CHAPTER - ONE
1. REVIEW OF LITERATURE AND RESEARCH DESIGN

1.1. INTRODUCTION:
Through this chapter an attempt is made to deal with two very important aspects of research. First, a review of literature has been taken up to identify those areas in which researches have already been conducted and second, the research design which seeks to define the nature and scope of the present study which includes methods of data collection, analysis of data collected and interpretations.

1.2. REVIEW OF LITERATURE:
In order to undertake the proposed study, it is considered essential to peruse through the available literature on the subject. There are two aspects of the literature which are considered important: first relating to Computerisation in Banking Industry in general, and the second is related to the Computerisation in Personnel Function in Banking Industry in India in particular.

1.2.1. Computerisation in Banking Industry - Western Experience:
The history of computerisation itself has a short past- from a tool for military operations during the Second World War to a labour saving device and fast calculating machine in the commercial sector. Since then not only the very size of computer got miniaturised but its use, too, went through tremendous transformation. After the development of first two commercial models, UNIVAC-1 and Model-650 of International Business Machines (IBM) during the 1950s. its adoption by the business world, there is no going back on the issue of computerisation. The Bank of America and the First National City Bank of New York were first two in banking industry to experiment with computer processing in the U.S.

Mitchell \(^5\) found that there was not only lack of equipment in the beginning
but there also existed a complete lack of knowledge about what computer could and should do for the banks. Yavitz\(^{36}\) stressed the need for improvement of service at all levels by the banking industry. But automation in banking till 1960 was confined to the large banks with deposits over $100 million. A survey by American Banking Association\(^{37}\) in 1966 found that only 20 per cent of the banks having deposits of less than $100 million were using any type of computer. The above study projected that between 1967-71, at least 3200 additional banks will start use of computers, bringing the total to 55 per cent of all commercial banks in the U.S.

In the U.S between 1955-66, computer installations in business and governmental institutions increased from a mere 100 to 28,500. Myers\(^{38}\) quoting industrial projections premised that there would be about 60,000 computers in use by 1970. The increase in the number of computer installation is attributed to an increase in number of cheques written annually, which rose from 5.3 billion in 1945 to under 12.7 billion in 1960 and to 17 billion in 1965. Nadler\(^{39}\) found a positive correlation between turnover of deposits in New York City Bank and the necessity to computerise. Between 1945-64, there was a 100 per cent increase in the number of demand deposits and it was expected to increase by another 30 per cent by 1975, thereby threatened to flood the banks wrote Wiener.\(^{40}\)

During 1960s majority of the banks using computers were large or very large. In smaller banks, computerisation either did not start or was minimal. This may be due to the high cost of equipment or non-availability of trained manpower or due to both. The banks which used computers were still in the data processing phase of automation, observes Vaughan.\(^{41}\) He further concludes that the banks were still at the stage of straightforward conversion of manual system into an automated one. But success of some banks in utilising computer and the perceived attractiveness of offering new services via computers have combined to cause many bankers to feel a great urgency to get on the computer bandwagon.
immediately. Simon, Love and Walker\textsuperscript{42} found that in banking, insurance and finance, the reasons for adoption of new technology was to cope with the increasing volume of work and also to provide better customer service and better management control. But automation in the 1960s and 1970s has been mainly in the form of large mainframe computers to handle the back office operations of the banks.

Clus\textsuperscript{43} believed that data processing machinery and companion equipments are only tools. The success of a bank lies not in employing tools and machineries but in its people, their experience and skill. Therefore, banks, in order to remain competitive have to seek out new customers, discover their problems and solve them through wise counsel and creative lending.

The above cited literature is from the west and demonstrate the reasons as to why the computer became a necessity in banking operations. It also illustrates that the use of computer was limited and the type of systems found were mainly large computers.

\textbf{1.2.2. Computerisation in Banking Industry in India:}

As we progress to the 1970s and the following decade-1980s, Indian banks, too, started experimenting with computers. In 1975, Vijayaditya\textsuperscript{44} while gauging the computer requirements for large scale banking in India found that only two banks namely, the Reserve Bank of India and the State Bank of India had in-house computing facilities. Here, too, the application was limited to data processing and computers were still under-utilised.

According to Bajwa,\textsuperscript{45} today the banks function is in chaotic situation, house keeping is in shambles, customer service is very poor, frauds have been increasing, sickness is on the rise and the reporting system has outlived its utility. Iyer\textsuperscript{46} has found the solution of the above problem in computerisation of banking operations. In the Western World computerisation was competition - driven while in India it is use driven. Similar line of argument is taken up by Ratnakar\textsuperscript{47} as he
found the use of computers at the apex level, regional/zonal level, branch level and in certain miscellaneous areas of banking operations.

Bakhshi feels that computerisation as a part of modernization of work technology in the commercial bank in India is no more a matter of choice. It is an essential contemporary proposition which offers protection against organisational decay and promises a healthy growth. But for the successful computerisation, there will be a need for attitudinal change in staff at all levels and the top managements involvement in motivating the various participants in the change process.

Gulati compares the introduction of computers in banking with development of cheques about a hundred years ago which revolutionised banking operations. He emphasises the need for a long term planning for developing wide-ranging financial services at lower operating costs and reasonable profit for sustained growth. He further says that the more successful banks have integrated technological strategies with their marketing strategies.

Kini and Kulkarni suggest a concerted effort on the part of the banks to attain the multiple objectives through the utilisation of the benefit that computerisation can bring about. But what banks lack is the expertise which has to be developed within the bank to be in an advantageous position in integrating the analysis, specification, design and implementation of change. Adequate care and caution is necessary in utilising the prospects that computers offer.

What is required in the Indian banking sector is making communication channel available between them and the clients at all times. The borrowers have access to their records twenty four hours a day. In view of the cost effective measures, banks are likely to go for computerisation and automation at all public places. The growth in technological improvements and the work culture will make the banks to garner substantial business. Their failure to keep pace in the technological assimilation will threaten their own survival says Dahotre.
Das feels that the phenomenal increase in the volume of business coupled with the pressure of competition, on individual banks to render excellent customer service will limit the manual power in favour of the machines. The acquisition of modern technology would require the banks to invest huge amounts in systems like ATMs, OLTP (On-line Transmission Processing), clearance facilitating machines, and image processing etc. But great caution is necessary to prevent frauds by the computer literate through ‘incryption’, and ‘authentication’. Since the standardised software would cost huge sums of money, the banks may collaborate even into the field of software development.

To Kavinde, it is the need for reduction in operational cost which necessitated computerisation. He says that the need for diversification has arisen in the banking industry, mainly as a result of the falling profitability. It is of utmost importance that these operations are conducted with due emphasis on maximum economy and operational efficiency. Intensive competition in the financial service industry is creating further pressure for reducing cost.

Kamath, through his celebrated work on Canara Bank brings forward the point of self sufficiency of the concerned bank in the area of computerisation and forwards arguments in favour of Canara Bank’s successful operations. But to Padwal, the present state of computerisation/mechanisation in Indian banks was not showing satisfactory results at any level, and computerisation was marginally spread in the organisation.

Rangarajan sought to describe the two areas where computerisation or new technology is required; the clearing of cheques and the general management functions. Joshi, too, emphasise the role of computer for speedy transmission and transfer of funds. Singla notes a healthy trend viz., computerisation while studying “Fear of Computerisation”. He concludes that only 12.8 per cent of respondents surveyed indicated a sense of fear from computers among the users, while 73.1 per cent showed lack of fear. He further concluded that the seniors
were more apprehensive than the juniors.

The above cited literature is mainly concerned with the process of computerisation in banking industry. The arguments that emerges from the above discussion are; due to an increase in work load, quick cheque processing, efficient customer service and to reduce operating cost, computerisation became a necessity.

1.2.3. Computerisation in Personnel:

It is an established fact in the past that personnel function had been the least attended functions in organisations world over. Consequently there has been dearth of literature too in the area of personnel management. When organisations introduced computers for their operations, personnel remained the last to be attended. Thus the literature on the field of computerisation in personnel is found to be scanty. Bricker is among the first writers who envisaged the reasons for having computers in personnel. He argues that perhaps the biggest problem for personnel is inside its own shop. The traditional personnel function of recruiting, counselling, placement, and benefits may get bogged down by the traditional methods of handling personnel data. What a personnel man needs is a way to handle personnel information more easily, a way which will free the personnel staff to do more creative and professional work.

Long argues that all major business function such as the marketing, finance, production and personnel share a common need that is for quality information. The ultimate aim of any personnel function is to assist the corporate entity, to which it belongs, to obtain the most- cost effective use of the human resource over time. He adds, the information needs of personnel can be classified into two: administrative and strategic. It is the former in which computer is widely used whereas the latter needs them the most which also happens to be the least developed area of personnel information.

Owen makes a comparison between a personnel officer and computer
and asserts that reasons for having one would be the same for other. Many company’s claim that the major reason for using computers in personnel is to improve information. Yet in practice their developments are concentrated upon large operational systems that maintain basic personnel records and process payroll transaction. Whilst these systems undoubtedly has better information then was available from manual records, but it is largely for day-to-day control and the main advantage lies in cost reduction, notably saving of staff costs believes Prosser.^^

Balasubramanian\textsuperscript{64} considers manpower constituting the most valuable amongst the different resources available to any enterprise. Manpower as a resource also has the special characteristic of high variability in its output dependent upon the design of management concern that is bestowed upon it. This is particularly true about the environment where the physical and the intellectual faculties of the personnel get significant exercise. It is therefore, surprising that computer applications relating to managing the manpower do not seem to have made much headway in India, excepting for a few environment.

The Rise and Fall of Personnel by Kingsley Manning\textsuperscript{65} brought a stormy response from the practitioners of the industry and defence from Personnel consultants. Today’s small user-friendly computers have now provided personnel departments with a means to break out of their classical mould i.e., basic welfare and little else. Similar line of argument is taken up by David.\textsuperscript{66} Personnel people now have a tremendous opportunity. We can use the latest technological advances to translate the data that have been lying dormant for so long, into useful information. This should help us make a more effective contribution in the key decision making area of our companies.

1.2.4. Computer in Personnel in Banking Industry in India:
There seems to be dearth of literature on the above subject. Shah and others in 1984 wrote that despite computerisation banking industry by its very nature
remains labour intensive industry. They do not talk about computers in personnel. More recently, a few studies which are directly concerned with computerisation in personnel function in Banking industry in India can be traced. Most of these studies are in the form of seminar papers and periodical literature.

Padwal and Naidu, while looking at the issue of computerisation in Indian Banks and its training implications, suggest that computerisation requires total involvement. They found that training Colleges of the banks were not equipped to impart training in computers. Therefore, such external agencies must be identified which can impart training on behalf of banks and enable them to meet their needs.

Recently some authors examined the training requirements of computerised banking. Dandekar talks about the HRD strategies in State Bank of India and the efforts that bank has been making in training their human resource to achieve their objective. Ramanujam takes stock of the infrastructural facilities available in banks for training in the era of computerised banking. He too suggests employing external agencies for training in high skill requirements. Rao suggests an improvement in quality of training and an effective post training placement. The computerisation of personnel management function per se will not enable the personnel managers to become more effective managers as believes Mandhyan. Nonetheless it will certainly allow them an easy access to systematic information which can provide sound basis for effective decision making and formulation as well as review of personnel policies. In so far as the impact on employee is concerned, there will be better credibility attached to the decisions of the personnel managers as these decisions will be based upon verifiable data as against the hunches of managers in the past. This should also generate fair amount of goodwill and reliance on objective facts rather than solutions through personal approaches and sycophancy.

The corporate offices of most of the Banks have installed mainframes
and, the data relating to all the departments have been computerised. Personnel related data such as the personnel inventory, training, provident funds accounts etc, and business data such as credit information system, management information system, inter-branch reconciliation, and investment portfolios etc., are easily available Rao asserted.\(^2\)

Dandekar\(^3\) finds banking industry at a stage where further investment by adding more human resources and training would not by itself produce results commensurate with costs. The answer has therefore, to be found in a proper man-machine combination and application of an appropriate technology. He further argues that there would be a drastic reduction in future recruitment pattern. It is the computer literate who will find access in the industry in different areas of banking.

Computerisation no doubt, facilitates managerial decision making. But, so far as the personnel management is concerned, its ambit goes far beyond the scope of merely any database or classification of systems. Its basic objective is the generation and setting forth of the human energies and directing the same towards the achievement of the goals of the organisation as Ghose postulates.\(^4\)

The above cited literature clearly indicate two things; first, there is very little work in the area of the computerisation in personnel function in general and the computerisation in personnel function in particular. Second, these writings are neither indepth nor takes up the personnel function in its totality.

1.3. RESEARCH DESIGN:
1.3.1. Research Gap:
In the preceding section the review of literature makes it clear that no substantive study has so far been conducted on computerisation in personnel function in banking industry. Most studies examined, are confined to computerisation in banking industry in general. However, some periodical literature and seminar
proceedings focusses on a limited scope of personnel management i.e., training. These studies too, are narrative and lacks any depth and direction and repeats the facts of the Rangarajan committee reports to a large extent, adding their own experience with the banks. Therefore, the proposed study aims to provide a detailed process of computerisation in personnel function in industry as a whole.

1.3.2. Objectives of the Study:

The objectives of the present study can be classified into two groups:

1.3.2.1. Broad Objective: The broad objectives of this project is to study the computerisation in personnel functions in banking industry in India aimed at highlighting the extent of computerisation, reasons for computerising personnel function and the impact on decision making process.

1.3.2.2. Specific Objectives: On the basis of the broad objective stated above, the specific objectives of the study are categorised as under;

i. To study the personnel functions as practiced in the banking industry,

ii. To study the extent of computerisation in each of the sub-functions of personnel function,

iii. To study the changing training needs as a result of computerisation,

iv. To study the structural changes as a result of computerisation,

v. To probe into the level of resistance to computerisation in banking, and

vi. To investigate the change in flow of information for different decisions related to personnel.

1.3.3. Nature of Research:

This study is exploratory in nature and it examines the application of computer in personnel function in banking industry.
1.3.4. Scope of the Study:
For a study of this nature, it is necessary to determine the scope of the study and also to specify its boundaries.

i. This study concerns itself with the computerisation in personnel function in banking industry only.

ii. This study confines itself to the personnel function(s) performed at the apex level and zonal/regional levels.

iii. This study further limits itself to procurement, HRD and compensation management.

iv. Personnel practices before computerisation does not form part of the present work.

1.3.5 Sampling Procedure:
Since the study of all banks in the industry is physically not possible in a study of this nature, therefore, the samples have been drawn keeping in mind the fact that the study can reasonably be a representative one. The samples have been drawn on rejection-selection criteria. After the Rangarajan committee reports of 1984, and 1989 and various industry and bank level settlements, the computerisation process which faced rough weather for a long time came under normal conditions. The committees and settlements laid down norms for computerisation of the industry as a whole. But what is being seen is that it is the commercial bank which is increasingly adopting computers and not the other categories of banks except the Central Bank-RBI.

Three criteria are applied to determine the sample. For a bank to be a part of the sample, it has to meet all the three criteria as laid down below:

i. Banks having 1,500 branches or more in India and abroad combined but their major operation should be in India.

ii. Banks having 5,000 employee in officers grade.

iii. Banks having 15,000 employee in total.
The banks which qualified the above criteria are listed below:

<table>
<thead>
<tr>
<th>Name of Bank</th>
<th>Number of Branches</th>
<th>Number of Officers</th>
<th>Number of Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOB</td>
<td>2071</td>
<td>11121</td>
<td>42068</td>
</tr>
<tr>
<td>BOI</td>
<td>2058</td>
<td>10953</td>
<td>50036</td>
</tr>
<tr>
<td>CB</td>
<td>1949</td>
<td>11801</td>
<td>49294</td>
</tr>
<tr>
<td>CNTL</td>
<td>2683</td>
<td>15688</td>
<td>48709</td>
</tr>
<tr>
<td>PNB</td>
<td>2671</td>
<td>13776</td>
<td>56180</td>
</tr>
<tr>
<td>SBI</td>
<td>7862</td>
<td>55341</td>
<td>214598</td>
</tr>
<tr>
<td>UCO</td>
<td>1747</td>
<td>9115</td>
<td>34333</td>
</tr>
<tr>
<td>UNION</td>
<td>1739</td>
<td>9157</td>
<td>30159</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>22480</strong></td>
<td><strong>136952</strong></td>
<td><strong>525377</strong></td>
</tr>
</tbody>
</table>

All the banks listed above are commercial banks and they also fall under the category of public sector bank. Although the number of bank in the sample given above looks very few, but in terms of the three parameters listed above the approximate share works out to be around forty per cent.

1.3.6. Methods of Data Collection:

The subject of the study is such that primary data can not be gathered through questionnaires. However, the data was collected from both primary as well as secondary sources.

1.3.6.1. Primary Data: Keeping in mind the objective of the study, a detailed questionnaire was prepared but during the pilot study it came to light that information sought were treated confidential and could not be provided in writing as a matter of policy. After a detailed discussion with the top level personnel executive a modification in the method of data collection was made. Now, instead of questionnaire, a detailed check-list was prepared and personal interviews were conducted on this basis. The two sets of the check list were prepared, one for
interview with EDP personnel and the other for the personnel executive not below the rank of manager.

1.3.6.2. Secondary Data: In order to understand fully the concepts, and to note the progress in the field and to analyse the industry, various sources of secondary data were explored. Since the concept of computerisation in personnel function is still in infancy in India; therefore, western literature mainly available in the Personnel Journal, the Personnel, and Computer in Personnel was perused through. For the indigenous sources reliance was placed mainly on the Reports and Publications of Reserve Bank of India, publications of Indian Banks’ Association, National Institute of Bank Management, and Banker’s Training College (BTC). Data was also collected from internal circulars, settlement papers both from the industry level and the individual banks. Published data from Ministry of Finance and its Banking Division etc., and Annual reports of different banks and allied institutions and publication of individual banks are also utilised.

1.3.7. Problems in Data Collection:
Even before the data collection began, the problem of permission from selected bank’s chief executive came up. The permission was given on the ground that no questionnaire would be filled, however, personal interview can be conducted. An undertaking was submitted stating that the identity of the bank concern will be kept confidential with regard to certain data. Files could be examined which relates to general matters and not policy matters of the bank with regard to personnel or computerisation. In many cases getting time from the executives remained a problem. Even when an appointment was fixed the adherence to it remained questionable. During the interviews many questions were not answered directly and opinion on the issue concerned was expressed which was said to be personal. Some executives even discouraged conducting a study of this kind.
1.3.8. Presentation of Data and Analysis:

First of all the data collected was arranged and checked for accuracy. After verification and validation it was found that a definite pattern was emerging. Therefore, instead of a case method a generalised form of presentation was opted in the light of restriction imposed by the banks. The data is being analysed on the basis of sub-functions. The data analysed are mainly presented in the chapters-III, IV and V.

1.3.9. Limitations of the Study:

There are many limitations of this study:

i. The first major limitation is with regard to the sample: all the banks representing the sample are public sector commercial banks. Therefore, position in banks of other sectors can not be expected to represent the findings.

ii. The data/facts provided by the executives may even include their personal opinion.

iii. Banks head offices in Bombay and Delhi were contacted personally owing to the diverse location of their head offices.

iv. The zones contacted are Delhi, U.P and Ahmedabad.

v. Since the study heavily draws on secondary data therefore, the limitations of secondary data used, remains the limitations of this study also.

vi. Time and finance always remained a constraint in covering a wider area.