AN APPRAISAL OF EXISTING MANAGEMENT INFORMATION SYSTEM IN DISTRICT CO-OPERATIVE BANKS IN KERALA

By

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THESIS

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DECLARATION

I hereby declare that the thesis entitled **"AN APPRAISAL OF EXISTING MANAGEMENT INFORMATION SYSTEM IN DISTRICT CO-OPERATIVE BANKS IN KERALA"** is a bonafide record of research work done by me during the course of research and that the thesis has not previously formed the basis for the award to me of any degree, diploma, fellowship, associateship or other similar title, of any other University or society.

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Certified that the thesis entitled **"AN APPRAISAL OF EXISTING MANAGEMENT INFORMATION SYSTEM IN DISTRICT CO-OPERATIVE BANKS IN KERALA"** is a record of the research work done independently by Miss. Sangeetha K. Prathap under my guidance and supervision and that it has not previously formed the basis for the award of any degree, diploma, fellowship or associateship to her.

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Sangeetha K. Prathap

Dedicated to
my divine mother
Paramekkavu Bhagavathy
and
to the sweet memory of
my dearest Amma
whose long cherished love
and inspiration has supported
me in her absence

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ABBREVIATIONS USED

DCB	-	District Co-operative Banks
GM	-	General Manager
DGM	-	Deputy General Manager
RBI	-	Reserve Bank of India
NABARD	-	National Bank for Agriculture and Rural Development
KSCB	-	Kerala State Co-operative Bank
RCS	-	Registrar of Co-operative Societies
CRR	-	Cash Reserve Ratio
SLR	-	Statutory Liquidity Ratio
DCP	-	District Credit Plan
AAP	-	Annual Action Plan
BOD	-	Board of Directors
EC	-	Executive Committee
GB	-	General Body

Introduction

CHAPTER I

INTRODUCTION

Information is knowledge that one derives from facts placed in the right context with the purpose of reducing uncertainty regarding the alternative courses of action in the process of decision making. Availability of information regarding the alternatives reduces the odds, in favour of making a correct decision. Information is recognised as one of the most important corporate resources. It is a source of competitive strength as it enables the management to outmanoeuvre its business rivals at critical stages. The need for effective management of information systems is not new. Information system has always been there - but had not always been recognised.

A Management Information System (MIS) is a net work of communication channels and information processing centres collecting information from the sources of origin, storing, updating, collecting and processing it, and supplying the processed information to the various users managing the organisation (Kumar, 1999). Manager has to take various decisions from time to time which are in the best interest of the objectives of organisation as a whole. Decisions are based upon information provided by the information system.

Banks are under great pressure to transform their operating environments inorder to effectively face the challenge of ever increasing competition. Such pressure is being felt particularly by banks in economies that have recently exposed themselves to global competition and followed the path of economic liberalisation. To be able to survive and grow in the changing market environment, banking institutions are reorienting their processes. In this context, Management Information

System is being perceived as an enabling resource that can help in developing leaner and more flexible structures that can respond quickly to the dynamics of a fast changing market scenario. As a consequence the decision making function is changing rapidly and is characterised by increasing:-

* Cost of lost opportunities per unit of time taken in decision making
* Frequency of occurrence of events/developments in internal and external environments
* Sensitivity of enterprises to development in the external environment and
* Multiplicity of factors and their changing influences

Managers have to make rational decisions which are essentially influenced by information about all possible factors and circumstances having a bearing on the decision. It is thus imperative for a successful decision maker to be concerned about the availability of information required for decision making.

1.2 Management Information System

A Management Information System is an integrated man-machine system that provides information to support the planning and control functions of managers in an organisation (Davis, 1974). An MIS includes all ingredients that are employed in providing information support to managers in their planning and control decisions. Manual procedures that are used to collect and process information and computer hardware are obvious ingredients of an MIS. Moreover, MIS subserves managerial functions by collecting information systematically and routinely to support planning and control decisions.

Anthony (1965) has delineated a frame work for understanding MIS, which distinguishes between the different types of planning and control process that typically

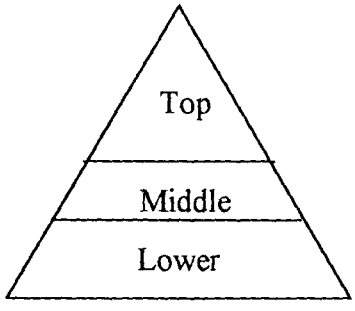
occur in organisations. According to him, the area of management planning and control can be sequenced into three categories. ie., strategic planning, management control and operational control. Strategic planning is the process of deciding the objectives of the organisation, the changes in these objectives, the resources used to attain these objectives and the policies that are to govern the acquisition, use and disposition of these resources. Management control assures that these resources are used effectively and efficiently in the accomplishment of organisations objectives. Operational control signifies that specific tasks are carried out efficiently and effectively. This framework is followed in this study with slight deviations.

1.3 Information Needs and Management Levels

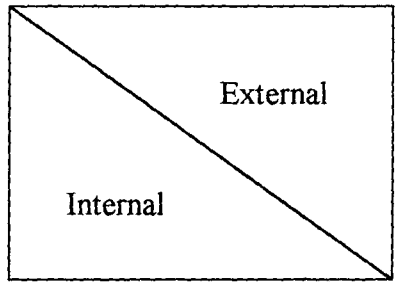
As a manager performs varied functions, he requires information to facilitate decision making in respect of each area of his responsibility. Hence the main focus of the information generation process should be on the information needs of the manager.

Information needs are different at different levels of managerial hierarchy. It is a well accepted fact that top management is concerned with planning and middle and lower levels of management are entrusted with the responsibility of executing these plans. Decision making is, however, central to the job profile of manager. Management at each levels requires information both about its internal and external environments. At the top level, management requires detailed information relating to external environment. The information about external environment must be summarised for middle and lower levels of management. Just opposite to this is required with regard to information relating to internal environment, ie. information about activities and events within an organisation.

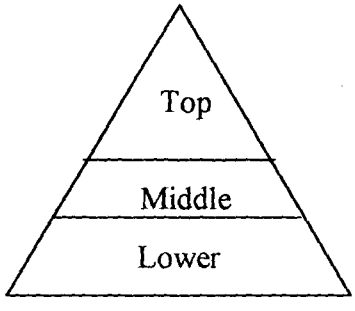
Fig.1 Sources and degrees of summarisation of information at different managerial levels



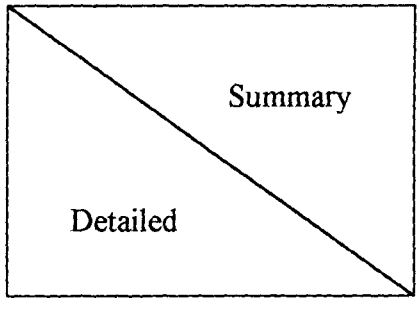
Managerial levels



Sources of information



Managerial levels



Sources of summarisation

Source: Kumar, M. (1999), Business Information Systems, UBS Publishers, New Delhi

Fig. I highlights that the top level manager uses external as well as internal information but the extent of its share in the total information needs is much lower than that of the other levels of managerial hierarchy.

1.4 Managerial Effectiveness and Information

The information needs of the manager are determined by the attendant circumstances at the time of decision making and differ from individual to individual and decision to decision. He needs a battery of analytical tools to sift information from the heap of data that may be available to him from the corporate data base. The information systems must support a variety of decision styles and skills of users in order to serve their purpose. It is increasingly being realised that the present day information systems by and large give more emphasis on capturing and storage of data than on analysis and presentation of information in a manner that would be more useful in the decision making process. Thus there is need to change the whole approach towards designing information systems. An effective Information system must be flexible, versatile, analytical and communicative.

1.5 Role of District Co-operative Banks in the short term co-operative credit structure in Kerala

District Co-operative Banks are the intermediate organisations in the three tier co-operative credit structure. Being the pivotal organisation at the district level, they play a crucial role in the overall development of the co-operatives in the district. District Co-operative Banks cater to the financial needs of Primary Agricultural Credit Societies as well as other types of co-operatives, dealing in consumer, industrial marketing and other activities in the district. They are also engaged in personal banking business, whereby banking facilities are extended to the public in rural and unbanked centres, semi-urban and even in urban centres.

The chief object of DCBs is to meet the credit requirements of member societies. On one hand, the DCBs act as intermediaries for purveying credit from higher agencies like State Co-operative Bank and NABARD to primary societies and on the other hand they act as balancing agents between primaries having surplus funds and those having deficient funds. Besides providing loans, they provide certain normal banking facilities to members such as acceptance of deposits, remittances of funds, collection of cheques etc. through its branches. Branch banking, on the part of DCBs have assumed added significance in view of unprecedented increase in the number of PACS and their loan operations. It is increasingly felt that the branches of DCBs are of considerable help in expediting the processing of loan applications, which enables prompt and convenient disbursement of credit and thereby help in attracting rural deposits. DCBs are facing tough competition from commercial banks and other financial institutions in its operational areas by forming similar precedents and services.

Regarding DCBs, there has been tremendous growth in terms of both volume and activity. All India figures shows that the number of branches of DCBs which stood at 82 in 1970-71 increased to 367 by the end of 1996-97. Their deposits increased from Rs. 20481 million in 1984-85 to Rs. 320093 million in 1996-97. The loans advanced in 1996-97 was 407805.7 million (NCUI, 1999).

Economic reforms initiated in the early nineties have brought about a sea change in the operational environment of Indian Banks. In the context of changed scenario of globalisation, liberalisation, deregulation and technological development, inorder to maintain competitive edge, banks have to constantly innovate, manage new challenges and risks and meet the rising customer expectations to sustain consistent

growth, if not for mere survival. In such an atmosphere the success of co-operative banking would depend on the extent to which they reorient their working to bring about elements of efficiency, effectiveness, profitability and improve their service ability on the basis of modern management practices, as they are likely to be faced with fierce competition from strong and efficient private sector as well as public sector financial institutions.

District Co-operative Banks have certain strengths that private and public sector commercial banks lack. They are small sized banks and have small number of branches. Thorough knowledge of their operational area brings them the advantage of the local feel. Being location specific they have greater personal rapport with their clients compared to their counterparts. But Co-operative Banks, which are placed in an advantageous position over the commercial banks are not in a position to tap the opportunities for both existing and future due to certain inherent weaknesses.

Unlike commercial banks whose operations are controlled by RBI alone, co-operative banks are subject to dual control by RBI and Registrar of Co-operative Societies. Also they have to uphold institutional as well as enterprise aspects.

One of the maladies afflicting co-operatives is mounting overdues. This is due to poor management of recovery caused by lack of supervision and inspection and various other factors (Mathur, 1995, Padmini, 1999). Another reason for unsatisfactory performance of co-operative sector is lack of professional management. Absorbtion of staff with low qualification and inadequate human resource development leads to such situation (Sah, 1986). The DCBs are democratic organisations and are controlled by elected representatives in the Board. However, the management is defective due to lack of devoted and educated persons, excessive political interference

and absence of adoption of scientific management techniques. It also lacks rigour in fund management due to ignorance which very often seriously affects their profit position (Mathur, 1995). Absence of sound MIS is yet another important factor which causes delay in appropriate management decisions and monitoring of implementation.

To meet the challenges of modern banking, the co-operative banks have to introduce better planning and control by way of efficient information systems. For effective management of banks, scientifically organised MIS should be developed that will provide, comprehensive, compact and condensed information necessary for policy formulation, performance evaluation, control and economic analysis. Effective MIS forms the nucleus of the decision making process by Board of Directors, members and employees while interacting with Government agencies and vertically and horizontally integrated institutions. Well defined MIS and Executive Information Systems will enable the banks to have perspective views from management, auditing, commercial and functional angles. The ability of banks to respond quickly to the changes in environment depends upon their ability to collect, process and utilise information.

Under these circumstances, DCBs urgently need revitalisation and use of modern management techniques for facing the challenges ahead, and it cannot afford delaying the use of modern technology. In this context a study of existing MIS in DCBs in Kerala was expected to be worth and was taken up with the following objectives.

Objectives

1) To examine the decision making process in District Co-operative Banks at various levels of management with a view to identify the information needs for management.
2) To assess the efficiency and effectiveness of the existing information system in meeting the information needs for management.

Practical utility

A Management Information System is a combination of organisational resources that cut across functional lines and serves the information needs of managers at different levels by providing information in a useful format on a timely basis to support planning and control requirements (Ghoshroy, 1991).

Without proper MIS, banks cannot plan and control their activities efficiently and effectively. MIS facilitates the decision making process at the right time by the management at different levels. The top management of banks are dealing with strategic planning decision areas for which information required are of very wide scope, mostly external in source and future oriented. MIS can provide management, the required information to take strategic decisions relating to branch expansion, deposit mobilisation programmes/schemes, fixing targets for volume of advances to each sector, human resource planning and policy, methods to improve recovery, customer service etc within the limits of RBI and Government policies. The information required for management control level is some what wide in scope, both historical and future oriented, moderate in accuracy and those collected from both internal and external sources. MIS can provide these information so that it is useful to correct the chronic problems or to correct any deviations relating to deposit level and mix, advance level and mix, recovery position, profitability, productivity or performance position etc.

MIS, in many an organisations is a saga of failed promises. Not much studies have been undertaken to evaluate MIS in District Co-operative Banks. The present study was conducted with the aim of identifying the information needs of managers at different levels of management. Also an evaluation of existing information system

on the basis of efficiency and effectiveness was done. Through these exercises, weaknesses of existing MIS in DCBs were identified and suggestive measures for improvement were put forward. The present study will help the District Co-operative Banks to frame suitable strategies for improving the existing levels of MIS in their organisation in addition to its utility for academic purposes.

Limitations

Although adequate precautions have been taken to minimise reporting bias in the part of respondents, a certain degree of error or bias is likely to prevail.

Plan of the study

The study report comprises of five chapters. The chapterisation scheme conforms to the following pattern. The first chapter gives an introduction, objectives, practical utility and limitations of the study. Review of literature relevant to the topic is dealt with in the second chapter. The third chapter looks into the concepts used and methodology of the analysis, while the fourth chapter is allotted for results and discussion. The fifth chapter contains the conclusions and summary of the findings.

Review of Literature

CHAPTER II

REVIEW OF LITERATURE

The objective of this chapter is to develop and establish the theoretical frame work for the study based on ideas and concepts gathered from review of existing literature of both theoretical and empirical nature.

The available literature is presented under the following major heads.

2.1 Concept of Management Information System

2.2. Information needs

2.3. Attributes of Information

2.4. General view on MIS in co-operatives and banks

2.1 Concept of Management Information System

2.1.1. Definitions

Many authors have put forward definitions regarding MIS which can be presented as follows. According to Davis (1974) MIS is an integrated man machine system for providing information to support the operations, management and decision making functions in an organisation. Reiterating this view definitions were given by Chacko (1930), Cross (1967), Sackman (1967), Glans (1968), Kedly (1970) and Brien (1997). Apart from this Stoner and Freeman (1992) expressed their view on MIS giving importance to computer based information systems.

Murdick and Ross (1977) described MIS by synthesizing separate subjects of management, information and system.

Management : comprises of the activities that describe what managers do in the operation of their organisation.

Information : Consists of data that has been retrieved, processed, interpreted for management decision making.

System : is a set of elements joined together for a common objective.

Gupta (1986) stated that MIS is an information system using formalised procedures to provide managers at all levels in all functions with appropriate information from all relevant sources (both internal and external to the firm) to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible. Similar view was advocated by Limberg (1970), Kennevan (1970), Westchurchman (1971), Kanter (1982), Lucas (1982), Donald (1982), Scott (1986), Sah (1986), Lucey (1987) and Mehta (1999).

2.1.2. Framework for MIS

There are number of conceptual frameworks that stand out in the area of management information systems. Since the information processes in the organisation are labyrinthine, it would be difficult to understand information systems without such frameworks. These are guide maps that seek to sharpen important distinctions in the kinds of information that support managerial decisions. A number of such frameworks which provide insight from a pragmatic stand point are discussed below:

Simon's (1960) framework is based upon the processes of decision making which according to line is divided into three stages namely intelligence; choice and action.

Intelligence: Stage when decision maker identifies a problem or opportunity which requires line to take decision.

Design: In this stage alternative courses of action that would need to be taken to resolve the problem or exploit the opportunity are worked out.

Choice: This stage is characterised by choosing of one best alternative for implementation and follow up.

Forrester (1961), in his framework, considered a decision making process as a result of the deviation of an organisation's performance from its objectives which is identified by information systems. The information and decision making network control the changes in the levels of resources by affecting the flows of resources from which they originate and to which they are sent.

Anthony (1965) has given a frame work distinguishing between different types of planning and control that can be sequenced into three categories - strategic planning, management control and operational control. Strategic planning is the process of deciding on objectives of the organisation. Management control is the process by which managers assure that resources are obtained and used efficiently and effectively in accomplishment of organisational objectives. Operational control is the process of assuming that specific tasks are carried out efficiently and effectively.

Dearden's (1965) framework is concerned with MIS and its application with the help of computers. A two way classification of function namely horizontal and vertical is done. Horizontal classification is based on type of work performed and is further divided into system specification, data processing, implementation and programming. Under vertical classification, activities of the system are grouped on the kind of information handled.

Bluementhal (1969) has synthesised three major frameworks by Anthony, Simon and Forrester. This framework was system perspective and described how an organisational unit is linked through an information system, an action system and decision system. Bluementhal's framework covered the entire organisation in terms of an integrated total system of various independent subsystems.

Gorry and Morton (1971) have developed a matrix of managerial activities by integrating two approaches of Antony and Simon. According to this framework, information systems aim to improve processing of information in structured decision situation and improve the organisation and presentation of information inputs in unstructured decision situations.

Zani's (1973) frame work allows understanding of critical areas of operations, identification of specific information requirements and recognition of the technological, economic and personal constraints with which an MIS develops. The important determinants of MIS design are opportunities, risks, company strategy, company structure, management and decision making process, available technology and available information resources.

Dickson (1985) assumed various types or levels of systems namely, clerical systems, information systems, decision support systems and programmed systems. Clerical systems or transaction processing system is the lowest level in the hierarchy of organisation system. Information systems provides information for decision making. Decision support systems emphasised on providing aids to the process used to make a decision. Programmed systems at present are unusual on actual applications but are more of a research topic.

2.2. Information needs

Ackoff (1967) stated that modern age conceives information as it relates to two vital elements of management process - planning and control. What is required at each level is a penetrating and orderly study of the business in its entirety and to discover what specific information is needed at each particular position in view of decisions to be made there.

Brien (1970) suggested that management has made its major decisions with the least information usually required in the early management process. The availability of information through MIS does not always ensure that management will fully utilize the tools.

According to Murdick and Ross (1977) planning information needs of the organisation can be classified into three broad types namely environmental information, competitive and internal information. The environmental needs may be classified as political and government considerations, demographic and social trends, economic trends and technological environment. The competitive information includes industry demand, firm demand, the competition in terms of past, present and future performance indicators. Internal information are of following types - sales forecast, financial plan, supply factors and policies.

Lucas (1978) opined that operational control decisions are characterised by historical information: usually the results are expected and source of information is the internal operations of the organisation. Information for strategic decisions, on the other hand, tends to be more predictive and long range in nature particularly external data on economy and competition.

Davis (1984) points out that the database requirement for operational control contains primarily internal data generated from transactions whereas that for management control consists of information provided by operations, the plans, budgets etc. which define management expectations and performance. Strategic planning requires processed, summarised data from a variety of sources including external information.

Gupta (1985) considered that the strategic level requires more of planning information which is characterised by coverage of long time periods and orientation to future whereas, operational level requires more of control information and less planning which is characterised by coverage of short time periods and orientation towards past results and activities.

Sah (1986) opined that job content characteristics indicate that different management levels utilize different types of information. Since top management is more concerned with future plans, policies and objectives, information required is more of the nature of external and unstructured. Operating managers undertake routine type of works which requires structured information.

Emery (1987) stated that a good information system permeates in all parts of the organisation. At operational level, where the organisations work gets done, the information systems provide much of the intelligence to handle high volume transaction processing and routine decision making. At the tactical level, dealing with the medium term resource allocation, the information system plays a vital role. At the strategic level, involving broad and long term policy matters, the formal information system plays an important but strictly subordinate role.

Lucey (1987) shared that experiences at higher levels of management, informal channels, particularly concerned with external information, are of greater importance than formal MIS. The formal and informal channels would be viewed as complementary parts of the total information network in the organisation.

Stoner and Wankel (1988) opined that managerial hierarchy can be classified into different levels - first line, middle and top according to activities that take place. An MIS for operational control must provide highly accurate and detailed information on

a daily or weekly basis. Middle level managers, will need information that falls some where in between the extreme requirements of lower and top level managers. For top management, external sources of information on economic conditions, technological developments and the actions of competitors assume paramount importance.

Blethyn and Parker (1990) put forward the information needs of managers as follows. It must have a surprise content, it must tell us something that we did not already know and must be action oriented.

In the view of Rajaraman (1991) strategic information is needed for long range planning decisions, the business should undertake. This information is mostly unstructured. Tactical information is needed to take short range decisions to run business efficiently.

Singla (1992) in his study reiterated the views of Rajaraman. He added that strategic information is a blend of summarised internal and detailed external information and tactical information involves summarised internal information substantiated with external information.

Stoner and Freeman (1992) stated that an MIS for operational control must provide highly accurate and detailed information on a daily or weekly basis. The type of information middle level managers require consists of summarised data from within the organisation as well as outside. For strategic planning, the external sources of information on economic conditions, technological developments, the actions of competitors etc assume paramount importance.

Kumar (1992) expressed that it is necessary to give each manager with information needed for planning end results. Planning requires economic and social information both from internal and external sources. Control requires the reporting

system which concentrates on key variables or critical success factors for operation of a particular operating unit.

Brien (1997) stressed the view that information requirements of management depend heavily on the management level involved. The strategic management level requires more summarised, adhoc, unscheduled reports, forecasts, and external intelligence to support its heavy planning and policy making responsibilities. The operational management level, on the other hand may require more regular internal reports emphasising detailed current and historical data comparisons that support its control of day to day operations.

Harry (1997) viewed that information is the component of control which is a means of representing for those who are concerned with management, what they wish to achieve, what the existing situation is at present, and what must be done to effect an improvement.

Jawadekar (1998) classified information as planning information and control information. Planning information involves certain standard norms and specifications used in the planning activity. Control information involves reporting the status of an activity through a feed back mechanism.

Malik (1998) opined that upper level management needs broad based information from both organisation as well as environment. The information needs of the middle level managers differ from the upper level as these managers are mostly involved in factual planning and control. The lower level management needs detailed reports describing what needs to be done by each unit and how each unit is progressing towards the targets.

Kumar (1999) emphasised that at top level management information relating to external environment is required. The information about external environment must be summarised for middle and lower levels of management. It is generally accepted that internal information should be increasingly summarised for successive levels of management for which it is prepared.

Mohan (1999) stated that characteristics of information for top management are in striking contrast with those of operating level management. The top management requires information which is future oriented, external, unstructured, non-programmable and not exact whereas operating management needs information which is historical, internal, structured, programmable and exact.

2.3. Attributes of information

Information is data (raw facts and observations) that has been transformed into a meaningful and useful form for people. Put in another way, information is data placed in a context to give it value for specific end users. What makes information useful to managers can be examined by looking into characteristics or attributes of information quality. Information that is outdated, inaccurate or hard to understand are not very meaningful, useful or do not have much value to managers. They want information of high quality, that is, information with characteristic attributes or qualities help to make it valuable to them. Different views regarding attributes of information are given below:

According to Ackoff (1967) most managers require a great deal of information for their decision making. An important element that must be taken care in the supply of information is its relevance. Information overload and under information can consume the precious time of the manager. Also relevant documents must not have too much redundancy.

Davidson and Trueblood (1970) looked into the managers difficulties caused by information supply. Over information and under information can put the manager into troubles while taking an appropriate decision. Similar is the case of untimely information which has two dimensions, first, referring to information coming too late, second being the information supplied frequently than necessary.

Lucas (1978) has drawn the following plan of information supplied. The information, in general, can possess:

(a) Time frame	-	Historical or predictive
(b) Expectation	-	Anticipated/surprise
(c) Source	-	Internal/external
(d) Scope	-	Summary/detailed
(e) Frequency	-	High/Low
(f) Organisation	-	Loose/Structured
(g) Accuracy	-	High/Low

According to Kanter (1982) the following dimensions of database are existing. They are response time, capacity, interrelationships of data elements, security, validity and cost considerations. The cost consideration can be again classified as cost of acquiring data, cost of maintenance of data and cost of accession.

Hodge *et al.* (1984) opined that an item of information has no value if it cannot potentially influence a decision. Some attributes that the manager may use to determine the quality of information are accuracy, timeliness, reliability, response time, completeness and relevance.

Gupta (1986) showed that the information must be capable of being used to enhance the value of information. The investigations proved that information must have characteristics such as relevance, timeliness, accuracy, understandability and cost of information. The cost of information involves the comparison of cost of producing an information with its benefits.

Sah (1986) looked into the technical dimensions of the database which includes elements like response time, capacity, inter-relationships of data elements, security, reliability and validity. The cost consideration consists of three costs - expenses of acquisition of data, expenses of retention and maintenance of data and cost of access and process of data.

Lucey (1987) considered that information which has the following characteristics are likely to be used. It should be timely, appropriate, accurate, detailed, frequent and understandable. The information supplied must be consistent and related to the type of decisions.

Vithal (1988) in his study emphasised that information characteristics should be carefully observed by an information system while generating reports for managers. The information characteristics are timeliness, reliability, relevance and usefulness, quality, adequacy, redundancy, format clarity and exception reporting. It was observed that all the above characteristics of information were more specific at operational level and it became relatively less specific while it reached strategic planning level. In the case of exception reporting, it was highly specific at strategic planning level whereas, the operational level found it less specific.

Padwal (1989) in his paper attempted to give a framework for bringing about improvements in the information systems design in terms of the characteristics - relevance, recentness, useful life and timeliness, adequacy, accuracy and specificity.

Banerjee and Sachdeva (1989) observed vital aspects that are related to information are timeliness, completeness, accuracy, relevance and legibility.

Reilly (1990) in his study examined information overload and underload and relevance. The results demonstrated that respondents who perceived themselves as comparatively underloaded are more likely to be rated as performing better. Respondents who are comparatively overloaded expressed greater satisfaction and had more positive assessment of effectiveness, although rated performance is likely to be lower than for those who feel underloaded.

As Rajaraman (1991) stated, information is obtained by processing of available data. The various attributes that may be required by a piece of information can be listed down as follows. The information should be accurate, complete, trustworthy, timely, up-to-date, relevant, brief, significant and understandable.

According to Ivancevich *et al.* (1991), how the information is used depends greatly on quality (accuracy), presentation (form), and timeliness. Each user of information should consider cost of the information related to utility for decision making.

Kumar (1991) observed that chief elements of good reports are accuracy, timeliness, general appearance, relevance and current use. The information should be accurate and in time. The report format and style of writing are to be considered and overall simplicity must travail. Also the report should serve the purpose and current information must be imparted to take timely action.

Stoner and Freeman (1992) expressed that information occurs when data are organised and analysed in some meaningful way. The information received by managers are evaluated on the basis of four factors namely information quality, timeliness, quantity and relevance.

Singla (1992) in his study viewed that quality of information can be ascertained by studying the characteristics of information such as availability, reliability, relevance and cost.

Varughese (1992) felt that information should satisfy the characteristics of accuracy, timeliness, relevancy, objectivity and conciseness. Management must provide relevant data in concise form. It must also aim at minimising redundancies and overlaps.

Jennings and Senter (1995) pointed out the following characteristics of useful information. It should be relevant, accurate, reliable, timely, accessible and comprehensible.

Information must possess the attributes of relevance, availability and timeliness to have value and thus to qualify as information, as stated by IGNOU, School of Management Studies (1997). Objectivity, sensitivity, comparability, consciousness and completeness are desirable and necessary only in varying degrees. No doubt quantifiability is desired to the maximum extent possible.

Brien (1997) broadly classified the various dimensions of information. Time dimension is given by timeliness, currency, frequency and time period. Content dimension includes accuracy, relevance, completeness, conciseness, scope and performance. Form dimension looks into clarity, detail, order, presentation and media.

Chandan (1997) stated that information must have certain characteristics and meet certain criteria inorder to be useful to the decision maker. Some of the characteristics of good information are that, it should be understandable, relevant, complete, available, reliable, concise, timely and cost effective.

Wang *et al.* (1998) observed the following information quality categories and dimensions.

Category	Dimensions
Intrinsic information quality	Dimensions, Accuracy, Objectivity, Believability, Reputation
Accessibility information quality	Accessibility, Ease of operations, Security
Contextual information quality	Relevance, Value added, Timeliness, Completeness, Amount of information
Representational information quality	Interpretability, Ease of understanding, Concise representation, Consistent representation

Malik (1998) opined that information contained in reports should fulfil the objective of the requester. Ideally, the information content must be relevant, accurate timely and variable. She pointed out considerations to be taken such as response time, capacity, security, validity, cost considerations and inter-relations while designing information system.

P. Mohan (1999) regarded the following as attributes of information.

Time related attributes	Timeliness, Currency, Frequency, Time period
Content related attributes	Accuracy, Relevance, Completeness, Brevity
Form related attributes	Clarity, Detail, Order, Presentation, Media

Kumar (1999) pointed out that attributes that are associated with good quality information adds to its value. Following attributes are recognised to improve the values of information. They include promptness in availability and updation, accuracy, precision, completeness and unambiguity. In addition there are other attributes such as quantifiability, verifiability, unbiasedness and cost considerations.

Based on the extensive survey of literature on the attributes of information, we have chosen timeliness, reliability, relevance, adequacy, redundancy, cost effectiveness and exception reporting for the purpose of study.

2.4. General view on MIS in Co-operatives and banks

Kaura (1984) in his study found that strategic planning and control systems have not yet been introduced in most of the commercial banks in India. It has adequately brought out the need for the system of management planning and control.

Padwal (1986) considered that Information Systems in Indian commercial banks are inadequately structured to provide meaningful support to management. A stepwise model is suggested by him as a framework in which identification of various decision levels can be made.

Kulandaiswamy (1987) opined that prerequisite for MIS development in co-operatives is an appropriate organisational structure with MIS staff specialist. Above all the success of MIS would largely depend upon personnel involved, the effectiveness of communication system, and extent of use of automated processing system.

Joseph (1987) pointed out that systems approach to management will enable the co-operative management to deal with their problems in a proper perspective and ensure successful completion of tasks undertaken by them. Application of systems approach to management problems requires a professional outlook to the services of co-operatives which is lacking at present in our system.

Narasimhan (1988) remarked that information processing has not taken deep roots in banking industry in India. One reason for this could be our propensity to regard data and information synonymously. Consequently, the well defined objectives, rigour, discipline, efforts etc. which must precede the setting up of an integrated

information system has perhaps not percolated among decision making levels, in the banking hierarchy.

Khushro Committee (1989) suggested that management information is necessary tool for management and control of agricultural credit at apex level.

Munjal (1990) viewed the importance of information on the likely future scenario relating to the external environment and external operations. Only if it is available, would the top management of commercial banks be able to discern rents in advance, initiate policy and tactical changes, shift their strategies and guide their organisation for the attainment of the desired long term goals and objectives.

Nalwaya (1992) observed that due to the absence of effective institutional arrangements of strong co-operative resource centre/data base, the co-operative sector is unable to project its achievements rightly and timely whereas the other sectors of the economy using the information network are being benefitted to reflect their achievement properly.

According to Chathopadhyay (1995) effective MIS forms the nucleus of the decision making process by the Board of Directors, members and employees while interacting with government agencies, public, other vertically, horizontally integrated co-operative institutions and agencies either business or non business.

Bhagwat (1996) in his article threw light on various aspects of the information technology that can be used in Banks, in particular about financial processors which take care of the MIS requirements for internal purposes and for providing information to regulators.

Chattopadhyay (1996) observed that the Information System in the District Co-operative Banks and Urban Co-operative Banks are inadequately structured and improperly used and the streamlining of the existing system should be done only

considering cost and increase in productivity and profitability. Also the absence of sound MIS will cause the delay in appropriate management decisions and monitoring of implementation.

According to Kanungo (1996), the main issues are whether the organisation is actually in need of IT (Information Technology) investment and are they clear about the objectives of investment in IT and whether there is a phased budget investments in IT. If all these are appropriately addressed, the results will be gratifyingly positive.

Nalwaya (1997) opined that under the changing economic environment, the co-operative sector urgently needs revitalisation and modern management techniques for facing challenges, and it cannot afford delaying the use of modern technology. The co-operative sector will have to continue to play balancing role in carrying the socio-economic activities in almost every sphere of life. Hence it becomes very essential that it should withstand challenges as well as adjust themselves to exploit the business opportunities and promote value driven enterprises.

Methodology

CHAPTER III

METHODOLOGY

Introduction

The present study comprises of an appraisal of the existing Management Information System in District Co-operative Banks in Kerala. The information needs of management as well as the efficiency and effectiveness of existing information system in meeting the information needs of management are looked into by means of various tools employed. This chapter outlines the methodology of the study.

Conceptual framework

The terms and concepts used in the study are as follows:

1. Management Information System (MIS)

MIS is an integrated man/machine system for providing information to support operations, management and decision making functions in an organisation (Davis, 1974).

2. Top management:

It is the body capable of making objectives, strategic plans and policies for the organisation (Rao, 1988). In this study top management consists of Board of Directors.

3. Middle Management:

Middle management level puts into action, those plans and policies framed by top management (Rao, 1988). For the purpose of the study middle management comprises of General Manager, Deputy General Managers, Section Heads(Superintendents/Executive Officers) and Branch Managers.

4. Effectiveness:

Obtaining the right information to promote decision making to achieve the organisation's objectives.

Effectiveness of information is explained by variables such as relevance and reliability (Hodge, *et al.,* 1984), non-redundancy (Singla, 1992) and exception reporting.

5. Efficiency:

Obtaining information in the right manner. Efficiency of information is explained by variables including timeliness and cost effectiveness (Hodge *et al.*, 1984; Singla, 1992) and adequacy.

6. Timeliness:

Information provided when it is needed (Brien, 1997).

7. Reliability:

Information free from errors and biases at acceptable degree of confidence (Vithal, 1988).

8. Relevance:

Information related to the information needs of a specific recipient for specific situation (Brien, 1997).

9. Adequacy:

A report should cover all related aspects about a particular event or situation, it is reporting (Vithal, 1988).

10. Non-redundancy:

Represents non-duplication of information. The same information are not stored or communicated using different reports (Hodge *et al.*, 1984).

11. Cost effectiveness:

Cost effectiveness of information is derived when its benefits outweigh when compared with its cost of gathering(Chandan, 1997).

12. Exception reporting:

Information produced only when exceptional conditions occur or information produced periodically which contain details only about exceptional conditions (Harsolekar, 1987; Vithal, 1988).

Data collection

The data required for the study have been collected from primary as well as secondary sources of information. The primary data regarding existing structure of Management Information System, decision levels, major decision taken at each level of decision making, type of information required at each level, characteristics of information received - timeliness, relevance, reliability, adequacy, non-redundancy, cost effectiveness, exception reporting, etc. have been collected from the respondents by administering a pretested structured schedule (Appendix I). The secondary data for the study have been compiled from sources like annual reports and published statistical statements for the period of 1998-99. The primary data collection was done during the period of December ,1998 to July 1999.

Selection of variables for the study

The objective of the study necessitated the selection of variables encompassing the characteristics of information. Based on extensive literature review, seven characteristics of information were identified including timeliness, reliability, relevance, adequacy, non-redundancy, cost effectiveness and exception reporting.

The information characteristics to be measured was classified under nine broad heads comprising of:

I) Deposit management

II) Credit management

III) Recovery management

IV) Investment management

V) Fluid Resource management

VI) Profit planning

VII) Human Resource management

VIII) Physical Assets management

IX) Customer Service management

Area of the study

The study was conducted in Kerala, by selecting four District Co-operative Banks viz., Ernakulam, Thrissur, Palakkad and Kozhikode.

Sampling procedure

Stratified random sampling technique was used for the purpose of the study. Eleven DCBs constitute the population for the study. These banks were classified as high performing and low performing on the basis of volume of business (Deposits + Advances). From the high performing group, two banks were selected randomly, namely Ernakulam and Thrissur. Two banks, namely Palakkad and Kozhikode were randomly selected from the low performing group.

The unit of analysis comprised of two distinct classes of respondents. The first category of respondents comprised of top management of banks. Respondent from top management include President, Vice President and one of the Board of Directors

who is member of Executive Committee. The second category of respondents consisted of General Manager, Deputy General Manager, Section heads and branch managers who were grouped as middle management in banks. Sampling was applied only for branch managers in the second category of respondents. Accordingly, two branch managers were selected on random basis from each bank.

The banks selected for the purpose of the study shall be hereafter refered as follows:

Ernakulam DCB - Bank E

Thrissur DCB - Bank T

Palakkad DCB - Bank P

Kozhikode DCB - Bank K

Profile of sample banks

Table 3.1 Profile of sample banks for the year 1997-98

Particulars	Bank E	Bank T	Bank P	Bank K
Date of commencement	15th Mar.1961	19th Nov.1918	1st Jul.1963	3rd Dec.1917
Membership	692	754	422	358
Share capital (Rs. crores)	7.80	5.60	6.13	2.94
Deposits (Rs. crores)	290.95	251.01	134.57	100.50
Loans (Rs. crores)	195.25	151.09	98.53	93.46
Overdues (Rs. crores)	20.77	44.31	16.16	15.26
Net profit (Rs. crores)	0.93	0.48	0.70	0.52
Audit Certification	A	A	A	A

Source: Annual reports of sample banks

A brief profile of the sample banks are given as follows:

Among the banks, bank K was the oldest. Bank P was the latest bank to commence its operations.

Examining their membership position, Bank T stood first with 754 members and Bank K had the least number of members (358).

Share capital was highest in Bank E (7.80 crores) and Bank K had only 2.94 crores being the least.

Regarding deposit position in the year 1997-98, Bank E stood at the first place mobilising 290.95 crores of deposits. Lowest amount of deposits was mobilised by Bank K (100.50 crores). Same pattern was observed for loan position also. Bank E had disbursed 195.25 crores of loans while Bank K could lend only 93.46 crores.

Overdue position of banks showed that Bank T topped the tally with 44.31 crores. Least amount of overdues was seen in Bank K (15.26 crores).

In the case of net profit, Bank E was leading with 0.93 crores and the lowest net profit was found in Bank T (0.48 crores).

All the banks were classified as `A' class under the Audit Certification of 1997-98.

The activities of various functionaries are list below:

1. General Body

The members of the bank including representatives of affiliated societies, nominees of Kerala State Co-operative Bank and Registrar of Co-operative Societies constitute the General Body. The General Body meeting is conducted once in a year.

2. Board of Directors

The members of Board of Directors include elected representatives from the General Body of the bank, Government nominees and Joint Registrar. Meeting of

Board of Directors were conducted once in a month or twice in times of contingency. Strategic planning decisions regarding management of deposit, credit, investment, profit, human resources, physical assets and customer service were taken in Board meetings.

On 3rd June, 1997, the Co-operative Societies Act was amended with respect to membership. Accordingly membership in DCB's was limited to Primary Agricultural Credit Societies and Urban Banks. Other societies were considered as only nominal or associate members. Fresh elections were conducted after the amendment took effect. However, in the case of Bank K, administrator (Joint Registrar) was in-charge for a period of 03-06-97 to 26-09-97 after which elections were conducted.

The number of Board of Directors meetings conducted in the year 1997-98 by the sample banks were as follows:

Table 3.2 Details pertaining to board meetings in sample banks

Period	31.3.97 to 31.3.98 Bank-E	31.3.97 to 31.3.98 Bank-T	31.3.97 to 31.3.98 Bank-P	21.9.97 to 31.3.98 Bank-K
Number of Board of Directors meetings	14	12	16	12

3. Executive Committee:

Executive Committee is constituted by President, Vice-President, General Manager and selected members of Board of Directors. The Executive Committee is convened once in a week. Executive Committee takes routine decisions such as sanction of loans, budgetary control, recommendation on bye-law amendment of PACS, usage of employees welfare fund, revival of sick societies, etc.

The Executive Committee meetings convened during 1997-98 were as follows:

Table 3.3 Details of Executive Committee meetings in sample banks

	Bank E	Bank T	Bank P	Bank K
Period	31.3.97 to 31.3.98	31.3.97 to 31.3.98	31.3.97 to 31.3.98	21.9.97 to 31.3.98
Number of Executive Committee meetings	14	12	16	12

Unlike other sample District Co-operative Banks, Bank T has constituted five sub-committees, namely loan sub-committee, industrial sub-committee, revival sub-committee, staff consultative committee and welfare fund committee. These committees undertake the following matters and reports to Executive Committee.

a) Loan sub-committee : Matters regarding loans, subrules preparation, interest margin etc.

b) Industrial sub-committee : All aspects of industrial loans

c) Revival subcommittee : Undertakes decision regarding loans to societies for revival

d) Staff consultative committee: All staff matters, grievances, provident fund, gratuity etc.

e) Welfare fund committee : Deals with all matters regarding employees welfare

Sections in Head Office:

The activities of the banks are divided into various sections which are headed by Executive Officers/Superintendents. Major sections of head office are given below:

1. Personnel and general section:

This section undertakes work relating to all matters of staff including disbursement of salary, staff loans, sanction of leave, transfer, disciplinary action against employees, service matters, gratuity, training, union matters, purchase of stationery and general administration. In Bank E and Bank K, general section also handles work including conduct of meetings of Board of Directors and Executive Committee, preparation of agenda, minutes and other matters related to the conduct of meeting.

2. Accounts section:

The Accounts section is headed by a Superintendent who is in-charge of banks fund management. Main items of work handled by him includes recommending to the concerned DGM on effecting bank's investment, maintenance of CRR and SLR, preparation of statutory statements to NABARD, RBI, KSCB, RCS etc., preparation of annual and statistical statements of the bank and reconciliation of Head Office account and consolidation of branch accounts. However, the preparation of annual and statistical statement of the bank were taken up by planning section in Bank T and Bank P whereas general section did this work in Bank E and Internal Audit Section in Bank K.

3. Internal Audit Section:

At present the Internal Audit Section deals with MASK (Mutual Arrangement Scheme of Kerala). Inter branch accounts reconciliation, budgetary control etc. The section is headed by a Superintendent. There is no such separate section in Bank E.

4. Loans and advances section

Scrutiny of loan proposals for sanction is the main work undertaken in this section. It may take up other functions, which differs from bank to bank. This section is headed by a Superintendent.

5. Recovery section:

Except for Bank T, the recovery section is adjoined with loan section. This section mainly deals with work relating to arbitration and execution.

6. Inspection section:

The inspection section is headed by a Superintendent. Main jobs undertaken in the section are work connected with inspection of branches and societies, review of inspection reports and followup, concurrence on bye-law amendments of PACS, inspection of societies for scrutiny of loan applications, allotment of branches and societies for inspection. The Executive Officers and Bank Inspectors report to this section where the details are compiled and further actions taken.

7. Industrial and housing loan section

This section deals with individual loans. Scrutiny of loan proposals, monitoring of loans and statement for refinance and it is headed by a Superintendent.

8. Planning and Development section:

The Chief of this section is an Executive Officer. Preparation of subrules for loans and deposits, implementation and review of Memorandum of Understanding, LBR (Lead Bank Returns) statements, budgeting, fixation of scale of finance, purchase of furniture and other fixed assets for the bank are undertaken in this section.

All the sample DCBs do not have all the above sections. In some banks, due to staff shortage the functions of two sections are combined for convenience. Further, keeping aside the core functions of the sections, other functions are interchangeable among sections. Hence the job under sections may differ from bank to bank.

Reporting system in District Co-operative Banks

Report is an inextricable element of an information systems. In modern management sound thinking depends upon the submission of reliable reports. The reports gives to an active mind, the information necessary to take wise-decisions. The report communicates information on the basis of which an executive can understand a situation, make a decision, initiate action and control outcomes. A report, of whatever type it may be should serve the purpose for which it is drafted.

Reporting system in general is presented by Table 3.4. Similar type of reporting system is maintained in sample DCBs. In the case of channels of reporting, some difference is noted. The functions of sections are interchangeable and sample DCBs differ in this aspect. Owing to this difference, the reports sent to or sent from sections also (differ). Regarding the purpose and contents of reports, similarity has been observed. Periodical statements sent out by head office are mainly towards the requirements of RBI, NABARD, KSCB, RCS, Lead Bank, DIC etc. All the banks follow fixed pattern that is meant for the purpose. Besides these internal reports, external information are collected for making decisions. External sources include circulars of RBI and RCS, government orders and reports, published books and trade directories, person to person contact and exchange of notes with other DCBs.

Measurement of variables:

Bank management was classified under five major heads as specified above. The information required for each type of management under ideal conditions were given and respondents had to choose for those available and then go for evaluating the information on the basis of characteristics such as timeliness, reliability, relevance, adequacy, redundancy, cost effectiveness and exception reporting. The scoring was done against a five point continuum with scores of.

Table 3.4 Reporting system in District Co-operative Banks

Sl. No.	Title of Reports	Source-channels	Content	Purpose
Yearly Reports				
1	Form VIII (Returns on unclaimed deposits	Br/Accounts/DGM/RBI	Unclaimed deposits after a period of 10 years after maturity	Statutory
2	NPA yearwise schedule	Br/Accounts/DGM/GM/EC	NPA classification	MC
Quarterly Reports				
1	Average borrowing and lending note	Br/Accounts/DGM/GM/EC/BOD	Average rates of deposits and loans	P/MC
2	Maturity pattern	Br/Accounts/DGM/GM/EC/BOD	Maturity-wise classification of deposits and advances	"
3	Form IX	Br/Accounts/DGM/RBI	Assets and liabilities of the bank	Statutory
4	Application for sanction under Automatic Refinance	Industrial and Housing/DGM/KSCB	Application for refinance from KSCB	P/MC
5	Refinance statement	Industrial and Housing/DGM/KSCB	Application for refinance	"
Monthly reports				
1	Trial Balance	Br/Accounts/DGM/GM/EC/BOD		"
2	Receipts and disbursement statement	Br/Accounts/DGM/GM/EC/BOD	Items of receipts and disbursement	"

Table 3.4 contd...

3	Balance Sheet	Br/Accounts/DGM/GM/EC/BOD	Assets and liabilities position	"
4	Form I	Br/Accounts/DGM/RBI	Demand and time liabilities of bank	Statutory
5	Form II	Br/Accounts/DGM/RBI	Bills discounted by Board of Directors, if any	"
6	Form VI	Br/Accounts/DGM/RBI	Number of branches	"
7	Report of fund available	Internal Audit/Account/DGM/GM	Report to funds accrued	MC
8	Refinance statement	Loan Section/DGM/NABARD	Application for refinance of agricultural loans	P/MC
9	Suit account progress report	Br/Recovery Section/DGM/GM/EC	Collection under suit account	MC
10	Defects of branches by Executive Officers	Inspection cell/DGM/GM/EC	Defects in branches noted by Executive Officers	MC
11	Defects of PACS by Bank Inspectors	Inspection cell/DGM/GM/EC	Defects in PACS noted by Bank inspectors	MC
12	Overdue positions	GM/President/EC	Overdue position of the bank	MC
13	Demand position	GM/President/EC	Demand position of the bank	P/MC
14	Advance position	GM/President/EC	Advance position	P/MC
Weekly Reports				
1	Sanction and releasing order	EC/GM/DGM/Loan Section/Br	Permission for grant of loan along with conditions	OC
2	Sanction of DRDA, Industrial Loan	EC/GM/DGM/Industrial loan/Br	Permission for grant of loan along with conditions	OC

Table 3.4 contd.....

3	Individual files for loan sanction	Br/Loan/Industrial loan section/DGM/GM/EC	Proposal for loan sanction	MC
4	Consultation for byelaw amendment of PACS	PACS/planning/DGM/GM/EC	Recommendation on byelaw amendment of PACS	MC
5	Funds possession	GM/President	Funds with the bank for investment	MC
Daily Report				
1	Cash balance statement	BR/Accounts/DGM/GM/President	Daily cash balances with the branches in hand and in MASK	MC
2	Extract of HO Account	Br/Accounts/DGM/GM/EC	Debit and credit adjustments in the head office	OC

where, P - Planning; MC - Management Control; OC - Operational Control

Responses		Scores
Very poor	:	1
Poor	:	2
Satisfactory	:	3
Good	:	4
Very good	:	5

The required information differed for each item of management for which scores pattern ranged accordingly. They are listed as follows:

Item of management	Required items of Information (Number)	Range of Scores
I) Deposit management	6	6 -30
II) Credit management	9	9 - 45
III) Recovery management	6	6 - 30
IV) Investment management	8	8 - 40
V) Fluid resource management	5	5 - 25
VI) Profit planning	7	8 - 40
VII) Human Resource management	7	7 - 35
VIII) Physical Assets management	5	5 - 25
IX) Customer Service management	5	5 - 25

Tools used for the study

The following tools were employed to analyse the data collected from respondents which were tabulated and computed.

1. Efficiency and effectiveness index

The information evaluated on the basis of characteristics of information was indexed using the formula:

$$I = \frac{(F_1*1 + F_2*2 + F_3*3 + F_4*4 + F_5*5)}{\sum_{n=1}^{5} F_n*5}$$

where, F_1 = Frequency of score 1

F_n = Frequency of score n

For each information requirement under different functional management heads, index was obtained. Let the indices of information requirements for functional management head is as follows. FM_1, FM_2, FM_3 .....

Further a functional index for each functional management head is formed by dividing the sum of indices of each information requirements under the specified functional management with the number of information requirements (m).

$$\text{ie. F.I.} = \frac{FM_1 + FM_2 + \ldots\ldots\ldots\ldots FM_n}{m}$$

where,

F.I. = Functional Index

For nine functional management heads separate indices are obtained, the average of which gives overall indices for the sample banks.

The efficiency index is an average of timeliness, adequacy and cost effectiveness index.

The effectiveness index is an average of reliability, relevance, non-redundancy and exception reporting.

The efficiency and effectiveness index obtained for banks were categorised as according to following criterion.

Below 20	:	V. poor (efficient/effective)
20 -40	:	poor (efficient/effective)
40- 60	:	Moderately (efficient/effective)
60 - 80	:	Good (efficient/effective)
Above 80	:	V. Good (efficient/effective)

2. Confluence analysis

Confluence analysis methodology was adopted to examine the influence of identified variables of efficiency and effectiveness of the existing information system.

The influencing variables of efficiency are timeliness, adequacy and cost effectiveness, non-redundancy and exception reporting. Efficiency and effectiveness are treated as dependent variables. Inorder to determine the influence of each independent variable separately on the dependent variable and to estimate the total impact of these variables taken together, the following confluence models were used in the analysis and their coefficients were estimated.

EQN1, EFFY = f (TIMELINESS), EFFY = $\alpha+\beta$ TIMELINESS

EQN2, EFFY = f (ADEQUACY), EFFY = $\alpha+\beta$ ADEQUACY

EQN3, EFFY = f (COST EFFECTIVENESS), EFFY = $\alpha+\beta$ COST EFFECTIVENESS

EQN4, EFFY = f (TIMELINESS, ADEQUACY), EFFY = $\alpha+\beta_1$ TIMELINESS + β_2 ADEQUACY

EQN5, EFFY = f (TIMELINESS, ADEQUACY, COST EFFECTIVENESS), EFFY = $\alpha+\beta_1$ TIMELINESS + β_2 ADEQUACY + β_3 COST EFFECTIVENESS

EQN6, EFFT = f (RELIABILITY), EFFT = $\alpha+\beta$ RELIABILITY

EQN7, EFFT = f (RELEVANCE), EFFT = $\alpha+\beta$ RELEVANCE

EQN8, EFFT = f (NON-REDUNDANCY), EFFT = $\alpha+\beta$ NONREDUNDANCY

EQN9, EFFT = f (EXCEPTION REPORTING), EFFT = $\alpha+\beta$ EXCEPTION REPORTING

EQN10, EFFT = f (RELIABILITY, RELEVANCE), EFFT = $\alpha+\beta_1$ RELIABILITY + β_2 RELEVANCE

EQN11, EFFT = f (RELIABILITY, RELEVANCE, NONREDUNDANCY), EFFT = $\alpha+\beta_1$ RELIABILITY + β_2 RELEVANCE + β_3 NONREDUNDANCY

EQN12, EFFT = f (RELIABILITY, RELEVANCE, NONREDUNDANCY, EXCEPTION REPORTING), EFFY = $\alpha+\beta_1$ RELIABILITY + β_2 RELEVANCE + β_3 NONREDUNDANCY + β_4 EXCEPTION REPORTING

Where, EFFY - Efficiency
EFFT - Effectiveness

Results

CHAPTER IV

RESULTS

Keeping the objectives of the study in view, the results of the study are presented in this chapter under the following heads.

4.1 Decision making process in District Co-operative Banks

4.1.1 Fixing of deposit targets for the next financial year

4.1.2 Introducing new deposit schemes

4.1.3 Sanctioning of loan proposals

4.1.4 Monitoring of default accounts

4.1.5 Investment of available funds

4.1.6 Maintenance of statutory reserves

4.1.7 Profit planning

4.1.8 Providing additional facilities to branches

4.1.9 Employee's job rotation

4.1.10 Strategies to combat delays in customer service

4.2 Information needs of top level and middle level management for functional management in banks

4.2.1 Information needs for deposit management

4.2.2 Information needs for credit management

4.2.3 Information needs for recovery management

4.2.4 Information needs for investment management

4.2.5 Information needs for fluid resource management

4.1 Decision making process in District Co-operative Banks

The functional areas in bank management includes deposit management, credit management, recovery management, investment management, fluid resource management, profit planning, human resource management, physical assets management and customer service management. Under each heads certain decisions were identified for which decision making process as well as information required were drawn out. Accordingly, the decision making process as well as information requirements at each stage of decision making can be illustrated. The decision making processes identified from major functional areas were:

i) Fixing of deposit targets for the next financial year

ii) Introducing new deposit schemes

iii) Fixing of loan targets for the next financial year

iv) New loan schemes

v) Sanctioning of loan proposals

vi) Monitoring of default accounts

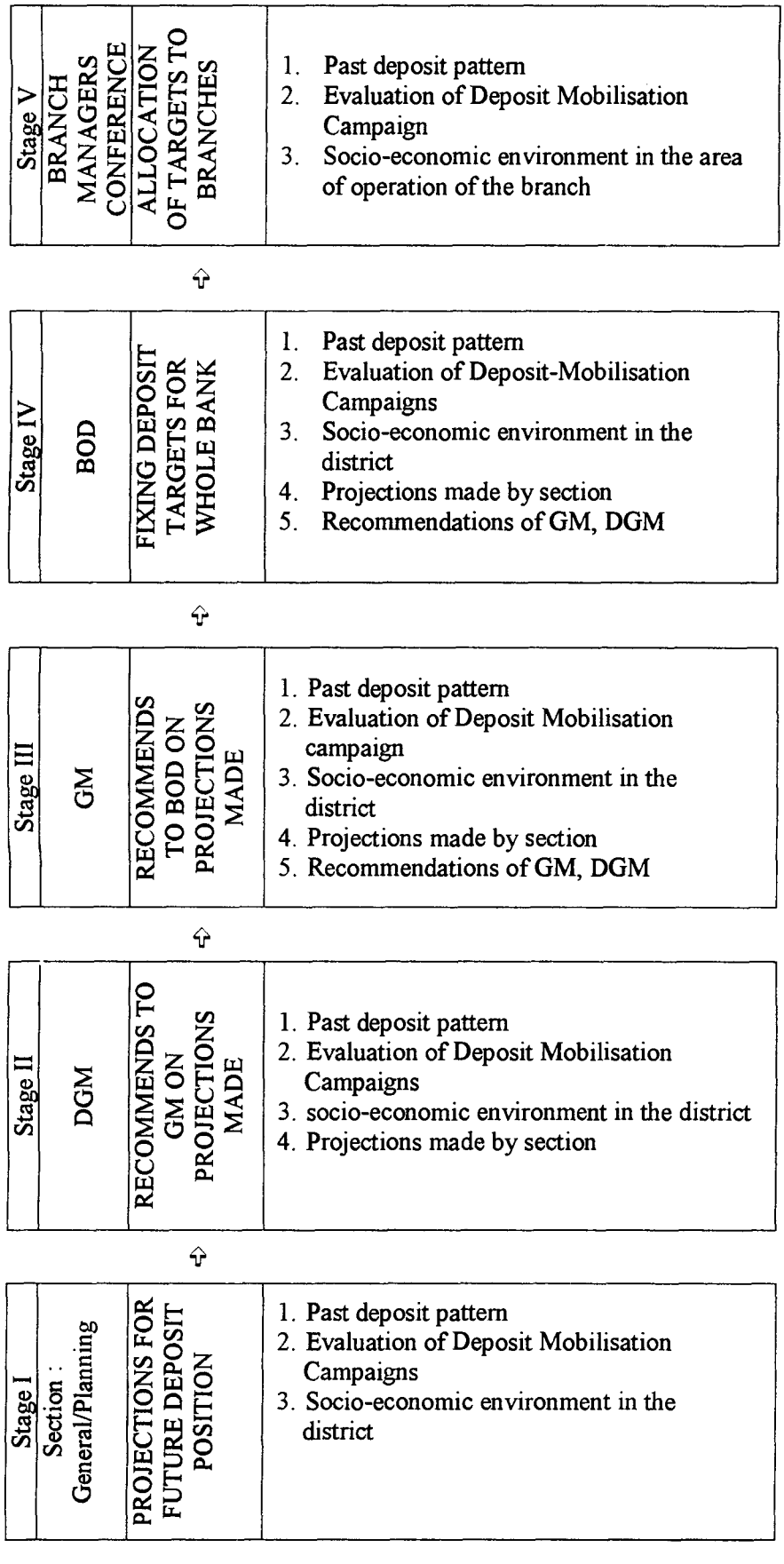


Fig.II Stages of decision making in fixing deposit targets for the next financial year

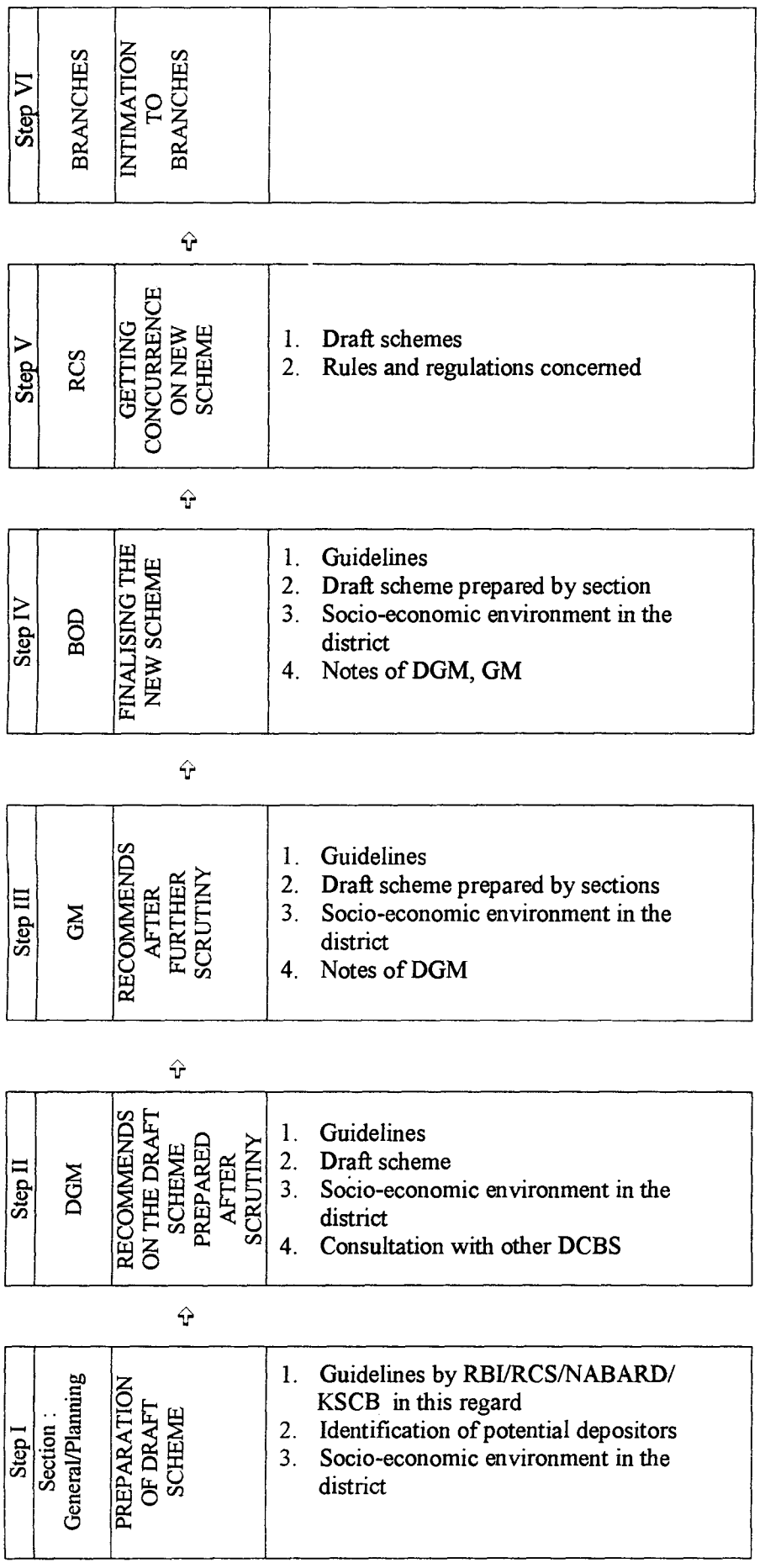


Fig.III Steps in introducing new deposit schemes

Level	Decision	Information required
Step I Branches	Branch managers. Note on loan proposal	1. Loan proposal 2. Terms and conditions of loan schemes
Step II Section Loan/ Individual loan	Scrutiny of loan proposal on the basis of terms and conditions and inspection reports	1. Loan proposal 2. Terms and conditions of loan schemes 3. Inspection reports of Bank Inspectors
Step III DGM – Loan	Notes on the proposal after further scrutiny	1. Loan proposal 2. Terms and conditions of loan schemes 3. Notes by loan section heads on the proposal
Step IV GM	Recommends to EC for sanction/rejection	1. Loan proposal 2. Terms and conditions of loan schemes 3. Notes by loan section heads and DGM-loan on the proposal
Step V Executive committee	Sanctions with terms and conditions/rejects the loan proposal	1. Loan proposal 2. Terms and conditions of loan schemes 3. Notes by loan section heads, DGM loan and GM on the proposal

Fig.IV Steps in sanctioning of loan proposals

vii) Investment of available funds

viii) Maintenance of statutory reserves

ix) Profit planning

x) Requirement for additional facilities at branches

In the above noted decisions, fixing of deposit targets and loan targets follow same pattern of decision making with difference in their information needs. Likewise deposit schemes and loan schemes are prepared through similar sequence of decision making. As in the former case, the information needs for deciding upon deposit as well as loan schemes differ.

4.1.1 Fixing of deposit targets for the next financial year

Figure II gives an overview of the decision making process regarding fixing of banks deposit targets. As can be observed, it is a five stage process, where the final decision is taken at the fourth stage. After finalising the deposit targets for the whole bank, allocation of targets to branches is done.

4.1.2 Introducing new deposit schemes

Figure III illustrates decision making process in formulating new deposit scheme. . It is a six stage process in which final decision is taken by the Board of Directors. After that it is sent to Registrar of Co-operative Societies for concurrence and finally intimation is sent to branches.

4.1.3 Sanctioning of loan proposals

Sanctioning of loan is a five stage process as presented in Figure IV. Unlike other decisions listed earlier, this decision is taken by Executive Committee. Either sanction or rejection of the loan proposal takes place at the final stage of this decision.

4.1.4 Monitoring of default accounts

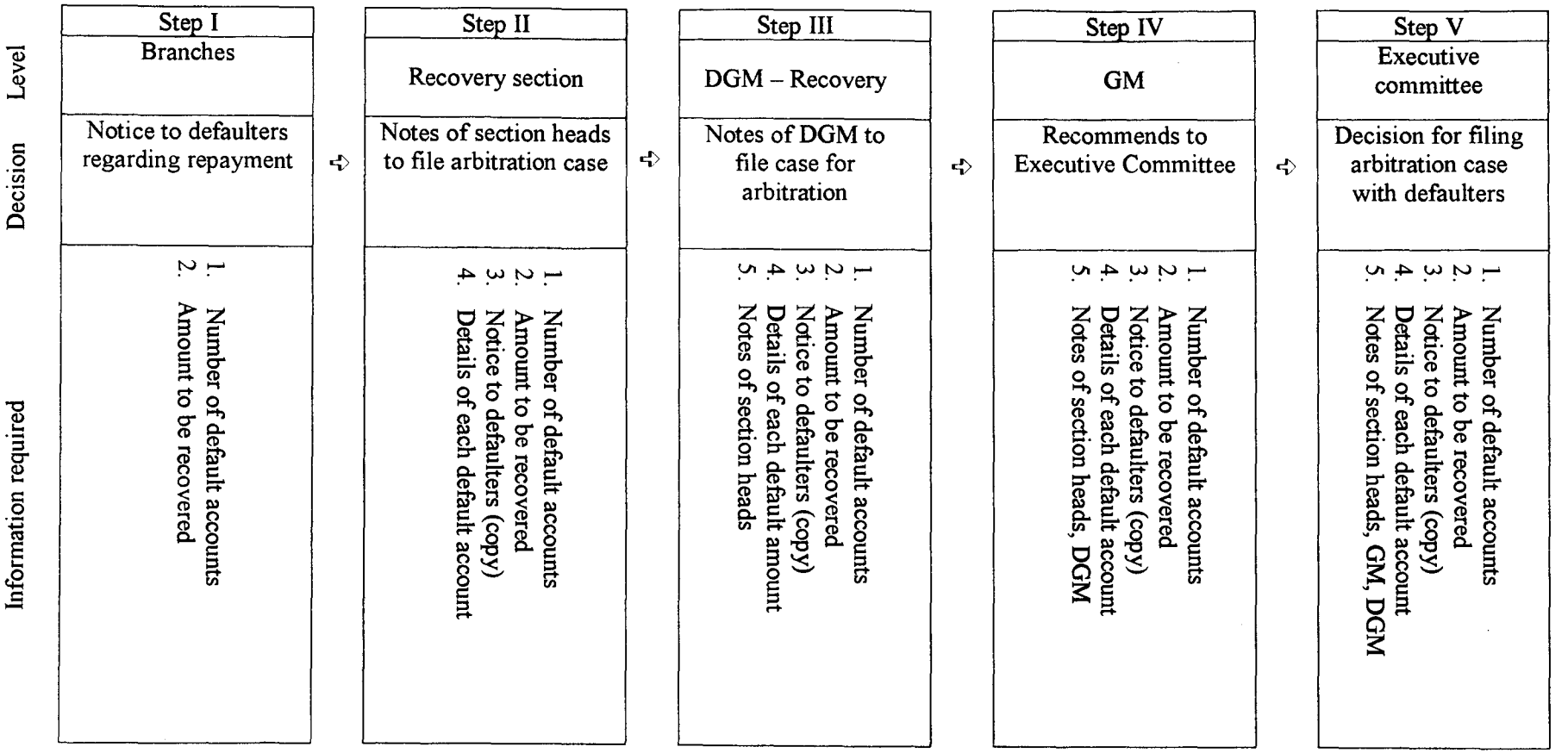


Fig.V Steps in monitoring of default accounts

Level	Decision	Information required
Step I ACCOUNTS SECTION	Availability of investible funds and investment avenues	1. Availability of investible funds 2. RBI, RCS guidelines 3. Policy decisions of the bank
Step II DGM ACCOUNTS	Notes on the report of accounts section	1. Availability of investible funds 2. Investment avenues 3. Guidelines from RBI, RCS 4. Policy decisions of the bank
Step III GM	Decision on investment of available funds with ratification from president	1. Availability of investible funds 2. Investment avenues 3. Guidelines from RBI, RCS 4. Policy decisions of the bank 5. Notes of DGM
Step IV PRESIDENT	Ratification of GM's decisions regarding investment of funds	1. Availability of investible funds 2. Investment avenues 3. Guidelines from RBI, RCS 4. Policy decisions of the bank 5. Notes of GM/DGM

Fig. VI Investment of available funds

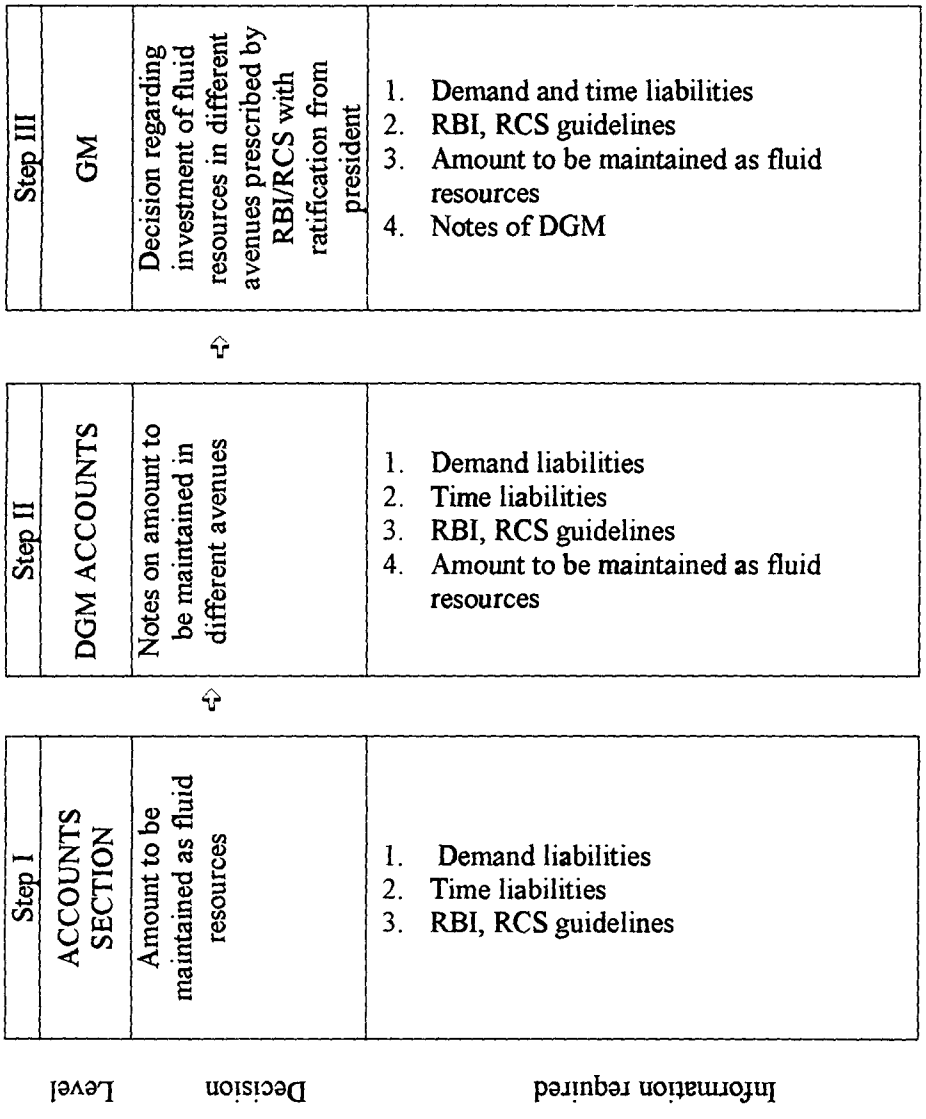


Fig. VII Steps in maintenance of statutory reserves

Level	Decision	Information required
Step I Planning Section	Projections of expenditure and income for the budgeted year	1. Items determining profit 2. Previous year's profit
Step II DGM	Notes on projections made	1. Items determining profit 2. Previous years profit 3. Projections made by section
Step III GM	Recommends on projections made	1. Items determining profit 2. Previous years profit 3. Projections made by section 4. Notes of DGM
Step IV BOD	Decision upon the budgeted expenditure and income	1. Items determining profit 2. Previous year's profit 3. Projections made by section 4. Notes of GM, DGM
Step V GB	Final approval of General Body	1. Annual statement showing previous year, current year as well as budgeted figures of income and expenditure

Fig. VIII Steps in profit planning

Level	Decision	Information required
Step I Branch	REQUIREMENT FOR ADDITIONAL FACILITY	1. Fixed Assets Inventory
Step II Planning	NOTES ON THE PROPOSAL OF BRANCHES	1. Fixed Assets Inventory 2. Costs for additional facility and benefits
Step III DGM planning	NOTES ON THE PROPOSAL	1. Fixed assets inventory 2. Costs for additional facilities and benefits 3. Notes by sections heads
Step IV GM	RECOMMENDS TO EXECUTIVE COMMITTEE	1. Fixed Assets Inventory 2. Costs for additional facility and benefits 3. Notes by Section/DGM heads
Step V EC	DECISION TO ALLOW FOR ADDITIONAL FACILITIES	1. Fixed Assets Inventory 2. Costs for additional facility and benefits 3. Policy of the bank 4. Notes by section/DGM heads and GM

Fig.IX Steps in decision making on providing additional facilities to branches

4.1.4 Monitoring of default accounts

Figure V indicates the decision making process for monitoring of default accounts. There are five stages in the decision making process. This decision is taken at Executive Committee level.

4.1.5 Investment of available funds

Decision making process of investment of available funds is illustrated in Figure VI. This is a four stage decision making process. The decisions are taken by General Manager subject to ratification of the President.

4.1.6 Maintanence of statutory reserves

Figure VII illustrates the decision making process for maintenance of statutory reserves. This is done at middle management level itself. It is a three stage decision making process. General Manager of the bank is responsible for meeting the statutory requirements of the bank.

4.1.7 Profit planning

Figure VIII throws light on the decision levels of profit planning. Five stages are involved in taking decisions on profit planning. Final approval, unlike other decisions, is taken only in the General Body.

4.1.8 Providing additional facilities to branches

Demand for additional facilities at branches are sanctioned by a five stage decision making process as observed from Figure IX. Executive Committee forms the final authority in making this decision.

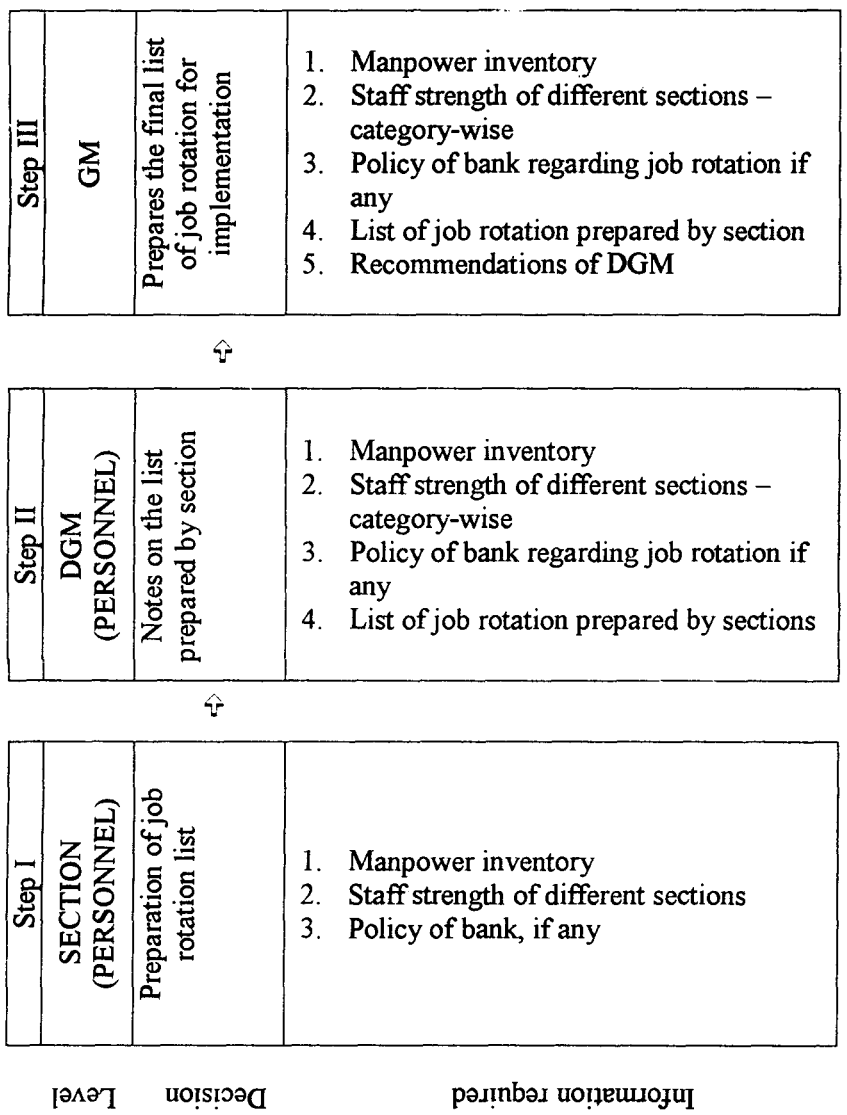


Fig.X Stages of decision making in employee's job rotation

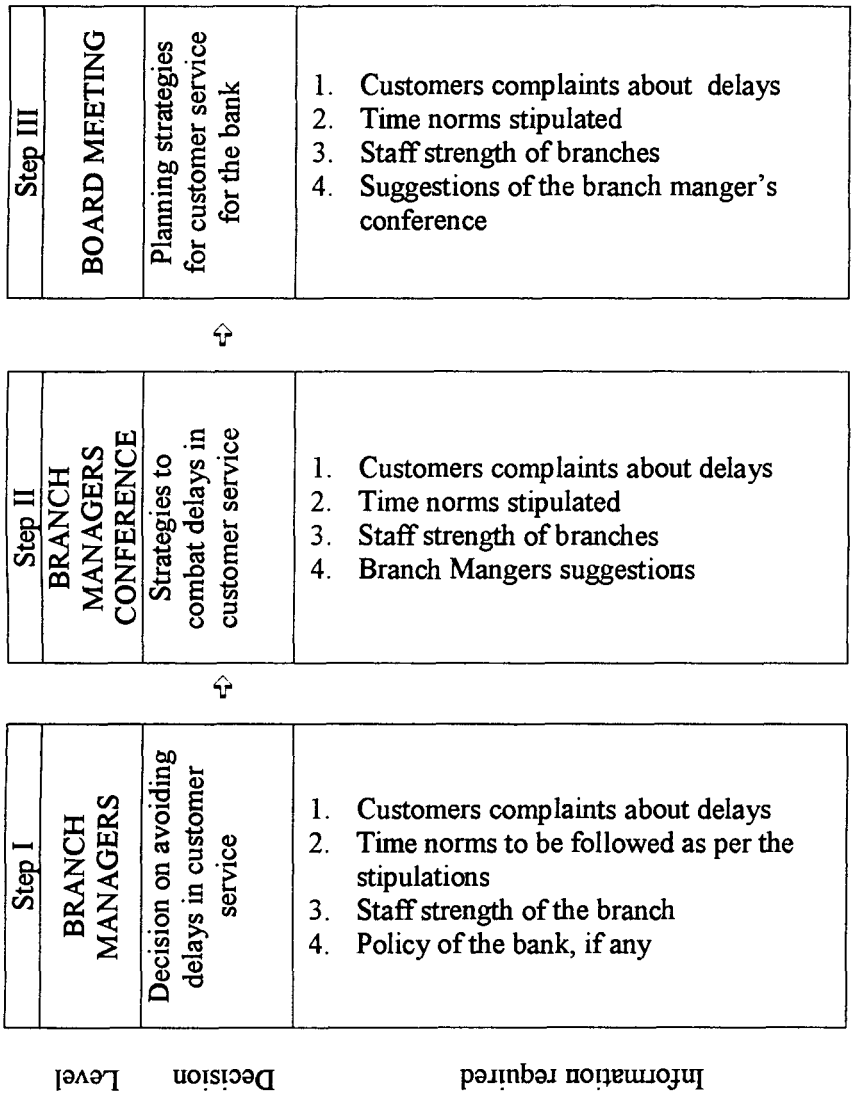


Fig.XI Stages of decision making in framing strategies to avoid delay in customer service

4.1.9 Employee's job rotation

Figure X gives an understanding of the decision making process regarding employee's job rotation. This is a routine decision, taken at middle management level. This involves three stages for which information requirements are listed as above.

4.1.10 Strategies to combat delays in customer service

Figure XI depicts the decision making process in preparation of strategies to avoid delays in customer service. The decision making was done at two stages. The branch managers takes their own decisions to combat delays by managing the existing staff in the branch. Further any strategies to be framed has to be left to the discretion of branch managers conference, since it has to be done taking into consideration the whole banks requirements. A final decision on planning for strategies is taken at top management level.

4.2 Information needs of top level and middle level management for functional management in banks

As stated earlier, the functional management of banks are classified under nine heads. The ideal information needs under each heads were listed out and the availability of each information need was sought from the respondents. On the basis of the information needs and availability, information gaps were identified for which rectification measures have to be adopted.

The information needs of different levels of management as identified by the respondents are presented with the help of the following results.

4.2.1 Information needs for Deposit Management

Table 4.1 Information availability at different levels for deposit management

Sl. No.	Information need	Information availability		
		Number of banks (n=4)		
		Source	TM	MM
1	Evaluation of Deposit Mobilisation Campaign	Branch Manager's Conference	4	4
2	Past deposit pattern	Balance Sheet	4	4
3	Identification of potential depositors	External Information	1	4
4	Socio-economic environment in the district	External Information	4	4
5	Identification of customer preferences	External Information	1	1
6	Competitors strategies		0	0

TM - Top Management; MM - Middle Management
Source: Survey conducted in banks

Table 4.1 presents the information availability of Deposit Management at two levels of management. Information on evaluation of Deposit Mobilisation Campaign was available to all the four banks. Similar result was obtained for information on past deposit pattern as well as on socio-economic environment in the district. Details on identification of potential depositors were collected by all banks at middle level management, but at top management level only one bank used it.

Regarding information on identification of customer preferences, only one bank at both levels of management made use.

Competitors strategies were studied by none of the banks at both levels.

4.2.2 Information needs for credit management

Table 4.2 Information availability at different levels for credit management

Sl. No.	Information need	Information availability		
		Number of banks (n = 4)		
		Source	TM	MM
1	Availability of loanable funds	Statement of funds position	4	4
2	Identification of preferred sectors and allocations	External Information	4	4
3	Profitability/interest margin	Notes of concerned section	4	4
4	Estimate of credit needs of borrowers	DCP/AAP	4	4
5	Availability of refinance	KSCB/NABARD	4	4
6	Agro industrial and economic condition in the district	External Information	4	4
7	Competitors strategies		0	0
8	Past demand for credit	Balance Sheet	4	4
9	Identification of customer preferences	External Information	1	3

TM - Top Management; MM - Middle Management
Source: Survey conducted in banks

The results present in the Table 4.2 revealed the information availability of credit management as identified by two categories of respondents.

From the table given above, we can see that, all the four banks have availed the following information requirements at both levels. They are information on availability of loanable funds, identification of preferred sectors and allocations, profitability/interest margin, availability of refinance, estimate of credit needs of borrowers, agro industrial and climatic conditions in the district and past demand for credit.

Identification of customer preferences was analysed by only one bank at top management level. For middle management level only one bank did not use this information for decision making regarding credit management. As in the case of deposit management, competitors strategies were considered by none of the banks.

4.2.3 Information needs for recovery management

Table 4.3 Information availability at different levels for recovery management

Sl. No.	Information need	Information availability		
		Number of banks (n = 4)		
		Source	TM	MM
1	Number of irregular accounts	NPA yearwise schedule	4	4
2	Nature of credit facility and type of loan	Individual files	4	4
3	Amount outstanding	NPA yearwise schedule	4	4
4	Amount overdue	NPA yearwise schedule	4	4
5	Feed back on terms and conditions of loan and repayment schedule		0	0
6	Measures taken as part of recovery	Inspection reports of PACS and Branches	3	4

TM - Top Management; MM - Middle Management
Source: Survey conducted in banks

Table 4.3 gives an insight into banks information needs for recovery management. From the information requirements listed in the above table, information on number of irregular accounts, nature of credit facility and type of loan, amount outstanding and amount overdue were needed by all the four banks by both levels of management. Only three banks at the top management level used information on measures taken as part of recovery.

Feedback on terms and conditions of loan and repayment schedule was not considered by any of the banks.

4.2.4 Information needs for investment management

Table 4.4 Information availability at different levels for investment management

Sl. No.	Information needs	Information availability		
		Number of banks (n = 4)		
		Source	TM	MM
1	Deposit mix	Balance Sheet	4	4
2	Loan mix	Balance Sheet	4	4
3	Maturity pattern of deposits and loans	Maturity pattern	4	4
4	Maturity pattern of existing investment	Maturity pattern	4	4
5	Changes in RBI and Government policy	RBI and Government guidelines	4	4
6	Changes in environment in the target area	External Information	4	4
7	Resource availability	Report of fund available	4	4
8	Future Business Development Plan of the bank	Business Development Plan	4	4

TM - Top Management; MM - Middle Management
Source: Survey conducted in banks

Table 4.4 shows the information availability for investment management at two levels of management. We can see that all the banks are using the information requirements listed out. The information requirements are mainly pertaining to deposit mix, loan mix, maturity pattern of deposits, maturity pattern of existing investment, changes in RBI and government policy, changes in environment in target area, resource availability and future Business Development Plan of the bank.

4.2.5 Information needs for fluid resource management

Table 4.5 Information availability at different levels of fluid resource management

Sl. No.	Information needs	Information availability	
		Number of banks (n = 4)	
		Source	Middle Management
1	Time liabilities	Form I	4
2	Demand liabilities	Form I	4
3	Fluid resource to be maintained	Section Report	4
4	RBI stipulations on maintenance of statutory reserves	RBI guidelines	4
5	Cash flow for cash arrangement	Cash balance Statement	4

Source: Survey conducted in banks

Fluid resource management was undertaken at middle level management in sample banks. Regarding the information requirements for fluid resource management, all the sample banks used all the information listed out for the purpose. A view of the Table 4.5 gives an idea of information requirements for fluid resource management.

4.2.6 Information needs for profit planning

Table 4.6 Information availability at different levels of profit planning

Sl. No.	Information needs	Information availability		
		Number of banks (n = 4)		
		Source	TM	MM
1	Availability of loanable funds and deposit position	Statement of funds position	4	4
2	Funds blocked between inter-branch transactions	Statement of funds position	4	4
3	Maintenance of CRR, SLR	Form I	4	4
4	Interest rates on deposits and advances	Average borrowing and lending note	4	4
5	Cash management at branches	Cash balance statement	4	4
6	Recovery of loaned funds	NPA yearwise schedule	4	4
7	Liquidity management	Form I	4	4
8	Investment portfolio	Investment details of the bank	4	4

TM - Top Management; MM - Middle Management
Source: Survey conducted in banks

Profit planning in all the sample banks was undertaken considering entire information requirements as per Table 6. The information requirements for profit planning as identified by both levels of management were availability of loanable funds and deposit position, funds blocked between inter-branch transactions, maintenance of CRR, SLR, interest rates on deposits and advances, cash management at branches, recovery of loaned funds, liquidity management and bank's investment portfolio.

4.2.7 Information needs for Human Resource Management

Table 4.7 Information availability at different levels for Human Resource Management

Sl. No.	Information needs	Information availability		
		Number of banks (n = 4)		
		Source	TM	MM
1	Manpower inventory	Inventory Register	5	5
2	Manpower forecasting		0	0
3	Job training	Inventory Register	5	5
4	Job rotation	Inventory Register	2	5
5	Performance appraisal		0	0
6	Transfer policy	Minutes of BOD meeting	5	5
7	Welfare schemes for employees	Minutes of BOD meeting	5	5

TM - Top Management; MM - Middle Management
Source: Survey conducted in banks

Table 4.7 gives an insight into the information requirements for human resource management. All the sample banks were using information on manpower inventory, job training, transfer policy and welfare schemes for employees at both levels of management. In the case of information on job rotation, though at middle management level every bank used it, only one bank at top management made use. None of the banks, at both levels, collected information on manpower forecasting and performance appraisal.

4.2.8 Information needs for management of physical assets

Table 4.8 Information availability at different levels for management of physical assets

Sl. No.	Information needs	Information availability		
		Number of banks (n = 4)		
		Source	TM	MM
1	Inventory position	Stock Register	4	4
2	Information regarding maintenance	Requisition from those concerned	4	4
3	New branches opened	Form VI	4	4
4	Requirement of additional facilities from existing branches	Requisition from branches	4	4
5	Technological innovations	External Information	4	4

TM - Top Management; MM - Middle Management
Source: Survey conducted in banks

Table 4.8 presents the result of information requirement of sample banks at different levels of management for managing physical assets. As can be observed from the table, there is no difference in the information requirements as perceived by both levels of management of all the four sample banks.

4.2.9 Information needs for customer service management

Table 4.9 Information availability at different levels for customer service management

Sl. No.	Information needs	Information availability		
		Number of banks (n = 4)		
		Source	TM	MM
1	Customer dissatisfaction points	External Information	2	4
2	Services offered by competitors		0	0
3	Customer awareness programmes	Branch Manager's Conference	0	1
4	Identifying areas where rapport has to be built up	Branch Manager's Conference	1	3
5	Customer satisfaction points	Branch Manager's Conference	0	1

TM - Top Management; MM - Middle Management Source: Survey conducted in banks

The information needs for customer service management is presented in the above table.

Regarding information on customer dissatisfaction points, at middle management level, all the banks made use. However at top management level, only two banks used the same.

Services offered by competitors were not considered by both levels of management of the four banks. Information on customer awareness programmes was not taken up by sample banks seriously. Only one bank at the middle management level used this information.

Identifying areas where rapport has to be built up was considered by only one bank at top level. At middle management level three banks considered this information.

Information on customer satisfaction points was collected by only one bank at middle management level.

4.3 Efficiency and Effectiveness indicators of information system

Decision making is central to all the managerial activities. Often, it is also important to gather feedback on the results of a decision. Feedback provides a decision maker the opportunity to have decision making skills and possibly, to make adjustments when bad choices are made. Also, results provide the organisation with an opportunity to evaluate the decision maker. But it is normally difficult for both the decision maker and the organisation to determine if better results would have been obtained for choosing a piece of information other than one that was actually selected.

Although both the decision maker and the organisation are concerned with the results of decisions, and stunning results are the fastest route to professional success,

the evaluation focus is on how well the decision making process was carried out with right information in the right manner.

At a high level of abstraction, performance of information system may be discussed in terms of effectiveness and efficiency. An effective manager selects appropriate information to take decisions so as to accomplish organisational goals. Efficiency on the other hand is a technical concept borrowed from the physical sciences. The efficiency of information system is defined as acquiring the information in the right way for making decisions.For this purpose efficiency and effectiveness index were calculated. Classification was done on the basis of criterion.

< 20	Very poor
20 - 40	Poor
40 - 60	Moderate
60 - 80	Good
> 80	Very good

Table 4.10 Efficiency Indices for functional management heads

	Bank E	Bank T	Bank P	Bank K
Deposit management	49.08	36.26	45.87	34.58
Credit management	66.48	51.10	63.09	50.22
Recovery management	51.07	29.59	48.37	41.74
Investment management	83.34	64.58	77.09	66.25
Fluid resource management	80.89	67.55	79.55	70.67
Profit planning	78.82	60.28	72.64	61.94
Human resource management	52.26	42.73	49.69	48.06
Management of physical assets	80.89	63.12	78.22	69.89
Customer service management	7.00	19.76	22.66	23.67

Indices for efficiency under different functional management heads are presented in Table 4.10. The indices of constituent variables are given in Appendix II.

Deposit management indices stood at moderate level of efficiency in two banks. The indices of constituent variables such as timeliness and adequacy were also classified as moderate in two banks. In cost effectiveness, Bank P,Bank T and Bank E had moderate level of indices.

Credit management indices were good for two banks. Regarding constituent variables, cost effectiveness was classified as good in two banks. In timeliness variable, Bank T,Bank P and Bank K attained only moderate level. Adequacy also was moderate for Bank K and BankT.

Recovery management was moderately efficient for all banks except for Bank T which had poor index. Timeliness was classified as moderate for two banks. In the case of adequacy Bank T and Bank K had poor indices, other banks being moderately efficient. Cost effectiveness was good in recovery management for Bank E and Bank P.

Bank P,Bank T and Bank K had good indices of efficiency in investment management and fluid resource management whereas Bank E was classified as very good in this regard. Timeliness was categorised as good for Bank T and Bank P for investment management and for three banks for fluid resource management. Cost effectiveness was good for Bank T and Bank K for investment management and fluid resource management.

In the case of profit planning all banks had good efficiency index. Timeliness index was moderate in two banks. Adequacy was good for majority of the banks. Cost effectiveness was good for all banks except Bank E having very good index.

Efficiency indices were good in Bank E regarding management of physical assets. Bank P, Bank T and Bank K had good indices. Timeliness and cost effectiveness followed the same categorisation of efficiency. Regarding adequacy, all banks had good indices.

Customer service management indices were found very poor for all banks. Timeliness was poor for BankP and Bank K. Adequacy and cost effectiveness were poor in majority of the banks.

Table 4.11 Efficiency index of information system in banks

Bank	Timeliness	Adequacy	Cost effectiveness	Efficiency	
				Index	Category
Bank E	58.63	58.60	66.04	61.09	Good
Bank T	44.94	46.06	53.99	48.33	Moderate
Bank P	55.05	57.60	66.41	59.69	Moderate
Bank K	49.46	50.50	55.72	51.89	Moderate

Table 4.11 presents efficiency indices categorised according to aforesaid criterion. Based on the categorisation, all the banks, except Bank E, came in the category of 40-60 perceived as moderately efficient. Regarding the constituent variables, timeliness was moderate in all banks and cost effectiveness was good in two

banks. Top most value of index was obtained by Bank E whereas least value of index was for Bank T.

Table 4.12 Effectiveness indices for functional management heads

Functional management heads	Bank E	Bank T	Bank P	Bank K
Deposit management	56.06	43.77	57.35	40.46
Credit management	74.89	55.98	73.96	55.40
Recovery management	64.35	39.83	60.17	48.92
Investment management	91.04	71.36	85.32	74.74
Fluid resource management	90.00	76.33	84.33	69.67
Profit planning	84.69	64.38	83.13	66.72
Human resource management	55.27	46.48	53.58	51.93
Management of physical assets	85.34	68.34	84.50	73.55
Customer service management	6.50	23.31	21.75	24.67

Indices for effectiveness under different functional management heads are presented in Table 4.12. The indices of the constituent variables are given in Appendix II.

Deposit management indices stood at moderate level of efficiency in all banks. Regarding reliability and non-redundancy majority of the banks were moderately effective.

Credit management indices were moderately effective in two banks. For all the other variables these indices were categorised in the same pattern of effectiveness.

Recovery management was moderately effective in one bank, whereas it was good in the other two. In the case of non-redundancy,reliability and relevance two banks had indices categorised as moderate.

Regarding investment management two banks had very good indices for effectiveness, whereas the other two remained good. Bank E had very high level of index for effectiveness in investment management. In the case of all factors, all the banks followed the same pattern.

Fluid resource management was very good in two banks. Regarding constituent variables, there was difference only in the case of exception reporting, where three banks had good indices.

Profit planning had very good indices in two banks and good indices in the other two. The indices of all the component variables showed the same pattern,except for exception reporting where two banks had good indices and other two had moderate indices.

Human resource management was moderately effective in all banks. This pattern was seen while examining the indices of reliability, relevance, non-redundancy and exception reporting.

Management of physical assets was very good in effectiveness in two banks and good in the rest. No change in pattern was observed in the indices of constituent variables.

Indices of customer service management was poorly effective in majority of the banks. Regarding the variables of reliability, relevance and non-redundancy all the banks had poor level of indices.In the case of exeption reporting, indices of two banks were very poor.

Table 4.13 Effectiveness index of information system in banks

Bank	Reliability	Relevance	Non Redundancy	Exception reporting	Effectiveness	
					Index	Category
Bank E	68.75	69.70	66.80	65.02	67.57	Good
Bank T	54.22	57.05	54.71	51.69	54.42	Moderate
Bank P	68.16	69.49	67.02	63.73	67.10	Moderate
Bank K	56.40	58.24	56.62	53.65	56.23	Moderate

Effectiveness of information system of banks measured on the basis of effectiveness indices are presented in Table. The results show that, majority of the banks have moderate level of effectiveness. The factors effecting effectiveness were having two banks with good indices and two with moderate level of indices. Top value of index was obtained by Bank E, whereas the least value of index was for BankT.

4.4 Influence of constituent variables on efficiency and effectiveness using confluence analysis

The efficiency index is very much influenced by factors like timeliness, adequacy and cost effectiveness. Similarly effectiveness index is influenced by reliability, relevance, non-redundancy and exception reporting.To know the impact of these factors on the relevant indices, multiple regression models can be used. But when we make use of multiple regression models in such situations, results will be highly vitiated because of strong multicollinearity among the independent variables. To overcome this situation a perfect model is far from reality. However econometricians adopted the method of bunch mapping(confluence analysis) developed

by Frisch (1934) in such situations. The procedure is to regress the dependent variable on each one of the explanatory variables separately and examine their statistical significance. We then choose the elementary regression which appears to give the most plausible results. Then we gradually insert additional variables and examine their effects on the individual coefficients, on their standard errors and on the overall R square. Later these variables are classified as useful, superfluous or detrimental.

In order to perform bunch mapping on the proposed functions, the following functions are used. The results can be used for broad generalisations. However the nature of the data, qualitative in nature, restricts the reliability of coefficients, which is unavoidable in similar situations. This influence is being established by the method of confluence analysis. For this purpose, following models are defined.

Efficiency (EFFY)

EQUATION (EQN) 1 : EFFY = f (Timeliness),
EFFY = $\alpha+\beta$ Timeliness

EQN2 : EFFY = f (Adequacy), EFFY = $\alpha+\beta$ Adequacy

EQN3 : EFFY = f (Cost effectiveness),
EFFY = $\alpha+\beta$ Cost effectiveness

EQN4 : EFFY = f (Timeliness, Adequacy)
EFFY = $\alpha+\beta_1$ Timeliness + β_2 Adequacy

EQN5 : EFFY = f (Timeliness, Adequacy, cost effectiveness)
EFFY = $\alpha+\beta_1$ Timeliness + β_2 Adequacy + β_3 Cost effectiveness

EFFECTIVENESS (EFFT)

EQN.6 EFFT = f (Reliability),
EFFT = $\alpha+\beta$ Reliability

EQN.7 EFFT = f (Relevance),
EFFT = $\alpha+\beta$ Relevance

EQN.8	EFFT	=	f (Non-Redundancy),
	EFFT	=	$\alpha+\beta$ Non-Redundancy
EQN.9	EFFT	=	f (Exception Reporting)
	EFFT	=	$\alpha+\beta$ Exception Reporting
EQN10	EFFT	=	f (Reliability, Relevance)
	EFFT	=	$\alpha+\beta_1$ Reliability + β_2 Relevance
EQN11	EFFT	=	f (Reliability, Relevance, Non-redundancy)
	EFFT	=	$\alpha+\beta_1$ Reliability + β_2 Relevance + β_3 Non-redundancy)

EQN12 EFFT = f (Reliability, Relevance, Non-redundancy, Exception Reporting)

EFFT = $d+\beta_1$ Reliability + β_2 Relevance + β_3 Non-redundancy + β_4 Exception reporting

Efficiency and Effectiveness were chosen as the dependent variables. In the case of efficiency, the independent variables selected were timeliness adequacy and cost effectiveness. Effectiveness was influenced by independent variables like reliability, relevance, non-redundancy and exception reporting.

Table 4.14, 4.15, 4.16 and 4.17 shows that confluence analysis values for Bank E, T, P and K respectively. From the tables we can infer that in the case of efficiency, three factors, namely, timeliness, adequacy and cost effectiveness had significant influence while considering all the banks.

On the other hand effectiveness is influenced by exception reporting in all banks. Non-redundancy is not having significance in Bank T. Relevance is not influential for Bank P. Reliability is insignificant factor of effectiveness in the case of Bank E and Bank P.

Table 4.14 Confluence analysis for Bank E

Equation	Timeliness	Adequacy	Cost effectiveness	Reliability	Relevance	Non-redundancy	Exception reporting	R^2
1	1.03*							0.991
2		0.99*						0.98
3			0.94*					0.988
4	0.64*	0.38*						0.997
5	0.33*	0.33*	0.33*					0.99
6				0.97*				0.989
7					0.96*			0.996
8						1.01*		0.992
9							1.02*	0.98
10				0.19	0.76*			0.997
11				0.18	0.45*	0.35*		0.998
12				0.25*	0.25*	0.25*	0.25*	0.99

* Significant at 0.05% probability level

Table 4.15 Confluence analysis for Bank T

Equation	Timeliness	Adequacy	Cost effectiveness	Reliability	Relevance	Non-redundancy	Exception reporting	R^2
1	1.05*							0.989
2		0.98*						0.984
3			0.92*					0.981
4	0.61*	0.41*						0.995
5	0.33*	0.33*	0.33*					0.99
6				0.96*				0.988
7					0.94*			0.989
8						0.91*		0.961
9							0.99*	0.940
10				0.47*	0.48*			0.998
11				0.50*	0.48*	-0.03		0.998
12				0.24*	0.24*	0.25*	0.25*	0.99

* Significant at 0.05% probability level

Table 4.16 Confluence analysis for Bank P

Equation	Timeliness	Adequacy	Cost effectiveness	Reliability	Relevance	Non-redundancy	Exception reporting	R^2
1	1.02*							0.97
2		1.01*						0.975
3			0.91*					0.975
4	0.49*	0.55*						0.994
5	0.33*	0.33*	0.33*					0.99
6				0.97*				0.985
7					0.95*			0.991
8						1.00*		0.993
9							1.00*	0.954
10				0.31*	0.65*			0.993
11				0.16	0.0316*	0.510*		0.996
12				0.29*	0.25*	0.25*	0.25*	0.99

* Significant at 0.05% probability level

Table 4.17 Confluence analysis for Bank K

Equation	Timeliness	Adequacy	Cost effectiveness	Reliability	Relevance	Non-redundancy	Exception reporting	R^2
1	1.01*							0.976
2		0.98*						0.989
3			0.96*					0.982
4	0.38*	0.62*						0.99
5	0.33*	0.33*	0.33*					0.99
6				0.97*				0.298
7					0.95*			0.989
8						1.02*		0.984
9							0.99*	0.976
10				0.47*	0.50*			0.995
11				0.28*	0.39*	0.30*		0.997
12				0.24*	0.24*	0.24*	0.25*	0.99

* Significant at 0.05% probability level

Discussion

CHAPTER V

DISCUSSION

The salient results of the study are interpreted and discussed in this chapter under the following headings.

5.1 Decision making process in District Co-operative Bank

5.1.1 Fixing of banks deposit targets for the next financial year

5.1.2 Introducing new deposit schemes

5.1.3 Sanctioning of loan proposals

5.1.4 Monitoring of default accounts

5.1.5 Investment of available funds

5.1.6 Maintenance of statutory reserves

5.1.7 Profit planning

5.1.8 Providing additional facilities to branches

5.1.9 Employee's job rotation

5.1.10 Strategies to combat delays in customer service

5.2 Information needs of top level and middle level management for functional management in banks

5.2.1 Deposit management

5.2.2 Credit management

5.2.3 Recovery management

5.2.4 Investment management

5.2.5 Fluid resource management

5.2.6 Profit planning

5.2.7 Human Resource Management

5.2.8 Management of fixed assets

5.2.9 Customer service management

5.3.1 Classification of banks on the basis of efficiency index

5.3.2 classification of banks on the basis of effectiveness index

5.4 Influence of the constituent variables on the effectiveness and efficiency of the existing information system

5.1 Decision making process in District Co-operative Banks

As mentioned in the earlier chapter the decision making process in District Co-operative Banks have been illustrated under ten different heads. An attempt is made to analyse the afore mentioned processes through the following discussions.

5.1.1. Fixing of deposit and credit target for the next financial year

Regarding past deposit pattern, banks collect details like growth of deposits over the years, composition of savings bank, current and fixed deposit accounts, increase in the number of deposit accounts etc. It is taken from internal sources of information. The socio-economic environment was analysed from external information like composition of population (profession-wise), main crop, ancillary business/industry in the district, rate of production per hectare, scope of small scale industry/cottage industry/retail trade, institutions in the district, internal environment including bank profile, level of employee morale, rate of growth of business etc.

Fixing of deposit targets involve five stages as depicted in the Figure II. All the sample banks follow the same pattern of fixation of deposit targets. While analysing the information required for each stage of decision making, no significant deviation from the given pattern was noticed. All the sample banks considered past deposit pattern and evaluation of Deposit Mobilisation Campaign as the benchmark for

fixing deposit targets. Socio-economic environment in the district was also taken care of while fixing deposit targets. This environmental data was collected originally for the purpose of fixing scale of finance or for designing new schemes. In some sample DCBs Agricultural Officer was in-charge of this work. Planning department does the job of collection of environmental data in other DCBs. There was no specific frequency for data collection. As and when required, the data was collected.

Further, we can see that, the banks follow the same pattern of decision making for fixing credit targets. However, there was difference in the information requirements for fixing credit targets. Here past demand for credit includes details of existing borrowers, allocation of credit according to District Credit Plan, past pattern of growth and recovery of advances sector-wise etc. Also information on availability of loanable funds, estimate of total deposits, identification of preferred sectors and allocation, availability of refinance, agro industrial and climatic conditions in the district were considered. Following the method of fixation of deposit targets, loan target fixation do not claim the use of any scientific method of analysis and appraisal.

5.1.2 Introducing new deposit and loan schemes

New deposit schemes were formulated by way of the process illustrated in earlier chapter. This process was followed in similar pattern in all the selected DCBs. While observing the information required at each stage of decision making for the sample banks, some dissimilarities were noticed. Only Bank P considered customer preferences while preparing such schemes. Except in Bank E, the preparation of draft scheme was done by planning section. In Bank E, general section was responsible for preparation of draft schemes.

Loan schemes were formulated by a similar process. Planning department was in-charge of preparing loan schemes. As in the preparation of deposit schemes, only Bank P considered the customer preferences. Information on profitability of the scheme was considered before finalising, at each stage of decision making process.

5.1.3 Sanctioning of loan proposals

Sanctioning of loan is a routine decision coming under the purview of Executive Committee for all the sample banks except for Bank K. In Bank K, delegation of powers regarding sanction of loans was done as follows. Branch Managers can sanction upto a limit of Rs.50,000/- and General Manager can sanction loans ranging from Rs.50,000/- to Rs.3 lakhs. The information required for scrutiny and sanction of loans were similar in the case of sample banks.

Inspection reports mentioned in the flow chart are the reports given by Bank Inspectors/Executive Officers upon the securities, collateral/immovable, furnished by the loanees. As soon as the loan proposal reaches the sections concerned, the superintendent/manager of the sections authorises the bank inspectors for inspection in the case of society loans and Executive Officers for inspection in the case of individual loans from branches. An inspection report showing the details of the inspected property is sent to the Head Office, for cross checking with the loan proposal after which, amount to be sanctioned is recommended during different stages and finally sanctioned.

5.1.4 Monitoring of default accounts

Monitoring of default accounts was done at branch level except in Bank T. In Bank T, default accounts were transferred to the head office. All the transactions relating to this account were thence operated from head office. The decision for filing Arbitration Reference Case was taken at bank level in all banks. After such decision

was taken arbitration case was filed against defaulters. Recovery section was responsible for, overall monitoring of default accounts in all banks. Bank T alone maintained separate recovery section for the purpose. In other banks recovery wing is combined with other sections due to staff shortage.

5.1.5 Investment of available funds

Fund Management decisions are the responsibility of the General Manager. General Manager implements the decisions subject to ratification of President and Executive Committee. However, in Bank-P, Executive Committee takes the decision regarding investment of fund available. This item is brought under routine decisions.

The information requirement regarding availability of loanable funds was determined after taking into consideration deposit mix, loan mix, maturity period of deposits and loans, maturity period of existing investment etc. RBI, RCS guidelines visualises the investment avenues for co-operative banks. Policy decisions of the bank delineates the particular bank's investment opportunities to be tapped as well as its future Business Development Plans. On these bases, the General Manager, can act upon the investment of available fund with ratification from President or Executive Committee.

5.1.6 Maintenance of statutory reserves

According to Banking Regulation Act, 1964, banks have to maintain required percentage of its demand and time liabilities as statutory reserves. The co-operative banks have to maintain 3% of the time and demand liabilities as cash reserve ratio and 25% of demand and time liability as statutory liquidity ratio.

The decisions regarding fluid resource management was mainly concerned with investment of statutory reserves which is mandatory. This was usually done by

General Manager with ratification from President. This decision comes under the category of routine decisions.

For the purpose of taking this decision, the position of time and demand liabilities was reviewed every fortnight. Based on the same, the required amount was maintained by the bank so as to satisfy the statutory requirements by following the steps in the illustration given earlier.

5.1.7 Profit planning

Profit planning was undertaken by planning section in all the sample banks. Though, it may appear that a bank's profit at macro level is the sum total of the difference of income over expenditure of all its branches, in fact it is not so, as banks profit has become a complex function due to interplay of various factors namely,

1. Availability of loanable funds
2. Funds in pipeline
3. Maintenance of CRR, SLR
4. Interest rates on deposits and advances
5. Cash management at branches
6. Recovery of loaned funds
7. Non-interest income and expenses
8. Liquidity and asset management
9. Investment management

These factors are hence regarded as the items determining profit. The funds in pipeline were not estimated correctly by any of the sample banks because of the backlogs in reconciliation. The expected profit for the next financial year was determined by considering the above mentioned factors through each stage of decision making as illustrated.

5.1.8 Providing additional facilities to branches

In the matter ot demand for additional facilities at branches, the decision was taken by Executive Committee in accordance with banks polices. This can be grouped under routine decisions. All the sample banks follow the same pattern regarding this decision as elucidated in Figure IX.

5.1.9 Employee's job rotation

Job rotation of employees is a routine decision as mentioned earlier. In most of the banks, job rotation decision is taken at General Manager's level. Bank K took these decisions at the Executive committee level. All the other sample banks followed the same pattern regarding this decision.

5.1.10 Strategies to combat delays in customer service

The delays in services are usually complained by customers. The branch managers at their own discretion can take decisions for improving the customer services of his/her own branch with adherence to bank's rules and regulations. All the sample banks follow the same procedure in this case. Further for combating delays as a whole, strategies are to be prepared which are discussed in branch managers conference. Any decision on these strategies to be implemented in all the branches are taken by the management. Here, this decision making process can be delineated as two parts, one at branch managers level, taking routine decisions for improving customer service and other at top management level, deciding on strategies to combat delays in customer service.

5.2 Information needs of top level and middle level management for functional management in Banks

The results present in the earlier chapter throw light on the information availability of banks. Through the following discussions an attempt is made to outline the information needs of management at different levels.

5.2.1 Information needs for deposit management

Table 4.1 provides a clear insight into the information needs at different levels of management in the District Co-operative Banks.

Survival and growth of banks are mainly influenced by their ability to attract deposits from different segments of the community rather than by volume of their capital resources.

While undertaking deposit management in District Co-operative Banks, the information on past deposit pattern as well as evaluation of Deposit Mobilisation Campaign were considered by all the sample banks at both levels. Usually in co-operative banks, deposit planning is done in a cursory manner without any detailed exercise. The percentage growth of deposits of the bank/branch over the previous year or two and projecting it by a few percentage points decides their deposit targets which require information relating to past deposit patterns as well as evaluation of Deposit Mobilisation Campaigns. This time tested method of deposit planning has been by and large working to everybody's satisfaction and not much thought has been given to do the planning exercise in a methodical, systematic and scientific manner.

All the banks looked into information on socio-economic environment in the district which can be justified on the following grounds. Banks have to identify its external environment on its own by a pains taking study of its area, economic characteristics, demographic profile and geography having relevance to banks activities. Branch/Bank level environmental analysis is indispensable for result oriented planning. The environmental analysis is yet to take root mainly because of as to what is to be done and how it is to be done.

Details of identification of potential depositors were considered by one bank at middle management level. By and large, the co-operative banks have not shown any spirit of enterprise and enthusiasm in mobilising deposits whereas most of the commercial banks were found exerting their personal influence in getting deposit for their banks. The top management of the co-operative banks being mostly elected representatives for a short tenure, however, hardly find anytime for such odd jobs. Because of this indifference and apathy, deposits position have failed to keep an accelerated growth.

Competitors strategies were not looked into by any of the banks. Due to confinements in credit policies and tough competition for deposits among banks, between banks and other financial institutions, deposit mobilisation has assumed greater significance. All the banks have entered the field with attractive schemes to secure deposits. Hence it is required that DCBs should look into competitors strategies also.

5.2.2 Information needs for credit management

Credit management envisaged herein involves two aspects vis-a-vis credit planning and management of lending. Credit planning involves channelisation of available loanable funds to preferred sectors as per the guidelines of RBI as well as RCS, without sacrificing the profitability of banks. Management of lending involves taking decisions based on objective appraisal of the borrowers proposals for loan.

A perusal of Table 4.2 reveals that all the sample banks avail information on the following aspects for credit management. Information on availability of loanable funds, identification of preferred sectors and allocations, profitability/interest margin, availability of refinance, estimate of credit needs of borrowers and past demand for credit were used by both levels of management in the sample banks.

Availability of loanable funds depend upon deposit growth and funds allocated by the bank. Regarding the branches, some are either deposit oriented or advance oriented and yet another group maintains the balance between the two. The credit disbursement at branches have to be co-ordinated by the head office which requires information on availability of loanable funds.

Identification of preferred sectors and allocations has to be done with reference to District Credit Plan or Annual Action Plan. The DCBs have to adopt a sufficiently broad based and diversified system of lending suited to the needs of different sections of the community. It will be advantageous for the banks to determine the sector-wise deployment of resources with reference to the composition of its resources. Hence such information on identification of preferred sectors and allocations is of need to both levels of management.

Profitability/interest margin is needed for credit management which is justifiable, as any enterprise has to make profit for its survival. In credit planning information on profitability/interest margin is indispensable.

Availability of refinance was considered by both levels of management of banks mainly while preparing loan schemes. RBI/NABARD/KSCB provide refinance for certain kinds of loans till a specific limit. Hence this aspect is considered when credit management is undertaken.

Estimates of credit needs of borrowers is required for taking decisions based on objective appraisal. Borrowing customers, in general apply for loans in excess of their requirement in view of general feeling that bankers consider their request on a conservative basis and will reduce the amount of finance requested for. It, therefore, becomes imperative to establish how much the customer requires.

Information on past demand for credit serves as a basis to predict the future credit pattern. The future requirements could be assessed from their past trends (peak and non-peak level requirements), likely expansion in business or turnover among other things.

Details of agro-industrial and economic condition in the district was used by all banks at both levels. These details are vital to banks credit planning. The banks have to study its area, major economic activity, major sectoral beneficiaries of bank finance, existing developmental/ industrial activities undertaken by Government and private enterprises etc.

Identification of customer preferences was looked into by most of the banks at middle management level. Only one bank at top management level had this information for credit management. Unlike the commercial banks, co-operative banks are very weak in offering quality services and in establishing intimate relationship with the clients. The commercial banks by their patience and perseverance and efficient management have infused enough confidence in the minds of people. Middle management includes branch managers who are contact points to public. Hence they are more accustomed to customer preferences. But the top management are rather reluctant to consider this information. Only one bank has included this information while undertaking the function of credit management.

Competitors strategies were not looked into by top as well as middle level management of any of the banks. Since co-operative banks get their deposits at comparatively higher rates of interests, keeping excess idle cash pauses problems and affect their profitability. Unless the banks devise suitable strategies defending their competitors strategies, it will affect their survival in the years to come.

5.2.3 Information needs for recovery management

Recovery of loans is significant to banks as it helps in recycling of funds and thereby creating credit. Thus it helps maximising profitability directly and indirectly and necessitates the end use of credit by borrower.

An overview of table 4.3 reveals the information availability of managers regarding recovery management. At both levels of management of all the sample banks, details of number of irregular accounts, nature of credit facility and type of loan, as well as amount outstanding and amount overdue have to be collected for performing recovery planning, particularly for fixing of recovery targets.

Measures taken as part of recovery have to be reviewed in the monitoring of default accounts which comes under recovery management. This throws light into the progress achieved in recovery position. At middle management level all banks have collected this information. However, at top management level only three banks used this information.

Regarding feedback on terms and conditions of loan repayment schedule, none of the banks used it. As earlier stated, co-operative banks are less accustomed to customer's views and desires. They do not develop intimate relationship with the clientele like the commercial banks.

5.2.4 Information needs for investment management

The profitability of co-operative banks mainly depend upon judicious management of their funds. The Chief Executive of the bank should ensure that no funds of the bank lie idle and they are deployed in the most remunerative manner.

Table 4.4 gives an understanding of the information availability for investment management. All the information needs listed out in the said table were used by both levels of management of all banks.

For determining the funds available for investment, it is necessary to scan details of deposit mix, loan mix, maturity period of deposits, loans and of existing investments. By considering all these information simultaneously, the funds lying idle, if any, can be detected and brought to use.

Information on changes in RBI and Government policies were considered by all the banks at both levels. This is because bank's investment policies are influenced by the growth rate of the economy, interest rate structure, availability of gilt edged securities, monetary policy, fiscal policy etc. Henceforth for making any investment decisions, this information is of great value.

For taking decisions on investment policies, the information on changes in target area proves vital. Hence all the banks have used this information for the purpose of investment management.

Resource availability database was considered by both levels. Investment decisions are primarily concerned with where to invest and what amount of funds are to be invested. Hence this information assumes paramount importance. Another dimension of this information requirement is timely deployment of funds without letting them idle. For this purpose information on resource availability must be very frequently collected so that no lag in fund utilisation is encountered.

The future Business Development Plan of the bank determines the funds availability for investment. It is this information, in which the future needs of funds for the purpose of bank's development activities will be specified. Hence the fund requirements of the bank for future can be estimated, and accordingly the investment decisions can be taken.

5.2.5 Information needs for fluid resource management

Primary responsibility of a bank is to maintain adequate degree of liquidity. Fluid resource management in a bank is mainly done by the chief executive (General Manager) of the bank with ratification of President. The information requirements for fluid resource management were given in Table 4.5.

Time and demand liabilities of the bank are to be known, inorder to take decisions upon the funds position over which statutory reserves have to be maintained. RBI stipulations on maintenance of statutory reserves have to be considered by management. The whole process has to be done only with adherence to RBI policies and hence this information is indispensable. Based on the above said information requirements, fluid resources to be maintained can be calculated. This information is very vital in the case of fluid resource management. Also details on cash flow from branches have to be collected for ascertaining the actual fund position. These information requirements are met by all banks since it is statutory to maintain the reserve requirements as against RBI stipulations.

5.2.6 Information needs for profit planning

Profit is a sign of vitality and success. Banks, therefore, cannot ignore profitability and have to concentrate on how to improve upon it. Profitability of banks is a function of various factors. Information on these factors are required for profit planning which were listed out and responses were collected. Table 4.6 reveals that all the information requirements were met by both levels of all banks in the case of profit planning.

Deposit position and availability of loanable funds were assessed while profit planning was undertaken for knowing the actual resource position of banks. Middle management collects and compiles this information while top management scrutinises the same for making decisions.

Information on funds blocked between inter- branch transactions were collected by both levels of management in all banks. In the District Co-operative Banks, too many backlogs are disturbing under this head. Reconciliation of these funds are taking place only at a slow pace. Hence this information is not considered as important as others while profit planning is undertaken.

Maintenance of CRR and SLR is done as per RBI stipulations. While assessing the funds available and revenue, this information cannot be avoided.

Information on interest margin/interest rates on deposits and advances were acquired by both levels of management for all the banks. The main functions of banks are accepting deposits and providing loans. Matching interest rate structure has to be established between deposits and loans to make profit and survive. Hence this information is of prime importance to top level as well as middle level management.

Details of cash management at branches are considered as a component of profit planning. Some branches will have cash in excess of their requirement and some others with deficit. This must be known in time and adjusted to have maximum use of funds. Hence this information stands vital for profit planning.

Recovery of loaned funds adds to the information on fund availability. The co-operative banks are characterised by mounting overdues. However, this information is considered by both levels of management of all banks.

Liquidity management database was considered by the banks at both levels. Adequate liquidity has to be maintained to meet urgent situations. Also liquidity has inverse relation with profitability which requires involvement of this information in investment management.

Investment portfolio of banks attracts the attention of managements while profit planning is done. The profitability of banks largely depend upon the efficiency of fund management. Hence while profit planning is undertaken, this information stands indispensable.

5.2.7 Information needs for Human Resource Management

Human Resource in any organisation occupies a unique and sensitive position and should, therefore, be managed in such a way that it is developed and not decentralised. Table 4.7 reveals the information needs for human resource management.

Both levels of management in all banks prepared manpower inventory. This gives a picture of organisations staff position. The inventory system helps in indenting additional staff. Also, employee's salary disbursement is done on the basis of this record. Hence this information is vital for human resource management.

Training improves the skills of employees. Both induction and skill upgradation training were practised in DCBs. All the sample DCBs, except Bank T, were experiencing serious shortage of staff. Hence, training, as part of skill upgradation was not practised in the DCBs where the above problem exists. Therefore, this information, though used for human resource development decisions, is not considered important.

The information on transfer policy is of value to the top management of banks, since authority for making transfers were entrusted with them. Similarly the information on welfare schemes for employees were required by top management. Middle management collects and compiles this information to be passed on to the top level.

Information on manpower forecasting as well as performance appraisal were not taken into consideration by both levels of management of the sample banks. Manpower forecasting is an attempt to predict the requirement of additional staff to meet the existing increased workload along with the projected business growth. Due to inherent constraints in management, it is not collected and analysed in proper manner. Same is the case of performance appraisal. Performance appraisal involves systematic evaluation of the individual with respect to his performance on the job and potential for development (Kumar, 1994). This is not at all given any weightage by any of the sample banks.

5.2.8 Information needs for management of physical assets

Bank's fixed assets including building, furniture and premises need to be managed though not considered as important as other types of functional management divisions.

Regarding fixed assets management, information requirements that were listed out were used by all the banks at both levels of management as revealed by Table 4.8.

Inventory position has to be taken as part of stock taking of bank's assets which need such information. This helps in taking further decisions on fixed assets management.

Information regarding maintenance work required is useful for fixed assets management. Maintenance work to be done at branch level/head office level requires to be informed, upon which decision has to be taken. This is true for all the sample banks considered.

Demand for physical assets mainly arise at the time of opening of new branches. Also existing branches request for additional facilities as according to changing needs

of customers as well as to attract new customers. For this purpose amenities of branches need to be improved or modified. These information were collected and decision on this aspect has to be done at Executive Committee level in compliance with the policy of the bank.

At this age of competition, services have to be improved so as to face the challenges of competitors and fight for survival. The innovations are very sophisticated to the extent of availability of anywhere, any time banking. A peep into these situations is possible through information on technological innovations.

5.2.9 Information needs for customer service management

Customer service is the area where banks are criticised most. With the banking industry entering the phase of consolidation of its growth, the emphasis has shifted to improve the quality of customer service and operational efficiency. Customer services in co-operative banks seems to be callous and apathetic. Most of the employees are not sensitive to customers reaction and do not consciously make any effort to bridge the gap between customers expectation and their satisfaction.

Table 4.9 gives an insight into the differential information requirements of both levels of management. Information on customer dissatisfaction points were considered by all the sample bank's middle management, whereas only two banks took it at top level. Customer dissatisfaction points include details pertaining to delays, behaviour and attitude of staff, rigid rules and procedures etc. At middle level management, branch managers directly deal with these complaints and find solutions. Any policy decision to be taken regarding this matter is refered to top management.

For effective customer service management, rapport has to be built up with different persons so as to convert them into customers of the bank. As stated in the results in earlier chapter, majority of banks used this information at middle management level.

In DCBs, the branch managers are the only group having concern about customer services. Hence, they are interested in conducting customer awareness programmes for benefitting the customers. Top management, being the policy making authority, does not take concern on this aspect. At middle management level two banks considered this aspect.

Customer satisfaction points were considered by two banks at middle management level. Here also the branch managers involvement is clearcut.

Services offered by competitors were not taken into consideration by any of the banks. Competition in these days is mounting and the pressure is forcing banks to adopt better strategies to provide quality services. However, co-operative banks are not posing competition with commercial banks. This is a serious drawback which needs to be rectified.

5.3.1 Classification of banks on the basis of efficiency index

Efficiency is the result of making decisions accomplished by collection of information in the right manner which helps to achieve the objectives of an organisation. Majority of the banks came under the categorisation `moderately efficient' as endorsed by Table 4.11. As mentioned in earlier chapter, factors determining efficiency are timeliness, adequacy and cost effectiveness. An overview of each of these factors is necessary for reaching valid conclusions.

Timeliness is perceived by Brien (1992) as information provided when it is needed. Decision is to be taken in a time frame and therefore, the information must be available within the time frame. It is said that "information delayed is information denied". Timeliness index when categorised according to the criterion came under moderate class for the sample banks. The low value index for timeliness can be

justified on the following grounds. Staff shortage in DCBs had reduced the timeliness in providing information. At present no recruitment has taken place and promotion on the basis of seniority has been abandoned. Therefore the posts are held vacant for want of appropriate persons, assigning additional charge to existing staff. Hence the existing employees are overburdened creating delay in information collection and dissemination. In branches, they give priority to the front office operations in day to day transactions. The people who have been assigned the work of preparing statements and returns are often used for handling day to day transactions in the event of general absenteeism or staff shortage. This is a cause for delay in the preparation of these returns at branch level and submission to head offices. It has been observed that the significance of timely submission of these returns have not been taken seriously. Yet another reason that can be pinpointed is the clashes between top management and employee's unions who belong to rival political factions. This creates lack of commitment in employees towards the job done creating unnecessary delays.

Adequacy is another variable which influences the efficiency of information system in banks. Categorisation based on the criterion revealed that indices of adequacy of Bank T comes under moderate class. Inadequacy of information for decision making can be substantiated with the following reasons. The reasons cited for delayed information can be true for inadequacy as well. Besides, certain other factors causing inadequacy are difficulty in gathering data and non-receipt of specific information. Another aspect is that, the formats to be filled up are designed improperly which do not suit the information needs of managers. Also, at times the formats are cumbersome to be filled up.

Another factor of efficiency is cost effectiveness. Every bit of information which is being collected, stored, retrieved, processed and presented to the user has an associated cost. To justify these costs, usefulness and rationale for collecting this information has to be established. In all banks, cost effectiveness index stood higher than other factors. While classifying on the basis of criterion, all banks were found having moderate level of cost effectiveness. One reason for high level of indices for cost effectiveness may be reduced staff strength. The expenditure part is curtailed due to this reason. The cost effectiveness in future may improve with computerisation of banks/branches have been introduced recently.

As mentioned earlier, efficiency of sample banks were classified as moderate in majority of the banks according to the criterion. The factors affecting efficiency, namely timeliness and adequacy were also classified as moderate for in some banks. Cost effectiveness index was having higher values than timeliness and adequacy. From the above discussion we can deduce that timeliness, adequacy and cost effectiveness are significantly influencing efficiency. This is reiterated by the results obtained by confluence analysis of sample banks.

The skill shortage in sample DCBs seems to be the most appropriate reason for decreasing level of timeliness and adequacy as well as increasing cost effectiveness. The efficiency can be brought to higher levels by improving timeliness and adequacy. For this purpose causative factors need to be given importance.

5.3.2 Classification of banks on the basis of effectiveness index

Effectiveness is the result of making decisions possible from collection of right information, which help to fulfil the mission of an enterprise. The ultimate challenge of management is to achieve organisational objectives through the most effective use

of information resources. The information system in an organisation helps the managers to understand whether the organisation is following the desired path of growth. In order to be effective such a system should confer the entire organisation in the sense that it fulfils the information requirements of all decision makers.

A perusal of Table 4.13 gives an insight into the effectiveness index obtained by sample banks. All the banks were classified as sufficiently effective.

Effectiveness index was worked out using variables including reliability, relevance non-redundancy and exception reporting. Each of these variables need to be looked into for making any meaningful assessment.

Reliability implies that information must be sufficiently accurate for it to be relied upon by the manager for the purpose for which it is intended, ie. information should be free from errors. The manager can be confident to take decisions if the data provides accuracy. For all the sample banks, reliability index was categorised at moderate level. Managers in DCBs take decisions purely on the basis of reports provided by different levels. Certain level of accuracy is expected to be maintained. Otherwise, they will have to make follcw up regarding accuracy of information supplied. In all the banks management have given trust upon the reports supplied by bank's branches/sections for the purpose of making decisions.

Relevance was considered as a factor in effectiveness index. According to Padwal "a specific part of information will be called relevant for a decision making process, if elimination of it from the information available to the decision maker will cause a change in the properties of decision. The relevance index for all of the banks came into the category of moderate level. Relevance of information supplied is affected when there is information overload. The manager is to be provided

information when he needs it and where he needs it, in such a way that he may immediately perceive its significance. An observation of the sample DCBs reveal that the formats and statements to be prepared at different levels contain lot of unnecessary details which are not at all relevant to the decision makers. In addition they consume the valuable time for collection of other relevant information.

Another variable to be analysed is non-redundancy. Non-redundancy represents non-duplication of information. Information may be stored or communicated using different messages. This results in redundancy. Non-redundancy was perceived as at sufficient level in the case of one bank. It was observed that in addition to the regular returns submission, reports were asked by NABARD, KSCB etc. resulting in duplication of information collected and supplied. Computerisation of banks can bring improvement to this situation. However, partial computerisation will result in missing linkages between manual and computerised operations which causes redundancy as experienced by some sample banks.

Exception reporting influences the effectiveness considerably. Today's manager is busy that he is not in a position to spare time to go through long and comprehensive reports, therefore, wants to review only that situation where something is happening unusual or something is going wrong. This is the principle of exception reporting. Exception reporting indices gained satisfactory level for ~~two~~ of the banks. In comparison with the other factors, the indices obtained for exception reporting was low. This may be due to ignorance of top management as well as employees regarding the usefulness of exception reporting. Also information processing and analysis was found difficult due to staff shortage. This situation need to be improved considering the following factors.

* eliminate the unnecessary details from the report
* inform the management of unfavourable variances of unexpected trends
* calls attention of higher level management to the situation that cannot be tackled with at the lower level

As noted earlier, effectiveness index, in the case of sample banks were moderate. The factors influencing effectiveness, namely, reliability, relevance, non-redundancy and exception reporting followed the same level of categorisation. Exception reporting was found to be having lower value of indices than the other factors. In general all these factors can be said to have influence on effectiveness. This is being established by the results of confluence analysis of sample banks.

Suggestion for improvement

A suggestive measure for attaining improvement in the aforesaid information attributes is that of full computerisation. Though, the initial investment is high, a cost benefit analysis can bring forth the value of future benefits. In all the sample DCB's, policy measures has been initiated for installation of computers. Preliminary works have been undertaken for this purpose. At the initial stage only partial computerisation is being done. Full computerisation only can bring in amelioration in the above mentioned information attributes. Another aspect that would be necessitated by computerisation, is the staff strength. Computer literate staff need to be appointed as a consequence. Recruitment process in DCB's will have to give interest for selecting persons having computer knowledge.

Summary and Conclusion

CHAPTER VI

SUMMARY AND CONCLUSIONS

The need for effective and efficient MIS is a paramount concern to any organisation. Indian banking, which has been expanding in its size and variety of business, needs very effective MIS for its planning, controlling and monitoring and operational functions. It is a long felt need to meet the contemporary as well as future challenges that the banks might be required to face.

Management of banks are faced with an accelerating rate of change and an ever more complex environment. Complete information relating to a problem or issue in right time is required inorder to make effective decisions. The proper collection, handling and providing of the right information to the right manager in right time not only reduce the risk of wrong decisions but also work as an effective controlling technique. An organisation's information system must provide the various types of information required by managers at various levels of organisational hierarchy with different levels of operational responsibilities, operational control, management control and strategic planning.

DCBs are the intermediate organisation in the three tier co-operative credit structure. They are facing competition from commercial banks and other financial institutions in their operational areas. Taking into cognizance the above aspects, this study was ideated with the main purpose of studying the existing Management Information System in District co-operative Banks in Kerala. The objectives of the study were:

1. To examine the decision making process in District Cooperative Banks at various levels of management with a view to identify the information needs for management.
2. To assess the efficiency and effectiveness of the existing system in meeting the information needs for management.

The study was conducted during the months of December, 1998 to July 1999. The data were collected by administering a pre-tested structured schedule among the respondents of sample banks. The respondents belonged to two classes in each bank, namely top management and middle management. Sample banks were selected on the basis of volume of business (Deposits and Advances). Method of stratified random sampling banking was employed for selection. Accordingly, Ernakulam District Co-operative Bank, Thrissur District Co-operative Bank, Palakkad District Co-operative Bank and Kozhikode District Co-operative Bank were chosen for the study.

Decision making processes were identified while conducting the study. The decision areas for which the processes were delineated were fixing of deposit targets for the next financial year, introducing new deposit schemes, sanctioning of loan proposals, monitoring of default accounts, investment of available funds, maintenance of statutory reserves, profit planning, providing additional facilities at branches, employees job rotation and strategies to combat delays in customer service. Information needs for management was established using perceptions of different levels of management of sample banks regarding information requirements listed out under each functional management. The functional management heads for which information availability was measured included deposit management, credit management, recovery management, investment management, fluid resource management, profit planning,

human resource management, management of physical assets and customer service management.

Efficiency and effectiveness were measured by using perceptions on variables constituting each. Efficiency variables were timeliness, adequacy and cost effectiveness. Effectiveness included reliability, relevance, non-redundancy and exception reporting. For finding out influence of these variables on efficiency as well as effectiveness, confluence analysis was used.

The salient findings of the study were as follows:

1. Decision making process for fixing of bank's deposit targets for the next financial year constituted five stages, which starts from projections of future deposit position at branches made by sections to allocation of targets to branches at branch managers' conference. No significant deviation from the pattern depicted was noticed in all the sample banks.
2. Six steps were involved in introducing new deposit schemes. The final decision at bank level was taken by Board of Directors. The process starts from preparation of draft scheme till finalising the scheme and then getting concurrence from the Registrar of Co-operative Societies. Finally this is intimated to branches. Same process is followed in preparation of loan schemes. Planning department was in-charge of preparation of draft schemes in all the banks except for Bank E where general section did the work.
3. Sanctioning of loan proposals was a five stage decision making process starting from receipt of loan proposal of branches and ending up with sanctioning/rejection of the loan proposal by the Executive Committee. In Bank K delegation of powers was done to General Manager and Branch Managers for sanctioning loans.

4. Monitoring of default accounts was taken up at five levels. First step in the decision was sending of notice to defaulters from branches. Lastly the Executive Committee takes decision to file arbitration case against defaulters. Bank T alone maintained separate recovery section, for the purpose default accounts of monitoring.

5. Decision on investment of available funds was done by the General Manager with ratification from President. However, it is done through a four stage process starting from Accounts Section ascertaining the availability of investible funds and investment avenues. This decision is taken by Executive Committee in Bank P.

6. Maintenance of statutory reserves was the responsibility of middle management and hence the decision was taken by General Manager. During the first stage of the of decision, Accounts Section calculated the amount to be maintained as fluid resources. The same pattern was followed in all sample banks.

7. Steps in profit planning were five, starting from projections of income and expenditure for the budgeted year made by planning department. General Body finally approves the decision on budgeted expenditure and income. No significant deviation from this process was observed in any of the sample banks.

8. Providing additional facilities to branches involves five stages in decision making. Final decision is taken by Executive Committee. The decision making process starts with demand for additional facility from branches. All the banks followed the same pattern of decision making.

9. Decision on employee's job rotation involves three stages at the end of which General Manager takes the decision. The personnel section prepares the list for

job rotation at the first stage. Bank K took these decisions at the Executive Committee level.

10. Three stages are involved in framing strategies to avoid delays in customer service. Here the decision is taken at two levels, firstly, at the level of branch manager, who directly deals with complaints and offer solutions and secondly at the level of Board of Directors who designs strategies. The strategies are planned to be implemented at the final stage by the Board of Directors. Same procedure is followed for decisions taken at branch managers discretion for all sample banks. Only some banks felt the necessity to make strategies to combat delays in customer service.

11. Information needs for deposit management was identified as follows. Information on deposit mobilisation campaign, past deposit pattern and socio-economic environment in the district was taken at top level and middle level management of all banks. Further, identification of potential depositors was done by all bank's middle management but for only one bank's from top management. Identification of customer preferences was used by one bank at middle level. Competitors strategies were taken by none of the banks.

12. Information availability for credit management shows that information on availability of loanable funds, identification of preferred sectors and allocations, profitability/interest margin, availability of refinance, estimate of credit needs of borrowers, agro-industrial and climatic condition in the district and past demand for credit were looked into by both levels of management in all the four banks. Identification of customer preferences was considered by only one bank at top management level while at middle management level three banks used it. Competitors strategies were considered by none of the banks.

13. For recovery management, all the banks used information on number of irregular accounts, nature of credit facility and type of loan, amount outstanding and amount overdue. Measures taken as part of recovery was used at both levels by all banks except for one at top management level. Feed back on terms and conditions of loan and repayment schedule was not considered by any of the banks.

14. Every information requirements for investment management were used by both levels of all the sample banks. The information needed are of deposit mix, loan mix, maturity pattern of deposits and loans, that of existing investment, changes in RBI and Government policy, changes in environment in the target area, resource availability and future Business Development Plan of the bank.

15. Information needs for fluid resource management were identified as those consisting of time and demand liabilities, fluid resource to be maintained, RBI stipulations on maintenance of statutory reserves and cash flow for cash arrangement.

16. Information on profit planning was used by both levels of all banks. This included information on availability of loanable funds and deposit position, funds blocked between inter-branch transactions, maintenance of CRR and SLR, interest rates on deposits and advances, cash management at branches, recovery of loaned funds, liquidity management and investment portfolio.

17. Human Resource Management required the following information as perceived by both levels of sample banks. They are information on manpower inventory, job training, transfer policy and welfare schemes for employees. Job rotation was considered by all banks at middle management level, but by only one bank

at top level. No bank looked on information in manpower forecasting and performance appraisal.

18. Information requirement for management of physical assets was used by all banks at both levels. The information used are inventory position, details of maintenance work required, new branch opening, demand for additional facilities from existing branches and technological innovations.

19. Customer service management needs the following information. Regarding information on customer dissatisfaction points. All the banks at middle management level and two banks at top management level made use of it. Services offered by competitors were not considered by any of the banks. Information on customer awareness programmes was used by one bank at middle management level. Identifying areas for building up of rapport was considered by one bank at top level and three banks at middle management level. Information on customer satisfaction points was collected by only one bank at middle management level.

20. Categorisation of efficiency indices revealed that majority of the banks came under `moderately efficient' category. While ranking on the basis of index obtained, Bank-E stood first and last rank was given to Bank-T.

21. Effectiveness index, categorised on the basis of criterion defined, revealed that all the sample banks had moderately effective indices. Bank E was ranked first while last rank was obtained by Bank T.

22. Confluence analysis revealed that there was significant influence on efficiency by timeliness, adequacy and cost effectiveness. Effectiveness was significantly influenced by factors namely reliability, relevance, non-redundancy and

exception reporting. But insignificance of certain factors were observed in the case of some of the sample banks. Non-redundancy was not having significance in Bank T. Relevance was not influential for Bank P. Reliability was insignificant factor of effectiveness in the case of Bank E and Bank P.

Suggestions for improvement

Information system plays a vital role in monitoring performance of organisation towards fulfilment of overall objectives by providing management information to decision makers. Information plays a crucial role in decision making as it unveils alternatives to choose from, for realising organisational goals. As far as the District Co-operative Banks are concerned there is no MIS in the modern sense of the term. But certain system for collection and management of information exists in the banks. The lack of an efficient and effective MIS in DCBS has aggravated the problems. Amongst several lacuna existing in District Co-operative Banks, weak MIS is important because it stands in the way of rational decision making due to lack of adequate and reliable information. The functional management in District Co-operative Banks are not in a position to be very effective due to this reason.

1. The fund management is an area which is very sensitive to up-to-date information supplied. Adequate information about the avenues of investment as well as the fund available for investment should be collected inorder to make right investments. Co-operative banks are facing problems due to excess liquidity arising from shortage of the above information. Reconciliation of transactions between branches and with KSCB are not done timely which has led to blocking of funds. This lack of information will lead to piling up of funds in pipeline. Problems faced by fund management due to lack of

information in funds available on pipeline can be rectified by introduction of computers. Computers can improve the time taken for reconciliation and also can solve the problem of backlogs. The alternate source of investment can be made available with contact with external sources as well as media. Such a practice can bring in facilities for investing fund which can bring more revenue and thus increase their profit position.

2. Customer service management is another area require immediate attention. Unlike the commercial banks, co-operative banks are not highlighting customers views and concerns and are not catering to their complaints. Customer service management was weak for all the banks selected for the study. Informaticn regarding customer awareness programmes, identifying areas of rapport building up and customer satisfaction points were not considered for decision making in customer service management in general. Unless such information is dealt with priority, the co-operative banks will find it difficult to compete effectively.

3. Human Resource Management is yet another area which is considered poor in DCBs. Performance appraisal and manpower forecasting was not practised in any of the DCBs. Such information forms vital part of human resource management. These aspects need to be stressed by the DCBs.

4. In loan recovery, banks are showing poor performance on account of poor recovery from loan accounts. This is partly due to the lack of information. Not much strategies are framed by the top management or middle management in combating poor recovery. Also monitoring of default accounts so as to conform to the NPA requirements is not done effectively. Such an effort requires

information on feedback by customers as well as recovery measures adopted in the past.

5. As revealed by the study, the sample banks did not use information regarding competitors strategies for deposit management, credit management and customer service management. Environmental compulsions have induced banks to compete with each other in securing deposits and advancing loans. DCB's, as part of the main stream financial institutions must design appropriate strategies to outperform competitors. Usage of information on competitors strategies is essential for designing such programmes. Top management in banks have to give thrust to identification of customer preferences as part of deposit management, credit management and recovery management. These weaknesses have to be pinpointed and rectified by each DCBs.

Apart from rectifying the information gaps identified above, suggestive measures for improving the attributes of information of sample banks are given below.

Bank	Timeliness	Adequacy	Cost effectiveness	Reliability	Relevance	Non-redundancy	Exception reporting
Bank-E	✓	✓					
Bank-T	✓	✓	✓	✓	✓	✓	✓
Bank-P	✓	✓					
Bank-K	✓	✓	✓	✓	✓	✓	✓

Timeliness and adequacy have to be improved in the case of all banks as they have only moderate level of indices. Cost effectiveness needs improvement in Bank-T

and Bank-K. Reliability, relevance and exception reporting need improvement in Bank-T and Bank-K from moderate level to good position. Non-redundancy should be improved in all banks except for Bank-E which had good index. None of the banks have reached the most efficient/effective level while examining indices of information attributes. For higher level of performance of DCBs, all the attributes of information need to be improved to higher levels.

Though Information Management in DCBs exists, there is need for revival and introduction of modern information system which is scientific and methodical. Such a proposition can increase the rationality of decision making at different levels of management in DCBs. However, introduction of such system must be done with care after a rigorous cost benefit analysis.

Suggestions for future research

By adhering to the suggestions presented in the study, information needs as well as information attributes can be improved thereby creating advancement in functional management of banks.

This study was undertaken only with regard to information systems in the branch banking activities of DCBs. It is suggested that the balancing role of DCBs can be studied incorporating the information system of State Co-operative Bank as well as Primary Agricultural Credit Societies. Also the study was confined to selected attributes of information to keep it in suitable size. It will be useful to examine the information system considering other attributes of information.

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Appendices

APPENDIX - I

MANAGEMENT INFORMATION SYSTEM IN DCBS IN KERALA

SCHEDULE FOR SURVEY

PRESIDENT/VICE PRESIDENT/ BOD

PART - A

GENERAL INFORMATION

1. Name and address of the District

   Co-operative Bank :

   a) Date of Registration :

   b) Date of commencement of business :

   c) No. of branches :

   d) Total number of employees :

   Category wise :

   Section Wise :

2. Bio-data of the respondent :

   a) Name

   b) Age :

   c) Qualification (Please put ✔ mark to which ever is applicable)

Higher Secondary	Graduate	Post Graduate	Professional	Any other (specify)

   d) Occupation other than this position

   e) Total length of association with the bank (in years).

   as member :

   as Director :

   as Vice President :

   as President :

3. In which of the following sub committee(s) you are a member

Loan	Industrial	Revival	Staff	Welfare fund	Any other (Specify)

4 (a). Please give details of meetings of the following committees in the year 1997-98?

	Periodicity	Number of Meetings	
		Held	Attended
a Board of Directors			
b Executive Committee			
c Subcommittees			
Loan			
Industrial			
Revival			
Staff			
Welfare fund			
Any, other (specify)			

(b) What are the items come up for decision making in the meetings conducted.

a) Strategic Planning Decisions

1) Deposit Management
2) Credit Management
3) Investment Management
4) Human resources Management
5) Recovery Management
6) Profit planning
7) Fluid Resource Management
8) Management of physical assets
9) Customer service Management
10) Any other specify

b) Routine Decisions

1. Sanction of loans members
2. Budgeting control
3. Use of employees Welfare fund
4. Revival of sick societies
5. Recommendation on bye-law amendment of PACS

Targets And Achievement

5. What were your organisational targets and achievement for the accounting year (1997-98) with respect to.

Indicators	Targets	Achievement	Reasons for deviation

REPORTS RECEIVED

6. What are the reports that are received by you in routine through the reporting system in your organisation which are useful in decision making

Sl.No	Title of Reports	Source	Periodicity	Contents	Purpose
1.	Average borrowing and lending note				
2.	Maturity pattern				
3.	Trial Balance				
4.	Balance Sheet				
5.	Monthly Receipts and disbursement Statement				
6.	Number of vacancies to be filled				
7.	Individual files for loan sanction				
8.	Suit account progress report				
9.	Defects in branches from Inspection report				
10.	Defects in PACS from Inspection report				
11.	Consultation for Byelaw amendment of PACS				
12.	Sub-rules – Loans - Deposits				
13.	Sanction of DRDA loans				
14.	Industrial Loan Sanction files				
15.	Funds possession				
16.	Overdue Position				
17.	Demand Position				
18.	Advance Position				
19.	Inspection report by RBI, NABARD, RCS (Compiled)				
20.	Investment with other institutions (Sanction)				

7. a) Do you gather information which are relevant for your job on your own besides the reports supplied.

Yes/No

b) If yes, please specify the sources of information listed below

	Not used	Rarely	Often	Very often	Regularly
i) Government Orders/Reports					
ii) Newspapers, Journals					
iii) Exchange of notes with others					
iv) Published books trade directories					
v) Person to person contact					
vi) Any others, please (specify)					

REPORTS GENERATED

8. Give a brief outline of the important reports generated at your level

Sl.No	Title of Reports	Source	Periodicity	Contents	Purpose

9. Do you think that MIS in your organisation needs any improvement .

Yes/No

If Yes, What are your suggestions

MANAGEMENT INFORMATION SYSTEM IN DCBS IN KERALA

GM/DGM/EXECUTIVE OFFICER'S

GENERAL INFORMATION

1. Name and address of the District

   Co-operative Bank :

   a) Date of Registration :

   b) Date of commencement of business :

   c) Number of branches :

   d) Number of employees

      Section wise :

      Category wise :

2. Bio-data of the respondent :

   a) Name

   b) Age :

   c) Qualification (Please put ✔ mark which ever is applicable)

Higher Secondary	Graduate	Post Graduate	Professional	Any other (specify)

   d) Your department and position you hold

   e) Number of years of service in this organisation

   f) Number of years of service in present position

3. a)To whom do you generally report to

   b) No: of persons reporting to you

4. a) Please give a description of your job

   b) What are the items that come up for decision making

c) What is the structure of your information system

1) Planning

2) Management control

3) Operational control

4) Statutory

Targets and Achievement

5. What are the targets allocated for in the accounting year (1997-98).

Department	Indicators	Targets	Achievement	Reasons for deviation

REPORTS RECEIVED

6. a) Give a brief outline of reports presently received by you.

Sl.No	Title of Reports	Source	Periodicity	Contents	Purpose
I	Accounts and Banking 1. Cash Balance statement 2. Extract of Head office account 3. Fluid Resources Statement (Form 1) 4. DO Narrative statements 5. R and D and Trial Balance 6. Form II particulars 7. Return on unclaimed deposits 8. Average borrowing and lending note 9. Maturity pattern				
II	Establishment and personnel 1. Man power forecast				
III	Internal Audit 1. Chalan for adjustment of demand draft drawn on KSCB				
IV	Loan section 1. Purpose wise details under IRDP, MNP and Biogas 2. Demand collection and balance statement 3. Individual files for loan sanction				
V	Recovery section 1. Default accounts (individual accounts) 2. NPA classification (year wise)				

VI	Internal checking 1. Branch Inspection Reports from Executive Officers 2. PACS Inspection reports from Branch Inspectors 3. Advance tour diary 4. Byelaw amendment application of PACS				
VII	Planning 1. Industrial Societies interest subsidy statements 2. LBR – I 3. LBR – II 4. LBR - III				
VIII	Industrial and Housing Loan. 1. Industrial loans to individuals 2. Disbursement of loan statement				

7. a) Do you gather information which are relevant for your job on your own besides the reports supplied.

Yes/No

b) If yes, please specify the sources of information listed below

	Not used	Rarely	Often	Very often	Regularly
i) Government Orders/Reports					
ii) Newspapers, Journals					
iii) Exchange of notes with others					
iv) Published books trade directories					
v) Person to person contact					
vi) Any others, please (specify)					

REPORTS GENERATED

8. Give on outline of reports which are useful for the superiors in decision making

Sl.No	Title of Reports	Source	Periodicity	Contents	Purpose
I	Accounts and Banking 1. Average borrowing and lending note 2. Maturity pattern 3. Trial Balance 4. Balance sheet 5. Monthly R and D 6. Form I 7. Form II 8. Form VI 9. Form VIII 10. Form IV				

II	Establishment and personnel 1. Number of vacancies to be filled in 2. Man power forecast				
III	Internal Audit 1. Report of fund available				
IV	Loan section 1. Individual files for loan sanction 2. Sanction order 3. Releasing order 4. Refinance statement				
V	Recovery section 1. Suit account progress report 2. NPA year wise schedule				
VI	Internal checking 1. Defects of branches given by Executive officers 2. Defects of PACS given by Bank inspectors 3. Byelaw amendment application of PACS				
VII	Planning 1. Sub rules - loans, deposits 2. Intimation to branches 3. Sanction of DRDA loans				
VIII	Industrial and Housing Loan. 1. Sanction of Industrial loan 2. Application for sanction and disbursement under Automatic Refinance 3. Application for margin money 4. Sanction and releasing orders 5. Refinance statement				

9. a) Do you think that MIS in your organisation needs any improvement .

Yes/No

b) If Yes, What are your suggestions

MANAGEMENT INFORMATION SYSTEM IN DCBS IN KERALA

BRANCH MANAGERS

GENERAL INFORMATION

1. Name and address of the District

   Co-operative Bank (Branch) :

   a) Date of Registration :

   b) Date of opening of branch :

   c) Number of employees

      Section wise :

      Category wise :

2. Bio-data of the respondent :

   a) Name

   b) Age :

   c) Qualification (Please put ✔ mark to which ever is applicable)

Higher Secondary	Graduate	Post Graduate	Professional	Any other (specify)

   d) Number of years of service in this organisation

   e) Number of years in present position

3. What is the organisational structure of the branch

4. To whom do you generally report to

5. a) Please give a description of your job

   b) What is the structure of your information system

      1) Planning

      2) Management control

      3) Operational control

      4) Statutory

Targets and Achievement

6. What are the targets fixed for in the accounting year (1997-98).

Indicators	Targets	Achievement	Reasons for deviation
a) Deposits			
1) SB			
2) FD			
3) Current account			
b) Loans / Advances			
ST			
MT			
LT			
c) Interest Spread			
d) Man power expense			
e) Establishment expense			
f) Net Profit			
g) Overdue position			
1) On demand			
2) Outstanding			
h) Any other (specify)			

REPORTS RECEIVED

7. a) Give a brief outline of reports presently received by you.

Sl.No	Title of Reports	Source	Periodicity	Contents	Purpose
1.	Sanction and Releasing orders - Industrial and housing - Other loans				
2.	Sub rules regarding loans and deposits				
3.	Inspection defects of branches sent for correction				
4.	Any other specify				

8. a) Do you gather information which are relevant for your job on your own besides the reports supplied.

Yes/No

b) If yes, please specify the sources of information listed below

	Not used	Rarely	Often	Very often	Regularly
i) Government Orders/Reports					
ii) Newspapers, Journals					
iii) Exchange of notes with others					
iv) Published books trade directories					
v) Person to person contact					
vi) Any others, please (specify)					

REPORTS GENERATED

9. Give on outline of reports which are generated at your level useful for the superiors in decision making

Sl.No	Title of Reports	Source	Periodicity	Contents	Purpose
1.	Cash balance				
2.	Extract of Head office accounts				
3.	Fluid resources statement				
4.	D.O Narrative statement				
5.	R and D and trial balance				
6.	Form II Particulars				
7.	Return on unclaimed deposits				
8.	Average borrowing and lending note				
9.	Maturity pattern				
10.	Demand draft paid and payable				
11.	Manpower forecast				
12.	Chalan for adjustment of demand draft drawn on KSCB				
13.	Purpose wise details under IRDP, MNP, Biogas				
14.	Demand collection and balance statements				
15.	Default accounts				
16.	NPA classification years wise				
17.	Industrial societies interest subsidy statement				
18.	LBR – I				
19.	LBR – II				
20.	LBR – III				

10. Do you think that MIS in your organisation needs any improvement .

Yes/No

If Yes What are your suggestions

PART – B (common to all schedules)

a) Do you plan the long term objectives of your bank?

Yes/No

b) Performance variables for which plans are prepared.

Performance variable	Mgt levels involved	Information			Evaluation of information						
		Required	Available	Source	Timeliness	Reliability	Relevance	Adequacy	Redundancy	Cost effectiveness	Exception reporting
1. DEPOSIT MANAGEMENT		1. Evaluation of Deposit Mobilisation Campaigns 2. Past deposit patterns 3. Identification of potential depositors . 4. Socio – economic environment in the district 5. Identification of customer preferences 6. Competitors strategies									
2. CREDIT MANAGEMENT		1. Availability of loanable funds. 2. Identification of preferred sectors and allocations 3. Profitability/interest margin 4. Estimates of credit needs of borrowers. 5. Availability of refinance 6. Agro-industrial and economic condition in the district 7. Competitors strategies 8. Past demand for credit 9. Identification of customers preferences									

3. INVESTMENT MANAGEMENT		1. Deposit mix 2. Loan mix 3. Maturity pattern of deposits and loans 4. Maturity pattern of existing investment 5. Changes in RBI & Govt policy 6. Changes in the environment in the target area 7. Resource availability 8. Future BDP of the Bank									
4. FLUID RESOURCE MANAGEMENT		1. Time liabilities 2. Demand liabilities 3. Fluid Resource to be maintained 4. RBI stipulation on maintenance of statutory reserves 5. Cash flow (for cash arrangement)									
5. HUMAN RESOURCE MANAGEMENT		1. Manpower inventory 2. Manpower forecasting 3. Details of on the job training 4. Job rotation details 5. Performance appraisal 6. Transfer Policy 7. Welfare schemes for employees									
6. RECOVERY MANAGEMENT		1. Number of irregular accounts 2. Nature of credit facility/type of loan 3. Amount outstanding 4. Amount overdue 5. Feedback on terms and conditions of loan and repayment schedule. 6. Measures taken in the part of recovery									

7. PROFIT PLANNING		1. Availability of loan able funds and deposit position 2. Funds blocked between inter branch transactions 3. Maintanence of CRR, SLR 4. Interest rates on deposits and advances 5. Cash Management at branches 6. Recovery of loaned funds 7. Liquidity and assets management 9. Investment portfolio
8. MANAGEMENT OF PHYSICAL ASSETS		1. Inventory position 2. Information regarding maintenance work required 3. Number of branch opening 4. Request for additional facilities from existing branches 5. Technological innovations
9. CUSTOMER SERVICE MANAGEMENT		1. Customers dissatisfaction points 2. Services offered by competitors 3. Customer awareness programmes 4. Identifying areas where rapport has to be built up 5. Customers satisfaction elements

Computer Based Information system

1. Do you have a computer based information system in your organisation?

   Yes/No

2. a) If yes, how long are you using computer in your organisation?

   .....Years

3. a) What are your reasons for introducing computer based information systems?

   (Please check from list below)

   i) On the advice of experts Yes/No

   ii) Others in the sector have initiated Yes/No

   iii) Because you could afford it Yes/No

   iv) Insistence by Government Yes/No

   v) Insistence by NABARD Yes/No

   vi) Insistence by SCB Yes/No

   vii) Insistence by RBI Yes/No

   viii) Any other(specify)

   b) What is the structure of your information systems (sub system)

4. a) Whether any cost benefit analysis had been undertaken for your computer based information systems

   Yes/No

   b) If yes what were the results

   Favourable/ Unfavourable

   c) In what way Computer Based MIS improved your decision making.

   SA A NO D SD

   1) Enhances speed of decision making

   2) Backlogs in reporting is avoided.

   3) Cost of retrieval is reduced.

   4) Compiling of reports is done speedily

   5) Unnecessary details are avoided

5. a) Have you been able to observe any short comings of your computer based information systems?

   Yes/No

b) If 'Yes', please specify from the following

i) Only simple financial reports are produced

Yes/No

ii) Executives get reports too late, hence unable to pay any attention

Yes/No

iii) No need based brief reports but bulky reports are presented causing delay in the analysis

Yes/No

iv) Lack of computer experts in the organisation

Yes/No

v) Two types of training viz., manual systems and computer based system required to be maintained

Yes/No

c) What are the possible ways of over coming the above problems in your opinion

(Please Rank 1 to 5)

i) The Information systems should be designed to get timely information

ii) Need based brief reports should be generated

iii) Computer professionals should be appointed

iv) Comprehensive reports for supporting decision making task should be generated

v) Any other, specify

6. a) If you do not have a computer information system what are the reasons which prevented you from having a computer based information system

	SA	A	NO	D	SD
i) It is a costly proposition					
ii) Change to computer based information systems is time consuming					
iii) Others in the sector do not have it					
iv) Lack of computer knowledge among employees					
v) No financial backing received from govt/NABARD/RBI/SCB					
vi) Opposition of employees					
vii) Any other (please specify)					

SA = Strongly agree, A= Agree, NO= No opinion, D= Disagree, SD= Strongly disagree

APPENDIX II

Efficiency indices for functional management heads

	Functional mgt. heads	Deposit mgt.	Credit mgt.	Recovery mgt.	Invement-ment mgt.	Fluid resource mgt.	Profit planning	Human resource mgt.	Mgt. of physical assets	Customer service mgt.
Timeliness	Bank E	46.78	63.80	48.89	80.84	72.00	76.46	51.24	80.67	7.00
	Bank T	34.06	46.21	27.36	63.75	60.00	56.25	41.62	58.00	17.24
	Bank P	42.67	54.40	42.34	75.52	65.33	67.92	48.38	78.00	21.00
	Bank K	30.62	48.34	38.34	59.38	68.00	59.17	45.43	70.50	25.34
Adequacy	Bank E	47.33	64.07	41.95	80.42	86.67	75.63	50.00	75.34	6.00
	Bank T	30.61	50.06	24.73	61.25	62.67	59.17	42.67	63.34	20.04
	Bank P	43.11	62.36	40.23	71.67	84.00	71.67	49.71	72.67	23.00
	Bank K	33.84	47.50	39.22	66.25	68.00	62.09	47.14	69.50	21.00
Cost effective-ness	Bank E	53.12	71.58	62.36	88.75	84.00	84.38	55.52	86.67	8.00
	Bank T	44.11	57.04	36.67	68.75	80.00	65.42	43.91	68.00	22.00
	Bank P	51.84	72.50	62.56	84.17	89.33	78.34	50.95	84.00	24.00
	Bank K	39.28	54.82	47.67	73.13	76.00	64.59	51.62	69.67	24.67
Reliability	Bank E	53.89	76.02	61.11	94.17	96.00	87.50	56.10	86.00	8.00
	Bank T	42.17	52.46	40.28	69.59	80.00	63.34	46.67	70.67	22.77
	Bank P	55.56	73.29	61.12	82.92	93.33	87.92	51.34	84.00	24.00
	Bank K	39.84	55.19	46.89	72.71	74.67	68.13	52.00	73.17	25.00
Relevance	Bank E	56.12	76.95	67.09	91.67	97.33	87.29	55.53	89.34	6.00
	Bank T	46.50	60.97	41.39	75.84	78.67	67.92	48.19	70.00	24.00
	Bank P	58.17	72.55	63.89	91.25	90.67	85.42	52.77	86.67	24.00
	Bank K	43.17	58.43	54.23	77.92	73.33	67.92	52.67	73.84	22.67
Non-Redun-dancy	Bank E	52.89	70.93	67.50	91.67	88.00	84.38	54.48	83.33	8.00
	Bank T	39.83	53.97	45.70	66.67	77.33	67.08	46.00	69.34	26.47
	Bank P	55.01	72.04	62.67	84.17	86.67	81.67	54.29	84.67	22.00
	Bank K	40.78	53.61	52.00	72.50	65.33	70.83	51.81	74.34	28.34
Exception Reporting	Bank E	61.34	75.65	61.67	86.67	78.67	79.59	54.96	82.67	4.00
	Bank T	46.56	56.49	31.95	73.34	69.34	59.17	45.05	63.34	20.00
	Bank P	60.67	77.97	53.00	82.92	66.67	77.50	55.15	82.67	17.00
	Bank K	38.06	54.35	42.56	75.84	65.33	60.00	51.24	72.83	22.67

AN APPRAISAL OF EXISTING MANAGEMENT INFORMATION SYSTEM IN DISTRICT CO-OPERATIVE BANKS IN KERALA

By

SANGEETHA K. PRATHAP

ABSTRACT OF THE THESIS

Submitted in partial fulfilment of the requirement for the degree of

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ABSTRACT

To meet the challenges of present day banking environment, co-operative banks and DCBs in particular have to introduce better planning and control by way of efficient information system. The managerial ability of DCBs to respond quickly to the changes in environment depends upon their ability to collect, process and utilize information.

The study entitled "An appraisal of existing Management Information System in District Co-operative Banks in Kerala" was conducted with the following objectives.

To examine the decision making process in District Co-operative Banks at various levels of management with a view to identify the information needs for management.

To assess the efficiency and effectiveness of the existing system in meeting the information needs for management.

The primary data required for the study were collected by administering a pretested structured schedule among the respondents of four sample banks. The respondents belonged to two management levels in each banks namely top management and middle management. Method of stratified random sampling was employed for selection of sample banks. Accordingly, on the basis of volume of business, four banks were selected namely, Ernakulam District Co-operative Bank, Thrissur District Co-operative Bank, Palakkad District Co-operative Bank and Kozhikode District Co-operative Bank. The study was conducted during the period of December 1998 to July 1999. Decision making process in DCBs was identified by conducting discussions with respondents. After tabulating the responses from the schedules, analysis was done using indices. The effect of independent variables on efficiency and effectiveness was detected using confluence analysis.

Decision making process were delineated for ten selected aspects which were identified during the course of the study. Stages of decision making remained similar

in all cases, but deviation was noticed in the matter of decision making authorities and sections which handled the work. In the decision making process of fixing of bank's deposit targets, no significant deviation from the pattern was noticed. Introducing new deposit schemes and loan schemes were done by similar process in the all banks but for the difference in sections handling the work. Planning department was in-charge of preparation of draft schemes in all banks except for Bank E where general section did the work. Sanctioning of loan proposals constituted a five stage process. Executive Committee remained the decision making authority in all banks except Bank K, where delegation of powers for loan sanction upto specified limits was done to General Manager and Branch Manager. In the case of monitoring of default accounts, Bank T alone maintained separate recovery section in head office to which default accounts were transferred and monitored. Other banks did this in branch level itself. Decision on investment of available funds was done by General Manager with ratification from President in all banks except for Bank P where the decision was taken by Executive Committee. Maintenance of statutory reserves, profit planning and provision of additional facilities to branches were done along the fixed pattern in all the sample banks. . Decision on employee's job rotation was taken by Executive Committee in Bank K whereas it was done by General Manager in all the other banks. Framing strategies to avoid delays in customer service was done at two levels, firstly at the level of branch manager, who directly deals with complaints and offer solution and secondly at the level of Board of Directors who designs strategies.

The following information gaps were identified under the functional management heads. Regarding deposit, credit and customer service management, bank's top management and middle management were not considering information on competitor's strategies. Also identification of customer preferences was not given due importance by bank's top management. In recovery management feedback on terms and conditions

of loan and repayment schedule was not considered by any of the banks. Management of investment, fluid resources, profit and physical assets did not face information gap in all the sample banks. Human Resource Management was affected by non-availability of information on performance appraisal and manpower forecasting. Top management did not give enough stress on information on job rotation. Customer service management was the poorest in information availability, where top management of banks were not keen in collecting information on customer satisfaction and dissatisfaction points, customer awareness programmes and identification of areas where rapport has to be built up.

Categorisation of efficiency indices of banks showed that majority of banks fell into "moderately efficient" category. Bank E stood first in efficiency of information system. Bank T was last in ranking for efficiency. Regarding effectiveness index, all the sample banks were classified as moderately effective. Here also Bank E topped the tally and Bank T stood last among the sample banks. Confluence analysis reveals that there is significant influence on efficiency by timeliness, adequacy and cost effectiveness for all banks. Regarding effectiveness, insignificance of certain factors was observed in some sample banks. Non-redundancy is not having significance in Bank T. Relevance is not influential for Bank P and reliability is insignificant factor of effectiveness in the case of Bank E and Bank P.