation to compliance with laws and regulations (Uniform Financial Institutions Rating System 1997, p.6).

Ratios

There are various ways to calculate the management quality ratios as this study selected the authors are mentioned below (Dang, U. 2011), (Channaveere Gowda B.N., Anand M.B., and Arun Kumar D.C. 2013) and (Srinivasan, Dr., Saminathan, Y. 2016) as ideal ratio in order to calculate capital ratio analysis is "higher the better" settled by Bank for International Settlement (BIS, 1988).

Table2.17: Management quality ratios

Year	**Author**	**Title**	**Formula**	**Criteria**
2011	Dang, U.	The camel rating system in banking supervision-A case study	Total asset growth rate = Average of historical asset growth rate Loan growth rate = Average of historical loan	Nominal GNP growth Nominal GNP

			growth rate Earning growth rate = Average of historical earning growth rate	Growth ≥10-15%
2013	Channaveere Gowda B.N., Anand M.B., and Arun Kumar D.C.	Bank performance in India: A study based on CAMEL framework	Total advance to total deposit = Total deposit/ Total deposit Business per employee = Total Income/ No. of employees Profit per employee = Net profit/ No. of employees	Higher the better Higher the better Higher the better
2016	Srinivasan, Dr., Saminathan, Y.	A Camel model analysis of public, private and foreign sector banks in India	Total advance to total deposit = Total deposit/ Total deposit Business per employee = Total Income/ No. of employees Profit per employee = Net profit/ No. of employees	Higher the better Higher the better Higher the better

Earning ability

This component of CMAEL MODEL reflects not only the earning potential of financial institutions but the trend of earnings for the same it also reflects the factors that may affect the sustainability of earnings. Poor management may cause a higher percentage of the loan and several losses and in return requires higher loan allowance or poses a high level of market risks. The future performance in earning should be given equal or greater value than past and present performance (Uniform Financial Institutions Rating System, 1997, p.7).

Ratio

There are various ways to calculate the earnings ability as this study selected the authors are mentioned below (Dang, U. 2011) as an ideal ratio in order to calculate capital ratio analysis is ≥1% settled by Bank for International Settlement (BIS, 1988).

Table 2.18: Earning ability

Year	Author	Title	Formula	Criteria
2011	Dang, U.	The camel rating system in banking supervision-A case study	Return of Asset= Net profit/ Total asset	≥1%

Liquidity

There should be adequacy of liquidity sources compared to present and future needs, and availability of assets readily convertible to cask without undue loss. The fund management practices should ensure an institution is able to maintain a level of liquidity sufficient to meet its financial obligations in a timely manner; and capable of quickly liquidating assets with minimal loss (Uniform Financial Institutions Rating System 1997, p. 8).

Ratios

There are various ways to calculate the liquidity ratios as this study selected the authors are mentioned below (Dang, U. 2011), (Channaveere Gowda B.N., Anand M.B., and Arun Kumar D.C. 2013) and (Srinivasan, Dr., Saminathan, Y. 2016) as ideal ratio in order to calculate liquidity ratio analysis is < 80% settled by Bank for International Settlement (BIS, 1988).

Table 2.19: Liquidity analysis

Year	Author	Title	Formula	Criteria
2011	Dang, U.	The camel rating system in banking supervision-A case study	Total loans/total deposits	$\leq$ 80%
2013	Channaveere Gowda B.N., Anand M.B., and Arun Kumar D.C.	Bank performance in India: A study based on CAMEL framework	Total loans to total deposit = Total loans/ Total deposit	
2016	Srinivasan, Dr., Saminathan, Y.	A Camel model analysis of public, private and foreign sector banks in India	Cash assets / Total assets Government securities/ Total assets Liquid asset/ total deposit	Higher the better Higher the better Higher the better

2.7 Conclusion

This chapter partly answered the research questions and objectives of this study as the financial performance of combined district central co-operative banks in Uttar Pradesh were not in sound position. The non-performing assets increased over the years. The total loans and advances had increased as well. Over dues and borrowings from banks collectively had increased. Cost of management also had shown an increasing trend in relation with a number of staffs which is ideally not a positive sign for the functioning of banks when banks over-dues and outstanding loans and advances are showing an increasing trend. Past researchers and scholars also mentioned the factors affecting the performance of DCCB's were outstanding loans, low profitability, lack of proper utilization of funds, higher NPA's, inefficient deposit utilization tendencies of DCCB's and poor recovery of loans. The CAMEL model selected for this study is being discussed in detail and previous researchers literature based on this model are being reviewed and will be used for this study. Moreover, this study needs more concrete and solid explanations of the performance of district central co-operative banks in Uttar Pradesh in order to justify the objectives of this study by using statistical tools.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter particularly deals with sampling method which suited for this study, the procedure of data collection, sources of data collection, a period of study, techniques and statistical instrument used in this study in order to analyze the data. The methodology is presented under the following headings.

3.1 Research design

This study is the longitudinal type of research, a research design in which data is collected for the same subject matter frequently over the period of time and the time frame for this type of study can expand over years or even decades (Kothari C.R. 1990, p. 15). Furthermore, this study is analytical in nature as data and information is already available in which the researcher uses to deduce and make critical evaluations of the material, (p. 17)

3.2 Sampling procedure

There are 50 major districts in which DCCB's are being concentrated in UP., and data of each DCCB is taken for study also there is no sample selection in the study because the whole population is selected unlike sample investigation, not only some banks are selected, but all banks are studied in census investigation as in census investigation the data collected is more faithful, reliable and applicable (Kothari C.R. 1990, p. 55).

3.3 Data collection

The study is mainly based on secondary data; primary data were collected by interacting with officials and banking experts and also those who are connected with the financial performance of the co-operative banks (Kothari C.R. 1990, p.95).

3.4 Sources of data collection

The secondary data used in this chapter are from two sources- The State Co-operative Bank (SCB), U.P. and the National Federation of State Co-operative Banks (NAFSCOB). It has been sourced from NAFSCOB official website with respect to a number of offices, membership's, reserves, investments, total loans and advances outstanding, deposits, and non-performing assets. It is also supplemented with the main office of the National Bank for Agricultural and Rural Development (NABARD).

3.5 Period of the study

The period of study is related to the last 10 years. It analyses data of district central co-operative banks of Uttar Pradesh from the financial year 2007-2008 to 2016-2017.

3.6 Method of analysis

3.6.1 CAMEL MODEL

The CAMEL model adopted for this study to deduce and evaluate the performance of DCCB's as in literature review of this study discussed various authors had used this model to define and analyze the banking performance in India. The literature review explained the criteria of different authors using the CAMEL model. This study will also use the same method and criteria as discussed by different authors in the literature review. The criteria which will be used are mentioned below to evaluate DCCB's performance over the years.

Table 3.1CAMEL MODEL criteria adopted in order to evaluate DCCB's performance

Components	Year	Author	Title	Formula	Criteria
CAPITAL ADEQUACY	2011	Dang, U.	The camel rating system in banking supervision-A case study	Total capital / Total assets	≥4-6%
	2016	Srinivasan, Dr., Saminathan, Y.	A Camel model analysis of public, private and foreign sector banks in India	(Share Capital + reserves)/ (Deposits + Borrowings + other liabilities).	Lower the better
ASSETS QUALITY	2011	Dang, U.	The camel rating system in banking supervision-A case study	NPAs/ Total loans and advances	≤1%
	2013	Channaveere Gowda B.N., Anand M.B., and Arun	Bank performance in India: A study	Net NPA= Net NPA/ Total	≤1%

		Kumar D.C.	based on CAMEL framework	loan	
MANAGEMENT QUALITY	2011	Dang, U.	The camel rating system in banking supervision-A case study	Total asset growth rate = Average of historical asset growth rate Loan growth rate = Average of historical loan growth rate Earning growth rate = Average of historical earnings growth rate	Nominal GNP growth Nominal GNP Growth ≥10-15%
	2016	Srinivasan, Dr., Saminathan, Y.	A Camel model analysis of public, private and foreign sector banks in India	Profit per employee = Net profit/ No. of employees	Higher the better

EARNING ABILITY	2011	Dang, U.	The camel rating system in banking supervision-A case study	Return of Asset= Net profit/ Total asset	≥1%
LIQUIDITY ANALYSIS	2011	Dang, U.	The camel rating system in banking supervision-A case study	Total loans/total deposits	≤ 80%

3.7 Formula

3.7.1 Trend analysis

This technique studies the operational and overheads results and financial situation over a series of years. In this method of analysis, previous years of DCCB's annual data from 2007 to 2017 were used. This method can be done to observe the percentage changes over time in the selected data and it's a percentage relationship which explains that each item of different years bears to the same item in the base year.

Trend analysis method concludes very important changes in the nature and functioning of business as by looking at a trend in a particular ratio, one may detect and find the trend of business; falling, rising or remaining relatively constant. Furthermore, this trend analysis also detects the problems through observations in business operations and a sign of good or poor management (Hegde, V, 2012, p. 43).

In this method of analysis, generally the first year is being taken as the base year and the following years are being subjected to the first year. The figure for the base year is taken as 100. The trend percentages are calculated in relation to this base year. In a certain year, the percentage drops below 100 then it will be considered as less than the base year and on the other hand, if it surges up than 100 then it will be considered as more than the base year (p.44).

$$\text{Trend Percentage (\%)} = \frac{\text{Present year value}}{\text{Base year value}} \times 100$$

The above formula will be used to determine the computation of trend analysis of DCCB's indicators such as memberships, deposits, a number of offices, cash &bank balance, share capital, reserves, borrowings, investments, working capital, cost of management, loan, and advances, over dues, profitability and non-performing assets.

3.7.2 Compound annual growth rate

Growth rates for DCCB's in terms of memberships, deposits, number of offices, cash and bank balance share capital, reserves, borrowings, investments, working capital, cost of management, loan and advances, over dues, profitability, and non-performing assets were computed for a period of 10 years from 2007-2008 to 2016-2017. Several functional forms were used to estimate the growth rates of the selected economic variables. The exponential growth model was selected to assess the growth of DCCB's in Uttar Pradesh and to evaluate the performance of DCCB's, Uttar Pradesh and the model is of the following form (Hegde, V, 2012, p.44-45):

The Compound growths were computed by using the exponential function of the form.

$$Y_t = AB^t e^{ut} \text{ ---------- (1)}$$

Where Y_t = Credit disbursed during time t
A = Y in the base year
t = Time period
u_t = Error term
B = 1+g, where g = growth rate.

By taking the logarithm, equation (1) was reduced to the following form.

$\text{Log}Y_t = \text{Log } A + (\text{Log } B)\, t + u_t$ ---------- (2)

Where Log A and Log B were the parameters of the function obtained by Ordinary Least Square (OLS) method.

Defining, $Qt = \log Y_t$

t = time period,

a=log A

b= log B

Equation (2) could be written as follows

Qt = a + bt + ut ---------- (3)

Once the above equation is estimated, g can be computed as:

g = [Antilog (b)-1] x 100 ---------- (4)

For comparison purposes the growth rates arrived at with the help of Equation (4) was multiplied by 100 to obtain the percentage change in the variable concerned, that is the percentage of growth [(Antilog b)-1]x100=log B.

3.8 Conclusion

This chapter explained about the methodology which will be used further in this study to find the results and analyze the performance of District Central Co-operative Banks (DCCB's) as being discussed, this study uses CAMEL model and its formulas to evaluate the performance of DCCB's in Uttar Pradesh, India. The selective formulas and criteria of the CAMEL model are being considered from the literature review. The author's literature review regarding the CAMEL model was discussed in detail in (Chapter 2) and is mentioned in this particular chapter as well. This study is a longitudinal type of research and analytical in nature. The sampling of data is census investigation as the entire population of DCCB's from 50 districts was selected for this study. The data collection for this study is completely from primary sources and gathered from the website of The State Co-operative Bank (SCB), U.P. and the National Federation of State Co-operative Banks (NAFSCOB). The data used in this study is of the last 10 years. It analyses data of district central co-operative banks of Uttar Pradesh from the financial year 2007-2008 to 2016-2017. The study also used trend analysis and CAGR method to determine the growth of different overheads of DCCB's yearly and exponentially.

CHAPTER 4
ANALYSIS AND FINDINGS

4.1 Analysis of DCCB's components

4.1.1: NUMBER OF OFFICES:

TABLE 4.1: NUMBER OF OFFICES

Year	***Number Of District Central Co-Operative Bank Offices In Uttar Pradesh (50 districts)***	***Trend (%)***
2007-2008	1,369	100
2008-2009	1,363	99.56172
2009-2010	1,356	99.0504
2010-2011	1,373	100.2922
2011-2012	1,384	101.0957
2012-2013	1,385	101.1687
2013-2014	1,395	101.8992
2014-2015	1,394	101.8262
2015-2016	1,406	102.7027
2016-2017	1,406	102.7027
Mean	1,383.10	
Standard deviation	17.48936	
Range	50	
CAGR (%)	0.296%	
Minimum	1356.00	
Maximum	1406.00	

TABLE II

The total number of offices of district central cooperative banks in Uttar Pradesh was 1369 in 2007-2008. It considerably increases with the mean of 1383.10 offices in a year. Highest no. of offices recorded in 2015-2016 with 102.7 % of growth and remained the same in the following year compared to the base year of 2007-2008. The compounded growth of a number of DCCB's offices in Uttar Pradesh had merely 0.296%. The above table concludes that the growth of the number of offices is increasing but at a slow or minimal growth rate.

4.1.2: Memberships

The growth of membership of district central cooperative banks in Uttar Pradesh was on the low side to the year until 2009-2010 as it had gone down by 8.36% in 2008-2009 and by 8.84% in the following year, after that, it increased by more than double compared to the base year (2007-2008). In 2012 it started to decline and continued till up to 2016-2017. The average membership recorded for these periods was 25,494 with compounded growth of -1.40% which concludes that memberships among co-operative societies and individuals had declined throughout.

TABLE: 4.2: MEMBERSHIPS- CO-OPERATIVE SOCIETIES & INDIVIDUALS

Year	***Co-Operative Societies (50 districts)***	***Individuals (50 districts)***	***Total Memberships (50 districts)***	***Trend (%)***
2007-2008	21,243	2,855	24,098	100
2008-2009	20,377	1,706	22,083	91.63831
2009-2010	20,425	1,542	21,967	91.15694
2010-2011	51,086	2,634	53,720	222.9231
2011-2012	23,511	2,547	26,058	108.1335
2012-2013	20,304	1,508	21,812	90.51374
2013-2014	20,412	1,506	21,918	90.95361
2014-2015	19,674	1,500	21,174	87.86621
2015-2016	19,504	1,489	20,993	87.11511
2016-2017	20,103	1,016	21,119	87.63798
Mean	25,494.00			
Standard deviation	10,041.00			
Range	32727.00			
CAGR (%)	-1.40%			
Minimum	20993.00			
Maximum	53720.00			

4.1.3: SHARE CAPITAL

TABLE 4.3: SHARE CAPITAL, AMOUNT IN INR, LAKHS)

Year	***Co-Operative Societies (50 districts)***	***Government (50 districts)***	***Individual (50 districts)***	***Total (50 districts)***	***Trend (%)***
2007-2008	23,337	9,675	962	33,974	100
2008-2009	25,856	8,291	214	34,361	101.1391
2009-2010	27,936	8,113	157	36,206	106.5697
2010-2011	29,595	7,774	782	38,151	112.2947
2011-2012	34,758	7,067	1,023	42,848	126.12
2012-2013	39,088	6,645	130	45,863	134.9944
2013-2014	39,318	10,772	341	50,431	148.44

2014-2015	51,157	7,506	129	58,792	173.05
2015-2016	57,685	17,725	906	76,316	224.6306
2016-2017	65,776	58,028	256	124,060	365.1616
Mean	54,100.20				
Standard deviation	26, 433.19				
Range	90,086.00				
CAGR (%)	15.47%				
Minimum	33,974.00				
Maximum	124,060.00				

The total share capital recorded in all the districts of Uttar Pradesh was 33, 974 INR lakhs in 2007-2008 as it had increased slightly over the next three years by 1.13%, 6.56%, and 12.29% respectively. Furthermore, the share capital had increased reasonably well in 2011-2012 by 26.12 % compared to the base year (2007-2008) and followed the same trend until 2014-2015. In 2015-2016 and 2016-2017 it had grown more than twice and thrice by 124.63 % and 265.16 % respectively. The mean growth of share capital over the years was 54,100. 20 INR lakhs and compounded growth was substantially over 15% which concludes the growth of share capital contributed by its members, government, and individuals satisfactorily.

4.1.4: RESERVES AND OTHER FUNDS

TABLE: 4.4 RESERVES AND OTHER FUNDS, AMOUNT IN INR, LAKHS

Year	***Statutory reserve fund***	***Agricultural stabilization fund***	***Other reserves***	***Total***	***Trend (%)***
2007-2008	13,221	4,442	95,839	113,502	100
2008-2009	14,065	4,931	100,832	119,828	105.5735
2009-2010	16,224	5,970	126,915	149,109	131.3713
2010-2011	17,105	6,372	13,9271	162,748	143.3878
2011-2012	20,620	6,935	134,500	162,055	142.7772
2012-2013	20,599	9,428	136,907	166,934	147.0758
2013-2014	25,458	9,625	139,113	174,196	153.4739
2014-2015	25,343	10,331	147,877	183,551	161.7161
2015-2016	44,743	10,758	209,472	264,973	233.4523
2016-2017	31,773	11,835	191,739	235,347	207.3505
Mean	173,224.30				
Standard deviation	46,735.87				
Range	151,471.00				
CAGR (%)	8.43%				
Minimum	113,502.00				
Maximum	264,973.00				

The reserve and other funds of DCCB's in Uttar Pradesh had increased over the year considerably as it was recorded 113, 502 INR Lakhs in 2007-2008 and increased by 5.57% in the following year and lately had grown by 53.47% in 2013-2014 and then further grown favorably by more than double as by 133.45% compared to the base year (2007-2008). The average growth of reserve funds calculated as 173, 224.30 INR, Lakhs. The CAGR (%) recorded the growth of 8.43% only over a decade which is fairly low.

4.1.5: DEPOSITS

TABLE 4.5: DEPOSITS, AMOUNT IN INR, LAKHS

Year	*Total*	*Trend (%)*
2007-2008	679,472	100
2008-2009	762,678	112.2457
2009-2010	897,209	132.045
2010-2011	963,457	141.795
2011-2012	1,081,179	159.1205
2012-2013	1,129,675	166.2578
2013-2014	1,163,014	171.1644
2014-2015	1,213,761	178.633
2015-2016	1,306,987	192.3533
2016-2017	1,509,768	222.1972
Mean	1,070,720.00	
Standard deviation	251,821.26	
Range	830,296.00	
CAGR (%)	9.27%	
Minimum	679,472.00	
Maximum	1,509,768.00	

The above table explains that in 2007-2008, total deposits were recorded 679,472 INR Lakhs and had grown gradually over the next following years until had grown by 59.12% in 2011-2012 compared to 2007-2008. Then it had gone up to by 92.35% in 2015-2016 and lastly, it had increased by more than 100% compared to the base year 2007-2008. The average mean deposits over the years were calculated as 1,070, 720. The compounded growth of deposits over these periods estimated at 9.27%.

4.1.6: WORKING CAPITAL

The table shows that working capital in 2007-2008 was 1,063,991 had grown gradually over the years. The proportionate growth of working capital of all DCCB's banks in Uttar Pradesh, India for the next five years

from the base year was less than 50% as accounted for 44.50% and then the next five years compared with the base year had grown marginally well and finally in 2015-2016 and 2016-2017 it had grown by more than 100% as it had reached more than double percent in both these years. The mean value of working capital over these years.

TABLE: 4.6: WORKING CAPITAL, AMOUNT IN INR, LAKHS

Year	*Total*	*Trend (%)*
2007-2008	1,063,991	100
2008-2009	1,159,617	108.9875
2009-2010	1,310,253	123.1451
2010-2011	1,407,633	132.2975
2011-2012	1,537,508	144.5039
2012-2013	1,720,833	161.7338
2013-2014	1,830,439	172.0352
2014-2015	1,962,287	184.427
2015-2016	2,188,882	205.7237
2016-2017	2,442,259	229.5376
Mean	1,662,370	
Standard deviation	449,980.60	
Range	1378268.00	
CAGR (%)	9.67%	
Minimum	1063991.00	
Maximum	2442259.00	

4.1.7: CASH ON HAND & CASH BALANCE WITH BANK

TABLE 4.7: CASH ON HAND & CASH BALANCE WITH BANK (AMOUNT IN INR, LAKHS)

Year	*Cash On Hand*	*Cash Balance With Bank*	*Total*	*Trend (%)*
2007-2008	14,011	30,146	44,157	100
2008-2009	17,015	56,862	73,877	167.3053
2009-2010	19,179	85,583	104,762	237.2489
2010-2011	19,085	86,959	106,044	240.1522
2011-2012	19,988	73,087	93,075	210.7820
2012-2013	25,553	67,685	93,238	211.1511
2013-2014	23,453	71,769	95,222	215.6442
2014-2015	24,065	100,501	124,566	282.0980
2015-2016	25,130	99,182	124,312	281.5227
2016-2017	35,435	84,685	120,120	272.0293
Mean	97,937.30			
Standard deviation	24,795.60			
Range	80,409.00			

CAGR (%)	11.76%
Minimum	44,157.00
Maximum	124,566.00

The total cash balance was accounted 44,157 INR lakhs in 2007-2008 and the trend had been increasing until 2016-2017 as it had reached more than the double in 2009-2010 and continued to be until 2011-2012 as the trend got shifted and DCCB's cash balances dropped. In the next two years, it registered a slight growth and then in 2014-2015 had received the maximum cash balances over these years. Furthermore, from 2015 to 2017, it dropped slightly. The overall compounded growth of DCCB's in terms of cash balance and cash on hand considered to be positive with 11.76% growth annually. The average cash balance with DCCB's over the last 10 years was 97,937.30 INR lakhs.

4.1.8: INVESTMENTS

Table 4.8: INVESTMENTS, AMOUNT IN INR, LAKHS

Year	***Total***	***Trend (%)***
2007-2008	347,645	100
2008-2009	444,575	127.8819
2009-2010	582,934	167.6808
2010-2011	641,313	184.4735
2011-2012	760,770	218.8353
2012-2013	777,487	223.6439
2013-2014	793,826	228.3439
2014-2015	785,768	226.026
2015-2016	893,211	256.9319
2016-2017	962,887	276.9742
Mean	699,041.60	
Standard deviation	194,030.97	
Range	615,242.00	
CAGR (%)	11.98%	
Minimum	347,645.00	
Maximum	962,887.00	

The above table explains that in 2007-2008 the total investments for all DCCB's in Uttar Pradesh had occurred 347,645 INR, lakhs and had grown successively over the years. It had grown by 84.47% in 2010-11 and 118.47% in 2011-12 followed by 123.64% and 128.34% in 2012-13 and 2013-14 compared with the base year. In the following year, it had plunged down and started to increase in 2015-16 and 2016-17. The maximum growth in investments of DCCB's happened in 2016-2017 as it had grown by 176.97% subjected to

the base year. The mean investments in DCCB's accounted as 699,041.60 INR lakhs. The compounded growth (CAGR %) estimated at 11.98% as there were some fluctuations in the phase.

4.1.9: BORROWINGS

The above table elucidates the borrowings done by DCCB's over the years as it was 176,039 in 2007-08 and increased by 5.92%, 7.51%, 31.98% and 85.08% in 2008-09, 2009-10, 2010-11 and 2011-12 respectively. It had crossed double of 2007-08 in 2012-13 and from there on it had rocketed up by more than four times in 2013-14. The borrowings reduced and gone down in 2017-15 and started again to rise in 2015-16 and 2016-17 compared to 2007-08 and the average mean of borrowings done in DCCB's 425,160.90 INR lakhs and compound growth of borrowings was estimated around 20.78%.

TABLE 4.9: BORROWINGS, AMOUNT IN INR, LAKHS

Year	***Total Borrowings***	***Trend (%)***
2007-2008	176,039	100
2008-2009	186,468	105.9243
2009-2010	189,271	107.5165
2010-2011	232,343	131.9838
2011-2012	325,815	185.0811
2012-2013	361,320	205.25
2013-2014	793,826	450.9376
2014-2015	486,572	276.4001
2015-2016	537,068	305.0847
2016-2017	962,887	546.9737
Mean	**TABLE X**425,160.90	
Standard deviation	272,266.60	
Range	786,848.00	
CAGR (%)	20.78%	
Minimum	176,039.00	
Maximum	962,887.00	

4.1.10: TOTAL LOAN AND ADVANCES

TABLE 4.10: TOTAL LOANS AND ADVANCES

Year	*Total loan and advances*	*Trend (%)*
2007-2008	504,480	100
2008-2009	546,564	108.3421
2009-2010	570,140	113.0154
2010-2011	648,577	128.5635
2011-2012	861,745	170.8185
2012-2013	961,008	190.4948
2013-2014	1,053,460	208.821
2014-2015	1,139,157	225.8082
2015-2016	1,228,934	243.6041
2016-2017	1,243,160	246.424
Mean	875,722.50	
Standard deviation	290,472.42	
Range	738,680.00	
CAGR (%)	10.54%	
Minimum	504,480.00	
Maximum	1,243,160.00	

The total loans and advances accounted for 504,480 INR, lakhs in 2007-08 and increased to 546,564 INR, lakhs in 2008-09, 570,140 INR, lakhs in 2009-10 and 648,577 INR, lakhs in 2010-11 and then had grown by 90.49% in 2012-13 compared to the base year (2007-08). Lately, it had increased by 108.82%, 125.80% and 143.60% in 2013-14, 2014-15 and 2015-16 respectively. Finally, in 2016-17, total loans and advances given by DCCB's were 1,139,157 INR in lakhs. The average loans and advances given by DCCB's were 875,722.50. The compounded annual growth (CAGR %) of total loans and advances were 10.54%.

4.1.11: OVER DUES

TABLE 4.11: OVER DUES, AMOUNT IN INR, LAKHS

Year	*Total over dues*	*Trend (%)*
2007-2008	449,618	100
2008-2009	446,173	99.23379
2009-2010	427,005	94.97062
2010-2011	466,840	103.8304
2011-2012	602,110	133.9159
2012-2013	695,056	154.5881
2013-2014	754,680	167.8492
2014-2015	866,024	192.6133
2015-2016	988,687	219.8949

2016-2017	1,142,310	254.0623
Mean	683,850.30	
Standard deviation	252,221.26	
Range	715,305.00	
CAGR (%)	10.91%	
Minimum	427,005.00	
Maximum	1,142,310.00	

The above table explains that in 2007-2008, over dues were 449,618 INR lakhs and it slightly got better in 2008-09 and 2009-10 as got reduced by 0.76% and 5.03% respectively. In 2012-13, over dues grown up to 695,056 INR in lakhs and reached up to 988,687 and 1,142,310 in 2015-16, 2016-17 respectively. The mean over dues of DCCB's was 683.850.30 INR in lakhs. The compounded annual growth rate (CAGR %) accounted for 10.91%.

4.1.12: PROFIT AND LOSS

TABLE 4.12: PROFIT AND LOSS, AMOUNT IN INR, LAKHS

Year	***Total profit or loss***	***Trend (%)***
2007-2008	-22,981	100
2008-2009	-9,127	39.71542
2009-2010	-13,512	148.0443
2010-2011	-17,284	127.9159
2011-2012	-20,332	117.6348
2012-2013	-21,318	104.8495
2013-2014	-21,570	101.1821
2014-2015	-10,491	48.637
2015-2016	-15,900	151.5585
2016-2017	-38,150	239.9371
Mean	-19,066.50	
Standard deviation	8,224.83	
Range	29,023.00	
CAGR (%)	5.79%	
Minimum	-38,150.00	
Maximum	-9,127.00	

The above explains that DCCB's in Uttar Pradesh combined every districts branches and office were never had profits over the years and always had faced losses as evidently in 2007-08 it was -22,981 INR losses collectively and it had performed better as from the table it can be seen losses gone down by 60.29% but had

increased over the next five years. The trend suggests that in 2014-15 DCCB's managed to write off losses to a very large extent by as it got reduced up to -10,491 INR lakhs from -22,981 INR lakhs cumulatively. Lastly, again it started to make more losses in the following two years and the accounted maximum losses in the year 2016-17 as it was -38,150 INR in lakhs and increased by 139.93% from the base year (2007-08). The average losses which DCCB's made over the years were -19,066.50 INR in lakhs. The compounded annual growth in order to minimize losses was 5.79% seemed to be sluggish

4.1.13: NON-PERFORMING ASSETS

TABLE 4.13: NON-PERFORMING ASSETS (INR, LAKHS)

Year	***Total non-performing assets (NPA)***	***Trend (%)***
2007-2008	54,862	100.00%
2008-2009	100,391	182.99%
2009-2010	143,135	260.90%
2010-2011	181,737	331.26%
2011-2012	259,635	473.25%
2012-2013	119,641	218.08%
2013-2014	116,593	212.52%
2014-2015	121,205	220.93%
2015-2016	96,906	176.64%
2016-2017	102,224	186.33%
Mean	129,633	
Standard deviation	56180.92	
Range	204,773	
CAGR (%)	7.16%	
Minimum	54,862	
Maximum	259,635	

The NPA's in 2007-08 was 54,862 INR lakhs and it had increased by 82.99% in the next year. The NPA' got increased by almost thrice by 160.90% and in 2010-11 it was 181,737 INR lakhs compared to 2007-08. The maximum NPA's was in 2011-2012 had reached up to 259,635 INR lakhs. In 2012-14, in two years it got decreased gradually but picked momentum again in the very next year. Finally, in 2015-16 and 2016-17, it was 96,906 and 102, 224 respectively. The mean NPA's occurred during these periods was 129,633 INR lakhs and CAGR was 7.16%.

4.1.14: COST OF MANAGEMENT, EMPLOYEES, P&L BRANCHES

TABLE 4.14: COST OF MANAGEMENT, EMPLOYEES, P&L BRANCHES

Years	Cost of management (INR, LAKHS)		Total number of employees		Profit (No. of branches)		Loss (No. of branches)	
	Amount	Trend (%)	Total	Trend (%)	Banks	Trend (%)	Banks	Trend (%)
2007-2008	22,802	100	7,561	100	775	100	537	100
2008-2009	23,350	102.4033	7,537	99.68258	889	114.7097	407	75.79143
2009-2010	27,188	119.2352	7,532	99.61645	943	121.6774	367	68.34264
2010-2011	36,948	162.0384	7,500	99.19323	874	112.7742	580	108.0074
2011-2012	38,586	169.222	7,456	98.61129	894	115.3548	446	83.054
2012-2013	38,976	170.9324	7,371	97.4871	876	113.0323	467	86.96462
2013-2014	40,974	179.6948	7,304	96.60098	855	110.3226	496	92.36499
2014-2015	42,738	187.4309	6,973	92.22325	824	106.3226	526	97.95158
2015-2016	45,050	197.5704	6,862	90.75519	817	105.4194	542	100.9311
2016-2017	51,128	224.2259	7,004	92.63325	858	110.7097	501	93.29609
Mean	36,774.00		7,310.00		860.00		486.90	
Std. Dev.	9,447.00		265.18		46.82		65.70	
Range	28,326.00		699.00		168.00		213.00	
Minimum	22,802.00		6,862.00		775.00		367.00	
Maximum	51,128.00		7,561.00		943.00		580.00	
CAGR (%)	9.39%		-0.847%		1.13%		-0.76%	

The above table explains the amount of cost of management was 22,802 and had increased over the years gradually as it can be seen from the table. In 2010-11, it had grown up to 36,948 INR in lakhs as by 62.03% compared to the base year followed by 40,974, 42,738 and 45,050 in 2013-14, 2014-15 and 2015-16 respectively. In 2016-17, it had reached up to 51,128 INR in lakhs as increased by 124.22% compared to the base year. The average cost of management of DCCB's was 36, 774 INR in lakhs and the compounded annual growth rate maintained to be around 9.39%. The number of employees also had decreased over the years as it was 7,561 in 2007-08 and then decreased by 0.22% in the next year and maintained the same tendency over the next two years and then in 2011-12, it decreased more by 1.39% compared with 2007-08. In 2014-15 the number of employees decreased the by nearly 8% compared to the base year and in the very next year, it had decreased by the most proportion by 8.25% compared to 2007-08. The average number of employees worked

over the years was 7.310 and the compounded growth was in negative 0.84%. On the other hand the number of profit-making branches had increased and loss-making branches had decreased over the years as it had gone up by 10.70% and gone down by 6.71%compared with the base year respectively and the average number of profit-making branches in Uttar Pradesh was 860 over the years and loss-making branches were approximately 487. The compounded annual growth of profit and loss-making branches was 1.13% and -0.76% respectively.

4.2 CAMEL MODEL ANALYSIS

4.2.1: CAPITAL ADEQUACY

TABLE 4.15: CAPITAL ADEQUACY- (DANG, U. 2011)

Year	Total capital (INR, Lakhs)	Total assets (INR, Lakhs)	Formula= Total capital/ total assets ≥**4-6%** (Dang, U. 2011)
2007-2008	33,974	2,135,265	1.59%
2008-2009	34,361	2,440,747	1.41%
2009-2010	36,206	2,895,158	1.25%
2010-2011	38,151	3,118,447	1.22%
2011-2012	42,848	3,472,532	1.23%
2012-2013	45,863	3,721,233	1.23%
2013-2014	50,431	3,882,501	1.30%
2014-2015	58,792	4,086,382	1.44%
2015-2016	76,316	4,513,392	1.69%
2016-2017	124,060	5,035,034	2.46%

This part explains the capital adequacy of DCCB's inclusive of all branches and applied the criteria of total capital with respect of total assets as it can be seen from the table the ratio was 1.59% in 2007-08 and then it started to reduce for the next three years continuously and reached the lowest in 2010-11 (1.22%). It had increased slightly and maintained the same in 2011-12 and 2012-13 (1.23%). The ratio got picked up gradually in 2013-14 to 2015-16 as it was 1.30%, 1.44% (2014-15), 1.69% respectively. The maximum total capital to total assets proportion was in 2016-17 as it accounted for 2.46%. The overall capital adequacy using Dang, U 2011 criteria increased sluggishly.

TABLE 4.16: CAPITAL ADEQUACY- (SRINIVASAN, DR., SAMINATHAN, Y. 2016)

Year	Total capital (INR, Lakhs)	Reserves (INR, Lakhs)	Deposits (INR, Lakhs)	Borrowings (INR, Lakhs)	Other liabilities (INR, Lakhs)	**Formula=** (Share Capital + reserves)/ (Deposits + Borrowings + other liabilities). **"Lower the better"** (INR, Lakhs)
2007-2008	33,974	113,502	679,472	176,039	449,618	11.30%
2008-2009	34,361	119,828	762,678	186,468	446,173	11.05%
2009-2010	36,206	149,109	897,209	189,271	427,005	12.24%
2010-2011	38,151	162,748	963,457	232,343	466,840	12.08%
2011-2012	42,848	162,055	1,081,179	325,815	602,110	10.20%
2012-2013	45,863	166,934	1,129,675	361,320	695,056	9.73%
2013-2014	50,431	174,196	1,163,014	793,826	754,680	8.28%
2014-2015	58,792	183,551	1,213,761	486,572	866,024	9.44%
2015-2016	76,316	264,973	1,306,987	537,068	988,687	12.05%
2016-2017	124,060	235,347	1,509,768	962,887	1,142,310	9.94%

This part explains the capital adequacy of DCCB's inclusive of all branches and applied the criteria of total share capital, reserves with respect of deposits, borrowings and other liabilities as it can be seen from the table the ratio was 11.30% in 2007-08 and then it started to reduce for the next year (11.05%) followed by a slight increase in 2009-10 as accounted for 12.24%, plunged down again in 2010-11 as estimated (10.20%) and reached lowest in 2013-14 (8.28%). It had increased slightly in 2014-15 (9.44%). The ratio got picked up gradually in 2015-16 as it was 12.05%. The proportion of total share capital, reserves with respect to deposits, borrowings and other liabilities was in 2016-17 as it accounted for 9.94%. In conclusion, the overall capital adequacy using Srinivasan, Dr & Saminathan, Y 2016 criteria on the lowest side.

4.2.2 ASSETS QUALITY

TABLE 4.17: ASSETS QUALITY- (DANG, U. 2011 & CHANNAVEERE GOWDA B.N., ANAND M.B., AND ARUN KUMAR D.C. 2013)

YEAR	NET NPAs (INR, Lakhs)	TOTAL LOAN & ADVANCES (INR, Lakhs)	FORMULA = Net NPAs/ Total loans and advances ≤1%
2007-2008	54,862	504,480	10.87%
2008-2009	100,391	546,564	18.37%
2009-2010	143,135	570,140	25.11%
2010-2011	181,737	648,577	28.02%
2011-2012	259,635	861,745	30.13%
2012-2013	119,641	961,008	12.45%
2013-2014	116,593	1,053,460	11.07%
2014-2015	121,205	1,139,157	10.64%
2015-2016	96,906	1,228,934	7.89%
2016-2017	102,224	1,243,160	8.22%

This part explains the assets quality of DCCB's inclusive of all branches and applied the criteria of net NPA's with respect of total loan and advances as it can be seen from the table the ratio was 10.87% in 2007-08 and then it started to increase for the next year (18.37%) followed by a steep increase in 2009-10 as accounted for 25.11%, surged up again in 2010-11 as estimated (28.02%) and reached highest in 2013-14 (30.13%). It had decreased largely in 2014-15 (12.45%). The ratio got declined gradually in 2015-16 as it was 7.89%. The proportion of net NPA's with respect to total loan and advances was in 2016-17 as it accounted for 8.22%. In conclusion, the overall capital adequacy using Srinivasan, Dr & Saminathan, Y 2016 criteria on the higher side which ideally is not a very sound position for DCCB's in Uttar Pradesh.

4.2.3 MANAGEMENT ABILITY

TABLE 4.18: MANAGEMENT ABILITY- (DANG, U. 2011)

YEAR	TOTAL ASSET GROWTH = Average of historical asset growth rate (INR, Lakhs)	GROWTH RATE = Ending value (EV)/ beginning value (BV)-1*100		
		Ending value (EV)/ beginning value (BV)	Ending value (EV)/ beginning value (BV)-1	Ending value (EV)/ beginning value (BV)-1*100
2007-2008	2,135,265	-		
2008-2009	2,440,747	1.1431	0.1431	14.31%
2009-2010	2,895,158	1.1862	0.1862	18.62%
2010-2011	3,118,447	1.0771	0.0771	7.71%
2011-2012	3,472,532	1.1135	0.1135	11.35%
2012-2013	3,721,233	1.0716	0.0716	7.16%
2013-2014	3,882,501	1.0433	0.0433	4.33%
2014-2015	4,086,382	1.0525	0.0525	5.25%
2015-2016	4,513,392	1.1045	0.1045	10.45%
2016-2017	5,035,034	1.1156	0.1156	11.56%
AVERAGE HISTORICAL ASSET GROWTH RATE				10.08%

TABLE 4.19: MANAGEMENT ABILITY – (DANG, U. 2011)

YEAR	LOAN GROWTH RATE= Average of historical loan growth rate (INR, Lakhs)	LOAN GROWTH RATE = Ending value (EV)/ beginning value (BV)-1*100		
		Ending value (EV)/ beginning value (BV)	Ending value (EV)/ beginning value (BV)-1	Ending value (EV)/ beginning value (BV)-1*100
2007-2008	504,480	-		
2008-2009	546,564	1.0834	0.0834	8.34%
2009-2010	570,140	1.0431	0.0431	4.31%
2010-2011	648,577	1.1376	0.1376	13.76%
2011-2012	861,745	1.3287	0.3287	32.87%

2012-2013	961,008	1.1152	0.1152	11.52%
2013-2014	1,053,460	1.0962	0.0962	9.62%
2014-2015	1,139,157	1.0813	0.0813	8.13%
2015-2016	1,228,934	1.0788	0.0788	7.88%
2016-2017	1,243,160	1.0116	0.0116	1.16%
AVERAGE HISTORICAL LOAN GROWTH RATE				**10.84%**

TABLE 4.20: MANAGEMENT ABILITY- (DANG, U. 2011)

YEAR	**EARNING GROWTH RATE= Average of historical loan growth rate (INR, Lakhs)**	**EARNING GROWTH RATE = Ending value (EV)/ beginning value (BV)-1*100** **CRITERIA :** ≥10-15%		
		Ending value (EV)/ beginning value (BV)	**Ending value (EV)/ beginning value (BV)-1**	**Ending value (EV)/ beginning value (BV)-1*100**
2007-2008	-22,981	-		
2008-2009	-9,127	0.3972	-0.6028	-60.28%
2009-2010	-13,512	1.4804	0.4804	48.04%
2010-2011	-17,284	1.2792	0.2792	27.91%
2011-2012	-20,332	1.1763	0.1763	17.63%
2012-2013	-21,318	1.0485	0.0485	4.84%
2013-2014	-21,570	1.0118	0.0118	1.18%
2014-2015	-10,491	0.4864	-0.5136	-51.36%
2015-2016	-15,900	1.5156	0.5156	51.55%
2016-2017	-38,150	2.3994	1.3994	139.93%
AVERAGE HISTORICAL EARNING GROWTH RATE (NEGATIVE)				**19.94%**

The tables 4.18, 4.19 & 4.20 explain average historical assets growth rate, average historical loan growth rate, and average historical earnings growth rate. The growth rate calculated for all three methods explained by DANG, U. 2011 is 10.08%, 10.84% and -19.94% respectively. The average growth of loan is higher than the average growth of assets and average earning mentioned -19.94% which concludes no earnings for DCCB's over these periods.

TABLE 4.21: MANAGEMENT ABILITY – (SRINIVASAN, DR., SAMINATHAN, Y. 2016)

Year	**Total net profit (INR, lakhs)**	**No. of employees**	**Formula = Net profit/ no. of employees**
2007-2008	-22,981	7,561	-3.03941
2008-2009	-9,127	7,537	-1.21096
2009-2010	-13,512	7,532	-1.79395
2010-2011	-17,284	7,500	-2.30453
2011-2012	-20,332	7,456	-2.72693
2012-2013	-21,318	7,371	-2.89214

2013-2014	-21,570	7,304	-2.95318
2014-2015	-10,491	6,973	-1.50452
2015-2016	-15,900	6,862	-2.31711
2016-2017	-38,150	7,004	-5.44689

The banking operation of DCCB's contributed losses over the mentioned years which conclude that every employee associated with DCCB's didn't contribute profit in management operations and functioning. According to this method, with every year progressed employees contributed losses and the highest was in 2016-17 as it was -5.44689 INR lakhs per employee and lowest in -1.21096 INR lakhs.

4.2.4 EARNING CAPACITY

TABLE 4.22: EARNING CAPACITY - (DANG, U. 2011)

Year	Total net profit (INR, lakhs)	Total assets (INR, lakhs)	Formula = net profit/ total assets (≥1%)
2007-2008	-22,981	2,135,265	-1.08%
2008-2009	-9,127	2,440,747	-0.37%
2009-2010	-13,512	2,895,158	-0.47%
2010-2011	-17,284	3,118,447	-0.55%
2011-2012	-20,332	3,472,532	-0.59%
2012-2013	-21,318	3,721,233	-0.57%
2013-2014	-21,570	3,882,501	-0.56%
2014-2015	-10,491	4,086,382	-0.26%
2015-2016	-15,900	4,513,392	-0.35%
2016-2017	-38,150	5,035,034	-0.76%

As stated in table 4.21, since DCCB's didn't make any earning or profit as the operation is in sever losses so using this criterion to assess the net profit with the respect of total assets. The earning capacity was maximum -0.26% in 2014-15 and minimum -1.08% in 2007-08. The overall DCCB'S failed to maintain the earning ability based on the stated criterion by DANG, U 2011

4.2.5: LIQUIDITY ANALYSIS

TABLE 4.23: LIQUIDITY ANALYSIS- (DANG, U. 2011)

Year	Total loan & advances (INR, Lakhs)	Total deposits (INR, Lakhs)	FORMULA = Total loans and advances/ Total deposits (≤ 80%)
2007-2008	504,480	679,472	74.25%
2008-2009	546,564	762,678	71.66%
2009-2010	570,140	897,209	63.55%
2010-2011	648,577	963,457	67.32%
2011-2012	861,745	1,081,179	79.70%
2012-2013	961,008	1,129,675	85.07%
2013-2014	1,053,460	1,163,014	90.58%
2014-2015	1,139,157	1,213,761	93.85%
2015-2016	1,228,934	1,306,987	94.03%

2016-2017	1,243,160	1,509,768	82.34%

This part explains the liquidity analysis of DCCB's inclusive of all branches and applied the criteria of total loan and advances With respect of total deposits as it can be seen from the table the ratio was 74.25% in 2007-08 and then it started to increase for the next year (71.66%) followed by a steep decrease in 2009-10 as accounted for 63.55%, surged up again in 2010-11 as estimated (67.32%) and reached highest in 2015-16 (94.03%). The ratio got increased gradually in 2012-13 as it was 85.07%. The proportion of total loan and advances with respect to total deposits was in 90.58% in 2013-14. In conclusion, the overall liquidity analysis using DANG, U 2011 criteria stated DCCB's lending too much money which ideally is not a very sound position for DCCB's in Uttar Pradesh.

4.3 CONCLUSION

This chapter analyses the components of DCCB's using trend method, CAGR (Compound annual growth method), mean, and standard deviation, range, maximum and minimum to present the detail representation of data. This chapter also explains the CAMEL model and its parameters to present the performance of DCCB's in Uttar Pradesh and explained the overview of this model. The researcher uses different criteria's which was explained in literature review to elucidate the capital adequacy, assets quality, management ability, earning capacity and liquidity analysis with the help of different tools explained by Dang U, 2011, Srinivasan, Dr., Saminathan, Y. 2016 to explain the performance of DCCB's from 2007-2008 to 2016 -2017. The final conclusion will be explained in the next chapter in order to fulfill the research objectives and to answer the research questions as well.

CHAPTER 5

5.1: CONCLUSION

The results of the study achieved in the previous chapter are explained in detail in this chapter. The focal pivot of this chapter is to project light on some of the reasons responsible and accountable for the major trends observed, explained and indicated in the previous chapter. The analysis of the main components trends of District Central Co-operatives Banks (DCCB's) in terms of their causes and interlinkages, will help in scrutinizing some important policy measures to take corrective decisions in order to improve the overall performance of DCCB's. The discussion of this chapter presented under the following headings.

5.1 District Central Co-operative Banks components analysis

5.2 CAMEL model analysis

5.3 Findings

5.4 Recommendations

5.5 Limitations

5.1 District Central Co-operative Banks components analysis

The number of DCCB's offices from all 50 districts in Uttar Pradesh is very marginal and tiny as from 2007-08 to 2016-2017 only 37 offices have been added during this period (Table 4.1). As a result, the compound annual growth rate with respect to a number of offices is low. Contrastingly, the total number of membership in DCCB's has decreased from 24,098 to 21,119 as co-operative society's membership is gone decreased by 1,140 memberships (from 21,243 to 20,013) and individual memberships gone decreased by 1,839 memberships (from 2,855 to 1,016). The compounded annual growth accounted for -1.40%. This is mainly due to the withdrawal of associate members (Table 4.2).

The share capital collected from members of DCCB's over the years during the study periods. It is evident from the Table 4.3 that share capital gathered from members was collectively 33,974 INR lakhs in 2007-08 increased to 124,060 in 2016-17 with a compound annual growth rate (CAGR) of 15.47% which highly significant. This is due to the addition of share capital from the government as DCCB's collected share capital funds from the government. The government-funded DCCB's 9,675 INR lakhs in 2007-08 and that increased up to 58, 028 INR lakhs which is 6 times approximately growth from the base year (2007-08).

During the study period reserve fund has increased from 113,502 INR in 2007-08 lakhs to 235,347 INR lakhs in 2016-2017 with a compound growth of 8.43% (Table 4.4). The growth of reserve funds over the years is due to increase in deposits over the years as deposits has increased from 679,472 INR lakhs in 2007-2008 to 15,09,768 INR lakhs with a compound annual growth rate of 9.27% which is very significant. This is on account of increase in investment (Table 4.8) as investment has increased by a significant compound annual growth of 11.98% from 347,645 INR lakhs in 2007-08 to 962,887 in 2016-2017 and decrease in number of employees by 0.847% from 7,561employees to 7,004 employees (Table 4.14).

Table 4.9 clarifies that borrowing of District Central Co-operative Banks in Uttar Pradesh has increased from 176,039 INR lakhs in 2007-08 to 962,887 INR lakhs in 2016-17 with a compound growth of 20.78%. This explains that DCCB's is depending on its members such as SCB (State Co-operative Banks), LTCB (Long term credit structure), State Cooperative Agriculture and Rural Development Banks (SCARDBs), Primary Cooperative Agriculture and Rural Development Banks (PCARDBs) and NABARD. As a result, DCCB's is clearly less dependent on outside borrowings and self-sufficient with respect to its own funds including deposits.

It is evident from the Table 4.6 that the working capital of DCCB's has increased from 1,063,991 INR lakhs to 2,442,259 INR lakhs with a compound growth of 9.67%. This is mainly due to growth in cash on hand and cash balance with the bank. The cash balance has remarkable compound annual growth of 11.76% (Table 4.7).

During the study period the accumulated losses of DCCB's has reduced from -22,981 INR lakhs in 2007-2008 to -9,127 INR lakhs in 2008-2009 and from 2011-2012 to 2014-2015 has decreased in accumulated losses from -20,332 INR lakhs to -10,491 but still DCCB's overall in Uttar Pradesh is in loss with a compound growth of 5.79% (Table 4.12) . The performance of reduced accumulated losses in this period happened due to increase in loan and advances (CAGR 10.54%), increase in number of profit making branches (CAGR 1.13%) and decrease in loss making branches (CAGR -0.76%). The reason which DCCB's performed better from 2008-09 and 2011-15 due to increase in advances of the bank, expansion of business networks and improvement in performance of branches (Table 4.10 & 4.14).

Table 4.13 indicates that the overall growth of NPA's of DCCB's during the study period with a compound annual growth of 7.16% which is still high. This is due to accumulated losses and over dues in terms of poor recovery of loans and advances. The NPA's has decreased from 259,635 INR lakhs in 2011-2012 to 116,593 INR lakhs in 2013-14 and from 121,205 INR lakhs in 2014-15 to 96,906 INR lakhs in 2015-16. With the respect to over dues, in terms of recovery DCCB's is not performing well as over dues increased

from 449,618 INR lakhs in 2007-08 to 1,142,310 INR lakhs in 2016-17 with a compound growth of 10.91% which is too high. This is again due to poor recovery of loan and advances (Table 4.11).

The overall performance of DCCB's in Uttar Pradesh in functional terms after analyzing its components that DCCB's already have a wider and deeper reach in the countryside than other financial institutions. The DCCB's of U.P. are performing well in creating reserves, deposits, increasing share capital, increasing no. of offices, increasing membership. On the other side their over dues, costs, cost of management is increasing apart from their accumulated losses which is not a positive sign for long term profitability and solvency. They are reluctant to cater to the small and marginal farmers and other underprivileged sections, on grounds that lending to them is far too costly and risky to be profitable as they should have a strong mutual stake in proper use of the common credit pool; credit would be put to good use (Gandhimathi, V.S 2010). The overall financial performance seems not good for all DCCBs except some of them are profit making branches (Table 4.14).

5.2 CAMEL MODEL analysis

- Capital adequacy measures the ability of firm's tendency to pay off the depositors at the time of solvency with the help of realization of its assets as total assets will absorb all the losses to pay the depositors and creditors (Channaveere Gowda B.N. Anand M.B & Arun Kumar D.C, 2013). The ideal share capital to total assets would be ≥4-6% but the capital adequacy of DCCB's during the study period was below in every year as it was 1.59% in 2007-08 and then it was 1.41% in 2008-09, 1.25% in 2009-10, 1.22% in 2010-11, 1.23% in 2011-12 & 2012-13, 1.30% in 2013-14, 1.44% in 2014-2015, 1.69% in 2015-16 and 2.46% in 2016-17. It had increased slightly and maintained the same in 2011-12 and 2012-13. The ratio got picked up gradually in 2013-14 to 2015-16. The maximum total capital to total assets proportion was in 2016-17 as it accounted for 2.46% but overall it was too low based on the ideal ratio. Thus it can be said that DCCB's have poor capital adequacy (Table 4.15). The table 4.16 also explains that the criterion of Srinivasan, Dr., Saminathan, Y 2016 that total share capital, reserves, and deposits with the respect borrowings and other liabilities should be lower but it is higher in the most years as it was 11.30% in 2007-08, 11.05% in 2008-09, 12.24% in 2010-11, 12.08% in 2010-11, 10.20% in 2011-12, 9.73% in 2012-13, 8.28% in 2013-14, 9.44% in 2014-2015, 12.05% in 2015-16 and 9.94% in 2016-17. This also proves that during the study period capital adequacy using Srinivasan, Dr., Saminathan, Y 2016 criteria never happened to be lower as it states that "lower the better". Therefore, this criterion states that DCCB's have poor capital adequacy.

- Assets quality measures the quality of DCCB's assets in order to avoid the credit risks and this can be achieved through the proper management of assets and controlling and monitoring of credit risks. As assets quality goes up, DCCB's have more liquidity, greater risk capacity and a lower cost of funds (Srinivasan, Dr., Saminathan, Y. 2016). Table 4.17 suggests that the ideal ratio of calculating net NPA's with the respect of total loans and advances should be $\leq$1% but it's too high as it was 10.87% in 2007-08, 18.37% in 2008-09, 25.11% in 2010-11, 28.02% in 2010-11, 30.13% in 2011-12, 12.45% in 2012-13, 11.07% in 2013-14, 10.64% in 2014-2015, 7.89% in 2015-16 and 8.22% in 2016-17. Thus it can be said the quality of DCCB's have poor quality as it has been always greater than 1% during the study period.
- Management ability of DCCB'S using Dang, U. 2011 three criteria as average historical assets historical growth rate of 10.08%, average loan historical growth rate is 10.84% and average earning historical growth found to be -19.94% (Table 4.18 to 4.20). It can be said that management of DCCB's don't have able and capable management team which can increase the earning capacity of DCCB's.
- Management ability of DCCB's using Srinivasan, Dr., Saminathan, Y. 2016 criterion states that management ability of DCCB's depend on total net profit with the respect of number of employees. The table 4.21 states contribution of number of employees in total net profit. In 2007-08 it was -3.03941 INR per employee, -1.21096 INR per employee in 2008-2009, -1.79395 INR per employee in 2009-2010, -2.30453 INR lakhs in 2010-2011, -2.72693 INR per employee in 2011-2012, -2.89214 INR per employee in 2012-2013, -2.95318 INR per employee in 2013-2014, -1.50452 INR per employee in 2014-2015, -2.31711 INR per employee in 2015-2016 and -5.44689 INR per employee. This clearly shows that efficiency of employees working in DCCB's has been poor as they failed to curb losses and make profits for the DCCB's.
- The table 4.22 explains the earning capacity of DCCB's has been lower than $\geq$1% as it was mentioned by Dang, U 2011 that ideal range for earning capacity with the respect of total net profit with total assets should be greater than or equal to 1% but it's too low or negative as it was -1.08% in 2007-08, -0.37% in 2008-09, -0.47% in 2010-11, -0.55% in 2010-11, -0.59% in 2011-12, -0.57% in 2012-13, -0.56% in 2013-14, -0.26% in 2014-2015, -0.35% in 2015-16 and -0.76% in 2016-17. Thus it can be said that DCCB's has low earning capacity with the respect of its assets or even negative.
- The liquidity analysis measures the ability of firms using its deposits to give loans and advances in order to earn interest from it as from the Table 4.23 it can be said that DCCB's is giving more loans and advances from its deposits as from 2011-2012 to 2016- 2017, the total loan to deposits ratio

was more than 80% of its deposits. The ideal ratio of loan to deposit should be lower than or equal to 80% only firm is making profits but in Uttar Pradesh DCCB's is not making profits so giving loans between the range of 60% to 80% of its deposits is still high. It is evident that DCCB's is making huge losses and giving loans from deposits is still higher, DCCB's needs to be careful in terms of giving loans and advances (Table 4.23).

5.3 Findings

The other findings mentioned below are gathered from the Nafscob, annual report from 2007-2017:

- The liquidity position of maximum DCCBs should be considered as good except DCCBs of eastern region including Jaunpur, Gorakhpur, Ghazipur and from western region Sultanpur, Siddharthnagar. These banks have very low balance of cash both in hand and at bank (Nafscob, 2007-2017).
- Share Capital from last 10 years is increasing; it is because the no. of Primary Co-operative Societies is increasing at village level. On the other hand it will increase the liability of DCCB in terms of dividend payment. No District Co-operative Bank in U.P. has declared dividend to shareholders from last 10 years except one or two bank in any year (Nafscob 2007-2017).
- All DCCB's are maintaining high degree of reserves which shows that part of profit only from the profit making branches from the 50 districts are retained in the banks. Increasing reserves strengthen the shareholders equity which ultimately increases its market value (Dang, U 2011).
- The main lenders of loan to District Co-operative Banks are State Co-operative Bank and NABARD, which provides loans basically for short term agricultural purpose. Government and commercial banks have very low share in crediting loans to DCCBs (Hegde, V 2012).
- It is surprising to find that some of the DCCB's in U.P. were maintaining low volume of borrowing not because they have abundant resources but because of their internal deficiencies i.e. accumulated losses and poor recovery. Because of this, bank could not get sufficient loans from higher financing agencies (Narayan Datta Arndhekar, 2016).
- It is found that in comparison to increasing deposits, the credit deployment is not satisfactory. It is because of the fear of non-repayment of loans. It is seen from study period that 10.91% annual growth of loans are over dues.
- The increasing amount of working capital shows that there is considerable increase in the current assets as well as liabilities of DCCBs. Except some DCCBs like Bijor, Lakhimpur kheeri, Meerut and Muzaffarnagar, other DCCBs maintains comparatively lower amount of working capital. This is due to low profit and low balance of cash (Ruch, 2017).

- As the no. of offices increasing the no. of employees also increases in same proportion and it will ultimately increases the cost of management (Ruchi, 2017).
- The major investment of DCCBs is found in purchasing fixed deposits and other types of investment. The lowest investment is found in purchasing government securities and shares of Land Development Banks. It is because fixed deposits generate high rate of interest while the securities are generally riskier (Nafscob, 2007-2017).
- Profitability of overall DCCB has also declining. The reason behind this is the accumulated losses of the banks which lower their accumulated profit. The no. of banks which have accumulated losses is 34 in 2006 and it is 28 in 2015. Maximum 36 banks have accumulated loss from 2007-10. It is very serious reason behind poor financial performance of the banks (Nafscob 2007-2017).
- Some of the DCCB like Ballia, Basti, Fatehpur, Gorakhpur, Hardoi have huge losses since 2011, their NPA is also at the same level, it shows that no provisions has been made for improving their financial position. No efforts are taken to lower their NPA (Nafscob 2007-2017).

5.4 Recommendations

- The main function of DCCB's is to mobilize rural deposits. All the committees on co-operative credit have emphasized the importance and urgency of mobilizing deposits by these banks. A bank with a sound deposit base can make loans and advances out of its internal resources by restricting external borrowings for their financial requirements.
- The other reason for the low share capital by the co-operative institution and individuals was the failure of DCCB's in declaring dividend on the share capital contributed. Hence, the DCCB's need to formulate a strategy to declare the dividend.
- The DCCB's have to expand their segments of credits and meet the credit needs of large borrowers after satisfying the credit needs of priority sector borrowers. The banks should assess the revenues for credit expansion
- To compound the problem of higher cost of management, DCCB's should have risk mitigation system and procedure. They should implement Asset Liability Management (ALM), manage interest rates on deposits and loans on normal practice and not as an exception. Appropriate credit appraisal and monitoring should be done on regular basis.
- Instead of waiting for end year results to reveal the position of NPA's, it is necessary to monitor and follow up the position on month to month basis.

- Proper care should be taken to examine the repayment capacity and credit worthiness of the borrowers at the time of sanctioning of loans itself.
- Boards of management and their functionaries should held accountable for laxity in granting and monitoring loans, poor quality of loan portfolios, high default rates etc.
- The DCCBs resulting continuous losses should take serious action to minimize their losses and convert them in profit. They should find the reason behind blockage of their funds, try to minimize and remove their NPA, stop granting loans for some time.
- Working capital management is very essential for smooth financial health of any firm. The DCCBs should also manage their working capital effectively.

5.5 Limitations

There are certain Limitations inherent in the present studies as this Study covers only District Central District Central Co-Operative banks. For the purpose of these studies, the data have been collected from the secondary sources; therefore all the deficiency that is inherent in the data is also included in the study. The conclusion of the study has been derived through the analysis of the data collected from the annual Report of District Central Co-Operative banks, therefore the study included the limitations whatever the report portrays and presents. The Limitation of tools and techniques applied for the analysis are inherent in present study. The main tools and techniques used for the analysis are borrowed from the corporate accounting practices because a systematic accounting framework is not readily available for District Central Co-Operative banks. Thus, the researcher was compelled to make slight deviations and appropriations in the computation of ratios and other relevant indicators. The detailed analysis is restricted to ten years only.

References

Hegde, V. (2012). *Business performance of the district central co-operative bank in Uttar Kannada*. Department of Agricultural Marketing, Co-Operative and Business Management, University of Agricultural Sciences, Bengaluru, 12-118.

Kothari, C. R. (2000). *Research methodology methods & techniques.* (2nd ed.). New Delhi: New Age International Publishers. Retrieved from http://www.modares.ac.ir/uploads/Agr.Oth.Lib.17.pdf

Nabard Data Bank. (2007-2017). *Annual report*. Retrieved November 9, 2018, from https://www.nabard.org/financialreport.aspx?cid=505&id=24

Nafscob Publications. (2007-2017). *Annual report*. Retrieved December 1, 2018, from http://nafscob.org/ccb_f.htm

Naqvi, S. (2016). Growth and Progress of District Co-operative Banks In India with Special Reference to Uttar Pradesh. *International Journal of Economic and Business Review*, 4(7), 219-225.

Narayan, A. (2016). Financial performance of DCC bank with special reference to Vijayapur district. *International Journal of Applied Research.* 2(7), 974-977.

Nimalathasan, B. (2008). A comparative study of financial performance of banking sector in Bangladesh–an application of CAMELS rating system. *Economic and Administrative Series*, (2), 141-152.

Patel, C. (2015). Comparative study of district central co-operative bank of south Gujarat region based on solvency ratio. *Advances in Economics and Business Management*, (2), 111-117.

Raiyani, J. R. (2010). Effect of mergers on efficiency and productivity of Indian banks: *A CAMELS Analysis*, 772-794.

Rostami, M. (2015). The effect of ownership structure on Tobin's

Q ratio. *Journal of Research in Business, Economics and Management,* 3(2), 161-171.

Rozzani, N., & Rahman, R. A. (2013). Camels and performance evaluation of banks in Malaysia: conventional versus Islamic. *J Islamic Financ Bus Res,* 2(1), 36-45.

UFRIS, (1997). *The Uniform Financial Institutions Rating System, Statements of policy.* USA: Federal Deposit Insurance Corporation (FDIC). Retrieved January 17, 2019, from https://www.fdic.gov/regulations/laws/rules/5000-900.html

UFRIS, (1997). Federal deposit insurance corporation, *The Uniform Financial Institutions Rating System, Federal Register,* 62(3), 752-757.

Umadevi, R. (2013). The role of district central co-operative banks in the agricultural development of E.G. District of Andhra Pradesh. *International Journal of Innovative Research and Development*. 2(2), 102-124.