CHAPTER 2

REVIEW OF PREVIOUS STUDIES AND DESIGN OF THE STUDY

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CHAPTER 2
REVIEW OF PREVIOUS STUDIES AND
DESIGN OF THE STUDY

In the previous chapter, discussion about the evolution of IT industry, its growth in India and present status as well as the IT infrastructure and development in North East India in general, and Manipur in particular has been made. It has also discussed about the rationale of the study and analytically place for IT industry in Manipur. This chapter two highlights the objectives of the study for entire work by taking four tentative scientific assumptions. The chapter have also discussed about the delimitation made for the present study.

The present chapter shall be sub-divided into two sections.

Section A, presents the findings of previous works done in India and abroad.

In Section B, design of the study along with the tools and procedures has been presented. Tools for data analysis have also been provided in this section.
SECTION A: REVIEW OF PREVIOUS STUDIES

2.1 Purpose of the review of related literature

The review of related literature is a key step in the research process. It is an extensive, systematic and critical review of the most important scholarly published literature on a particular topic. The major purpose of reviewing the literature is to determine what has clearly been done that relates to one’s problem. Another important function of review is that, it points out research strategies and specific procedures and measuring instruments that have and have not been found to be productive, in investigating one’s problem. Familiarity with previous research also facilitates interpretation of the results of the study. Finally, these reviews give information, which can either support or challenge the conclusions of the investigator’s research and therefore, provide clues for later research.

The preliminary survey of previous studies, literature, discussions and experience related to the problem under investigation may accomplish a number of purposes. The search for
related material is a time consuming but fruitful phase of any research programme. Its specific purposes are as follows:

(i) It is the foundation of any research study undertaken.
(ii) It gives an understanding of the previous work done in the related area and to avoid the list duplication.
(iii) It furnishes indispensable suggestions about comparative data, good procedures, likely methods and tried techniques.
(iv) It develops the insight of the investigator.
(v) It provides a good opportunity to the investigator for gaining insight into the methods, measures and approaches employed by the earlier investigators.
(vi) It provides ideas, theories, explanations, hypotheses or methods of research, valuable in formulating and studying the problem.
(vii) It makes researcher alert to research possibilities that have been overlooked and research approaches that have proved to be sterile.
(viii) It helps in locating comparative data useful in the interpretation of results.
(ix) It contributes to the general scholarship of the investigator.
(x) It prevents pointless repetition of research.

Some previous studies conducted in India and abroad have been reviewed as under:

**Ashish Arora and V.S. Arunachalam (1999)** in “The software industry and India’s economic development” found that the Indian software exports have grown in spectacular fashion. Its success has, for the most part, been a combination of resource endowments, a mixture of benign neglect and active encouragement from a normally intrusive government, and good timing. The bulk of the Indian software exports have consisted of fairly mundane services such as low level programming and maintenance. The marked reliance on access to low cost human capital has prompted considerable scepticism about the ability of the Indian software industry to sustain its performance, given the rapid growth in the demand for engineers and the relatively inelastic supply of engineers. This paper reports on the results of research on the Indian software industry. We use a variety of sources, including a questionnaire survey of Indian software firms, and field visits and interviews with industry participants, observers, and US based
clients. Although, maintaining the current rate of growth will pose a number of challenges, these challenges are not insurmountable. Not only can the available pool of human capital be expanded by tapping and training the very large pool of English-speaking college graduates, the leading Indian firms are making strong efforts to move up the value chain by acquiring better software project management capability and deeper knowledge of business domains, and reducing costs and improving quality by developing superior methodologies and tools.

Ashish Arora, V. S. Arunachalam, Jai Asundi, and Ronald Fernandes (1999) in a report submitted to the Sloan Foundation titled “The Globalization of Software: The Case of the Indian Software Industry”, carried out at Carnegie Mellon University, used a variety of sources, including a questionnaire survey of Indian software firms, and field visits and interviews with industry participants, observers, and US based clients. The Indian software industry is remarkable in a number of respects. It is service rather than product oriented; heavily export oriented, and is largely managed by professional and entrepreneurial managements. Also,
domestic market experience and expertise appears to have very little benefits for successful importers. Although the industry has grown in spectacular fashion, sustaining this performance will pose a number of challenges. In order to counteract the widely reported shortages of skilled software professionals and the possible competition from other low wage, human capital rich countries, Indian firms are trying to move up the value chain by acquiring deeper knowledge of business domains and management capability, and to reduce costs by developing superior methodologies and tools. Whether firms will succeed will depend critically on their management skills and willingness to invest along a number of dimensions. From a social perspective, the disconnection between domestic and export markets is a major challenge, but one that the growing diffusion of computers and the improvement of the communication infrastructure should make easier to confront. In the end, the greatest impact the software industry is likely to have on the Indian economy is indirect, in its role as an exemplar of the new business organisational form and as an inspiration to other entrepreneurs.
Carnegie Mellon University, Pittsburg (2000) in the book ‘The Globalization of Software: The Case of the Indian Software Industry’ opined that the rapid globalization of the software industry in recent years has focused a great deal of attention on India whose software industry is now a small but a growing part of the international division of labor. Our study had two major objectives: To understand and describe the main features of the Indian software industry, especially its competence and weaknesses; and to understand its links with the American software industry and with the American economy more generally. To get at these issues, we collected data from a number of sources, including a questionnaire survey of over a 100 Indian software firms, and visited over 45 Indian software firms in Delhi, Bombay, Madras, Bangalore, and Hyderabad. We followed up with a smaller number of phone interviews with U.S. firms that have outsourced software development to India. We also had brief structured interviews with 61 Indian programmers to understand better where and how they are trained and the nature of the work they do. In addition, we interviewed a number of government officials in India and industry
experts in both India and the U.S. The results of this research illuminate a number of issues related to the Indian software industry, confirming some impressionistic accounts but contradicting others. In particular, nearly two thirds of the revenues of the Indian software industry are from exports, with a much smaller domestic market.

Rafiq Dossani (2000) in ‘Origins and Growth of the Software Industry in India’ explains the evolution of India’s software industry. Domestic entrepreneurship emerges as the key factor for origination, survival and innovation in a hostile industrial policy environment. The maturing of the industry required a shift to a supportive government policy; maturation was also critically enabled by the modularization of the programming function through new technologies. These changes favoured domestic firms that provided programming services. Later policy and technological changes induced transnational entry and led to higher value-added output. The paper shows that technologically sophisticated industries can develop even when many conditions typically present elsewhere are missing. We provide conditions under which this may happen and show their effect on subsequent developments. The paper explained
the evolution of India’s software industry from its origins in 1974 to the present time. Domestic entrepreneurship drove the industry’s origination, survival and innovation during a time when the state used policy to promote SOEs and to crowd out the private sector. The state’s policies effectively prevented the private development of software in India. The private sector, in collaboration with TNCs, found an innovative solution, that of exporting programmers instead.

Subhash Bhatnagar (2004) conducted a study on ‘India’s software industry’ to understand how the Indian software industry has been able to catch up successful access, learn and develop to the technological standards of global leaders while others in the developing world lag behind. The focus of the study is to on explaining the factors that contributed to the phenomenal growth of software export from India including the role of institutions and government policies. The Indian software industry has remarkable story. It has grown more than 30% annually or 20 years with 2008 exports projected at closed to $60billion. India exports services to more than 60 countries with 2/3 to the United States, including half of fortune 500. Economic policy has undergone substantial revision
driven by this sector and India began to open up. Foreign reservations are high markets great influence policy and a string of coalition governments have not deviated from economic liberalization.

Tapan Choure (2004) in “Information Technology Industry in India” had taken stock of information technology industry in India. It gives account of rapid growth of the industry and its success on export fronts. There are details on two kinds of business being perused Information Technology consultancy and Business solutions. It is outline in the book that challenges in front of industry are of two kind-attracting and retaining software professionals and warding off competition while keeping the costs low. There is also discussion on the future prospects keeping in view the domestic and international markets.

Minarani (2005) has studied on development of entrepreneurship in small scale IT industries in Manipur. This study found that entrepreneurship has to channelize the availability man power to appropriate vocation and aimed at increasing matter of understanding how the human minds work at the time of emotion.
Somokanta Singh (2005) conducted a study on “IT policy of Manipur: A case step for growth of SSI in Manipur it sectors”. The study highlighted the contribution of the free it services industries to the development of economy of the state is almost nil. Non availability of proper data may be one of the factor for difficulty in the findings the relationship between two. India is projected to become an IT superpower by 2008 with the little effort. Manipur with all its various advantages, mainly the strong manpower can piggy – ride the country’s success in this field, so persons with suitable training and support can their venture with minimum inputs in terms of investment both in rural and urban areas of the state.

Abdullah Aldarrab, Sandeep Jagani and Tauseef Iqbal (2006) in their paper entitled “Outsourcing to India: Current and Future Trends” researched that the Indian market. Multinational Corporations (MNC”s) have managed to identify several countries worldwide to outsource their non core competencies abroad, in order to focus more on what they can do better than others and improve profitability. India is one of the leading countries to attract foreign
business activities in the past two decades. This was a result of multiple factors that made the country an attractive choice for outsourcing by MNCs.

Meenakshi Rajeev and B. P. Vani (2007) in their article “Direct and Indirect Benefits of Business Process Outsourcing on Indian Economy” published in the International Journal of Information Technology Impact concluded that, the Indian ITES-BPO segment besides growing is also maturing rapidly. This sector is generating significant tax revenue for the government and in turn putting pressure on the state to provide better physical infrastructure.

Bhimrao Ghodeswar, Janardan Vaidyanathan, (2008) in "Business process outsourcing: an approach to gain access to world-class capabilities", reviewed the different types of outsourcing, its drivers and process, and to identify world-class capabilities that host organizations can leverage. This paper is primarily based on a review of literature. Outsourcing helps the organization to achieve higher levels of value creation for the final customer.

Asheref Illiyan (2008) in “Performance, Challenges and Opportunities of Indian Software Export” showed that India has
emerged as an “IT Super power”, especially in the field of software and related services export. The paper is an attempt to discern and delineate the growth performance, challenges and opportunities of such a promising sector of Indian economy. It has been observed that software export has registered an annual compound growth rate of 45 per cent during the last decade and continues to show robust growth even today.

Indian Embassy (2008) in “India’s Information Technology Industry” reported that the Indian software industry has grown from a mere US $ 150 million in 1991-92 to a staggering US $ 5.7 billion (including over $4 billion worth of software exports) in 1999-2000. No other Indian industry has performed so well against the global competition. The annual growth rate of India’s software exports has been consistently over 50 percent since 1991. As per the projections made by the National Association of Software and Services Companies (NASSCOM) for 2000-2001 (April 1, 2000 - March 31, 2001), India’s software exports would be around $ 6.3 billion, in addition to $ 2.5 billion in domestic sale.
Arti Grover (2009) in “The Indian Business Process Outsourcing Industry: An Evaluation of Firm-Level Performance” published in Delhi School of Economics Journal stated that even though offshoring significantly affects a host country, most research on offshore production still focuses on its demand side. It introduces the factors that affect the performance of Indian suppliers in an outsourcing relationship, popularly called the Business Process Outsourcing (BPO) firms.

Dun & Bradstreet (2009) in a report published in the ‘The Financial Express’ attempts to highlight Key trends in the Indian public sector undertaking and provides insight into their performance. The study pointed out that the aggregate net profit margin of the profiled PSUs was 8.3 percent in FY 08. Within this the manufacturing PSUs and the service had an NPM of 9.1 percent and 7.8 percent respectively. The study further pointed that PSUs are enjoying a low debt and huge cash reserve position. Many private sector companies wanted growth at all costs whereas PSUs used their strong earnings to strengthen their balance sheets and make calculated expansions.
Jörg Ohnemus (2009) in “Productivity Effects of Business Process Outsourcing (BPO)” stated that the impact of business process outsourcing (BPO) on firm productivity based on a comprehensive German firm-level panel data set covering manufacturing and service industries. The growing importance of service inputs into the production process is undisputed. Firms increasingly decide to go to the market and buy all or at least parts of selected services they need from external service providers. This is especially true for services which rely to great extend on new information and communication technologies. Doing so, outsourcing firms can concentrate on their core competencies.

Mahmoodzadeh E, Sh. Jalalinia, F. NekuiYazdi, (2009) in "A business process outsourcing framework based on business process management and knowledge management", stated that nowadays, outsourcing has proved to be an enterprise management strategy in the face of globalization and growing competition. The decision to outsource a business process for any organization has far-reaching consequences and risks. The purpose of this paper is to analyze the impact of business process management (BPM) and
knowledge management (KM) on reduction of outsourcing risks and pitfalls.

Report Of An Industry Expert Group (2009) vindicated the need to develop a European Software Strategy was raised by Commissioner Redding in her speech "Towards a European Software Strategy" at the Truffle 100 event (19 November 2007), and reiterated at the Microsoft Innovation Day (4 December 2007). The Commissioner appealed directly to industry on this matter. Subsequently, a number of key organizations in the software sector have sent to Commissioner Redding their views on the issues that should influence such a strategy, and have suggested elements that might form part of a strategy. This led to a position paper which was presented and debated on January 20th during a meeting with Industry and European Commission representatives. As follow-on it was proposed by the Commission to organize seven workgroups, each in charge of refining the position papers views on a particular Aspect; Workgroup n°7 was in charge of Open Source Software (OSS) and produced the present report. The OSS workgroup has been very active and probably like all other workgroups, we felt that
our ideas refinement and passionate debates were only limited by the deadline set for this work. Our group included members from various sectors and line of thoughts. The group included a non-profit centre of competence for OSS, industry representation with partial or high OSS degree for their revenue model, as well as organizations that base their entire revenue on the proprietary mode.

**Shete S. (2009)** in “Business Process Outsourcing (BPO) and India” put across that the research paper focuses on Business Process Outsourcing (BPO) since they play very important role in employment generation and economic development of the country today. There is lot of scope for the young generations for getting quick employment, handsome salary and host of other opportunities. This further helps for the improving economic development of the Indian population which helps in raising the standard of living.

**Siddharth Sinha (2009)** in his article “Corporate Governance of State Owned Enterprises: The case of BSNL” published in The Economic and Political Weekly, pointed out that the Government’s existing Navratna policy is not appropriate for state owned enterprises competing fiercely with the private sector. They have to
compete with the private sector on an equal footing. The key requirement is a competent board with adequate powers. The role of board is likely to be more crucial than even in the case of private companies. In the absence of corporate governance changes, the only alternatives will be privatization.

Subramanian S. and M. Vinothkumar (2009) “Hardiness Personality, Self-Esteem and Occupational Stress among IT Professionals” published in Journal of the “Indian Academy of Applied Psychology” said that the preoccupation with tight work schedules, offering time bound business solutions to varied and complex problems within deadline etc are a typical work life characteristic of IT professionals. Enhancing the strength of individuals’ internal resources such as hardiness and self-esteem are assumed to act as buffer while encountering any stressful events in occupational life. Present study was conducted to examine relation among hardiness personality, self-esteem and occupational stress index among IT professionals.

Dibyendu Choudhury and Dr. Sasmita Mishra (2010) in “Compensation-satisfaction correlation at workplace: A study on
BPOs at Orissa” published in International Journal of Business and Management Tomorrow stated that Indian BPOs have been in news for certain contradictory issues. While this industry is able to create more employment on the other hand is facing the problem of attrition. Although these issues have been addressed from different perspective, more and more researches are required to understand the employment trends and employee expectation and satisfaction, may be in the local level.

Herald Monis and T. N. Sreedhara (2010) in their article “Correlates Of Employee Satisfaction With Performance Appraisal System In Foreign MNC BPOS Operating In India” published in Mangalore University Journal, concluded that, the present system may be made simple and supportive of the employees” personality development and learning, it may provide a basis for factual feedback for the future development of the employees.

Kenneth L. Simons, Ashok Nag and Sumit K. Majumdar (2010) in “Bodyshopping versus Offshoring among Indian Software and Information Technology Firms” stated that the investigations of offshore outsourcing of information systems have presented little
evidence on developing country software and information technology (IT) industries. This study probes how Indian software and IT suppliers trade off work in India versus body shopping of employees. Worldwide clients view these practices as full offshoring versus on-shore temporary hiring from an Indian firm, but these practices are probed from suppliers’ perspective. Suppliers’ characteristics are theorized to affect their use of body shopping versus in-India work. A Reserve Bank of India survey of every Indian software and IT firm elicited suppliers’ use of body shopping to serve clients abroad.

Nora Palugod and Paul A. Palugod (2010) in “Global Trends In Offshoring And Outsourcing” researched that the rapid growth of off shoring and outsourcing has transformed the way businesses are managing their operations in this global world. This has brought considerable benefits as well as challenges and often political backlash. In this paper, we analyze the basic facts and trends surrounding the off shoring and outsourcing phenomenon. We attempt to understand the genesis and basic drivers behind off shoring and outsourcing.
Rajeswari K.S. and R. N. Anantharaman (2010) on “Role of Human-Computer Interaction Factors as Moderators of Occupational Stress and Work Exhaustion” found that IT professionals have long work hours with different time zones, total team work, task to be completed on deadline with perfection as per client needs, which requires interpersonal, technical, and organizational. These characteristics lead to occupational stress and work exhaustion.

Sudhashree V P, K. Rohit and K Srinivas (2010) in the Indian Journal of Occupational and Environmental Medicine on “Issues And Concerns Of Health Among Call Center Employees”, talks more about the Burnout Stress Syndrome (BOSS), which is the result of continuous noise pollution by way of sudden high frequency acoustic shocks and musculoskeletal disorders.

Devesh Kumar Srivastava, Durg Singh Chauhan and Raghuraj Singh (2011) in “Square Model- A Software Process Model for IVR software System” published in International Journal of Computer Applications this paper stated that the process is not a static entity. Improving the quality and reducing the cost of products
are fundamental goals of software engineering discipline. As the qualities are determined by the process to satisfy the objectives of quality improvement and cost reduction, the software process must be improved. Nowadays it has been widely accepted that the quality of software highly depends on the process that is carried out in an organization.

**Herald Monis and T. N. Sreedhara (2011)** in their article “Employee Satisfaction With Career Development Practices: A Comparative Study Of Indian And Foreign MncBpo Firms” published in Researchers World concluded that, the employee growth and development activities include continuing education courses, tuition reimbursement, career development skills training, opportunities for promotion and internal career advancement, coaching, mentoring, and leadership development programs.

**Khera S, J. Khandekar (2011)** in “Computer Related Health Problems Among Information Technology Professionals in Delhi” - A publication in Indian Journal of Community Medicine found more on visual stress and musculoskeletal symptoms, initially being mild and temporary and later with increasing years assuming more intense
and permanent nature. It also found that computer related morbidity had become an important occupational health problem and of great concern. It suggested an immediate need for the concerned authorities to collaborate and enforce suitable preventive measures.

_Muhammad Umer and Muhammad Akram Naseem (2011)_ in "Employees Retention (Human Capital) in Business Process Outsourcing (BPO) Industry" published in Global Journal of Management and Business Research investigated the impact of variables (career development, supervisor support, work environment, work life balance) on employee retention. A total of 50 interviews were taken from managers of different BPO organizations. Graphical Analysis is indicating that these variables have significant and positive impact on employee retention. Very less research have been done about employee retention in business process out sourcing, especially in Pakistan. So, these finding will provide some insights to BPO’s managers to make policies about employee retention.

_Muhammad Umer & Muhammad Akram Naseem (2011)_ in their paper "Employees Retention (Human Capital) in Business
Process Outsourcing (BPO) Industry aimed to investigate the impact of variables (career development, supervisor support, work environment, work life balance) on employee retention.

Nirmala S. and S. Deborah Sharon (2011) in their article “A Study On Conduct Of Teams In An It And A BPO Company” published in the “International Journal of Computer Trends and Technology” concluded that, the Information technology (IT), India has built up valuable brand equity in the global markets. In IT-enabled services (ITES), India has emerged as the most preferred destination for business process outsourcing (BPO), a key driver of growth for the software industry and the services sector. It has rapidly grown in India and it is obligatory to study about the dynamics of human resource management practices and systems.

Softserve (2011) in ‘Software Development Trends’ reported that in the 2010 survey, approximately two-thirds of all respondents identified themselves as being part of senior and executive management, with a quarter of all respondents identifying themselves as having strategic and fiduciary responsibilities. These are significant groups to weigh as we look further into survey data.
and analyze responses on business challenges and industry outlook. Another large group of respondents identified themselves as being involved in the technical aspects of software development—a little over 19% described themselves as part of technical management, engineering, and related consultative services. As with last year’s survey, 2011 respondents are professionals either predominately involved in strategic business decisions with regard to software development or directly implementing those decisions. To gain a more complete perspective of the survey results, it is also important to understand the types of organizations these business leaders and software professionals represent. As in the 2010 survey, the largest group of 2011 survey respondents identified themselves as Independent Software Vendors (ISVs), whose core business is software development. This group represents nearly 60% of all respondents.

**Verma Poonam (nd)** in her study “Personal Management System and their impact on performance of executive in selected public enterprises: Department of Economics, Delhi University, covered the personal systems and procedures established as the
corporate level affecting the executives above the level of supervisors.

It is clear from the above reviews that the analysis and overall study of problems and prospects of Information Technology (IT) Industry in Manipur has not been investigated so far in the past in the state of Manipur in particular and little work in India in general. Therefore, the current study will be useful in making the IT Industries more successful in future. With the above considerations in mind the research work titled “Problems and Prospects of Information Technology (IT) Industry in Manipur” has been taken up.

The present study attempts to fill up the lacunae in this area of research. Further, it is expected that the findings of the current study will be of immense help for the technopreneurs of IT industries, IT professionals, programme framers, policy planners and academics in particular and the masses in general.
SECTION B: DESIGN OF THE STUDY

2.2 Research Methodology:

For the present study, the investigator adopted the Descriptive Method. The descriptive method has been the most popular and widely used research method in solving problems of evaluation, organization and management, etc. It provides facts and information or phenomenon as it exists at present. From amongst the approaches of the descriptive method, the case study approach was adopted by the researcher. The case study is an intensive investigation of a social unit, which may be an individual or group of individuals, an individual, institution, etc. In this approach, the investigator attempted to study every IT industry scattering in Manipur in-depth. In the present study, the researcher tried to understand every IT industry from the perspective of functioning, potential areas of investments, manpower policies and practices and the problems and prospects of each IT industry involved in the present study.
2.3 OBJECTIVES OF THE STUDY

Research objectives set the purpose and focus of the research with the fundamental questions that will be addressed. The objectives of a research summarize what is to be achieved by the study. The objectives of the present study are:

1. To study the functioning of IT industries in Manipur
2. To identify the potentials areas of investment in IT Sectors
3. To analyze the manpower policies and practices of IT industries
4. To find out problems and prospects of IT Industries.
5. To suggest measures for improvement and development of IT industries in the State.
2.4 HYPOTHESIS OF THE STUDY

In the light of the theoretical background and objectives of the study, following hypotheses has been formulated:

1. The functioning of IT industries in Manipur is not satisfying.
2. The potential areas of investment of IT sectors in Manipur are not well-explored.
3. The Manpower policies and practices of IT industry in Manipur is not gratifying.
4. The Problems influences to Manipur IT Companies are not the major issue.

2.5 DELIMITATION OF THE STUDY

The present study has been delimited in sample size and also geographically limited within Imphal East and Imphal West Districts of Manipur. The present exploration shall only confine to the study of problems and prospects of IT industries only. Further, the analysis and interpretation of the data shall be governed by the tool adopted by the researcher for the survey.
2.6 STATEMENT OF THE PROBLEM

The present study has been entitled as "PROBLEMS AND PROSPECTS OF IT INDUSTRY IN MANIPUR". In the present study, attempt has been made to study the functioning, potentials areas of investment, manpower planning and employment generation, and problem and prospect of the IT industries in Imphal East and Imphal West Districts of Manipur. Further, attempt has also been made to explore the possible measures for improvement and development of IT industries in the state.

2.7 THESIS STRUCTURE

The present thesis has been classified into the five chapters and they are systematically arranged as follows:

**Chapter One** has discussed about the evolution of IT industry, its growth in India and present status as well as the IT infrastructure and development in North East India in general, and Manipur in particular. The Chapter has also discussed about the rationale of the study and analytically place for IT industry in Manipur.
Chapter Two has been divided into two sections. Section A categorically reviewed empirical studies conducted abroad and in India. Section B has discussed about the design of the study. The section also contains methods, population and sample and tools for the data collection; it has given the Objectives of the study for entire work taking four tentative scientific assumptions. The present chapter also presented about the delimitation made for the present study. Further, procedure of data collections is also presented along with the tools for data analysis.

Chapter Three has presented the case description of 10 (Ten) IT Industries in Manipur.

Chapter Four presents the empirical findings and discussion has been made thereof.

And Chapter Five makes recommendation for development of IT Industries in Manipur and also concludes the study with summarization.
2.8 Population and Sample:

As per a survey conducted for the purpose of the study, 10 (ten) IT industries were identified in Imphal East and Imphal West Districts of Manipur. These formed the population of the study. All the IT industry under the study area has been included for the study, and as such *Area Sampling Technique* was employed for the present study. The outlooks of the IT industries, sample studies out of the population are given below:

**TABLE 2.1 SAMPLE OF THE STUDY**

<table>
<thead>
<tr>
<th>Sl.</th>
<th>NAME OF THE IT INDUSTRY</th>
<th>PLACE</th>
<th>SAMPLE SIZE</th>
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<td>IMPHAL</td>
<td>HEAD/CEO</td>
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<td>1</td>
<td>AMUSERS</td>
<td>EAST</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>XTREME WAVE</td>
<td>WEST</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>COMPUTER GALLERY</td>
<td>WEST</td>
<td>1</td>
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<tr>
<td>4</td>
<td>KOKSAMLAI</td>
<td>WEST</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>MITRANG TECHNOLOGIES</td>
<td>EAST</td>
<td>1</td>
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<td>6</td>
<td>GLOBITZ</td>
<td>EAST</td>
<td>1</td>
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<tr>
<td>7</td>
<td>IWEBTECHNOLOGIES</td>
<td>WEST</td>
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<td>8</td>
<td>CUBE TEN</td>
<td>WEST</td>
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<td>9</td>
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<td>10</td>
<td>HADRONTech</td>
<td>WEST</td>
<td>1</td>
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</tbody>
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**TOTAL**  | 10 | 150

*Source: Field Survey Data*
2.9 Period of the study:

The study period covers one decade i.e commencing from 2002-03 to 2012-13

2.10 Types of Data:

For the collection of data both the primary source and secondary source data are used.

In the primary source of data collection Self-developed Structured Questionnaire, telephoning conversation, e-mailing and personnel interview are used for 150(one Hundred fifty) employees and 10 (ten) Chief Executives Officers/Head of the Industry for analysis of functioning, Manpower policies and practices, potentials areas investment opportunities, and problems faced addressing various components of IT industry.

In the secondary sources, data are collected for the Government publication (Department of Information and Technology, Government of Manipur, Directorate of Commerce and Industries, Government of Manipur, Ministry of Communications & Information Technology, Department of Electronics and Information
Technology, Government of India, Annual report of the concerned Department of Government of India, books related to the Information and Technology Industry, Journals, Periodicals, websites of esteem Information and Technology industry and web portals of Concerned Departments.

2.11 Tool for Data Collection:

A Self-developed Structured Questionnaire prepared by the researcher developed through intensive academic interaction with the Supervisor was adopted for the present study. The questionnaire consisted of functioning, manpower Policies and practices, potentials areas investment opportunities, and problems faced addressing various components of IT industry considering the objectives of the study. Validity and Reliability of the questionnaire was not established, as the present study is a quantitative analysis of the problem in hand.
2.12 Exclusion and Inclusion Criteria

Since all the units under the study area has been covered up in the present exploration, no exclusion or inclusion criteria were formulated.

2.13 Tools for Analysis and Interpretation of Data

Case-wise presentation of the 10 (Ten) IT industries has been presented in descriptive manner. In the later section, elementary statistical tools like mean, Standard Deviation percentage, chi-square test, and illustrative graphical methods like Radar graph, Bar Chart and Pie Chart have been adopted for the analysis and interpretation of the data by using SPSS and Excel.

In the next chapter, case-wise description of the IT industry has been exemplified.