

**HUMAN RESOURCE DEVELOPMENT CLIMATE AND
EMERGING CHALLENGES OF BSNL: A CASE STUDY IN
ASSAM**

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**HUMAN RESOURCE DEVELOPMENT CLIMATE AND EMERGING
CHALLENGES OF BSNL: A CASE STUDY IN ASSAM**

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Submitted

**In partial fulfillment of the requirement of the Degree of Doctor of Philosophy
in Commerce of Mizoram University, Aizawl.**



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CERTIFICATE

This is to certify that the thesis entitled “Human Resource Development Climate and Emerging Challenges of BSNL: A Case Study in Assam” submitted by **Mr. Fazlul Karim** for the award of degree of **Doctor of Philosophy** (Ph.D.) in **Commerce** of Mizoram University, Aizawl, embodies the record of original investigation carried out by him under my supervision. He has duly registered and the thesis presented is worth of being considered for the award of the Ph.D. degree. The work has not been submitted for any degree to any other University.

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I **FAZLUL KARIM**, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/ Institute.

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PREFACE

The telecommunications sector has been a pivotal driver of India's economic growth and social development, with Bharat Sanchar Nigam Limited (BSNL) playing a crucial role in this journey. As a public sector undertaking, BSNL's success is contingent upon its ability to harness the potential of its human resources, foster a conducive work environment, and adapt to the rapidly evolving technological landscape. In this context, the Human Resource Development (HRD) climate within BSNL assumes paramount importance, as it directly influences employee performance, job satisfaction, and organizational effectiveness.

This PhD thesis, "Human Resource Development Climate and Emerging Challenges of BSNL: A Case Study in Assam," embarks on an in-depth exploration of the HRD climate within BSNL's Assam Circle. The study seeks to investigate the prevailing HRD practices, identify the emerging challenges, and examine their impact on employee performance and organizational outcomes. By adopting a case study approach, this research aims to provide a nuanced understanding of the complex dynamics at play in BSNL's Assam operations, shedding light on the intricacies of HRD in a public sector context.

The significance of this study lies in the need for a comprehensive understanding of the HRD climate within BSNL, especially in a geographically diverse and culturally distinct region like Assam. As the telecommunications sector undergoes rapid transformations with the advent of new technologies and increased competition, BSNL's human resource policies must evolve to remain competitive and effective. The motivation for this study stems from the recognition that BSNL, like many other public sector undertakings, faces significant challenges in retaining talent, enhancing employee engagement, and fostering a culture of innovation and excellence. The rapidly changing telecommunications landscape, marked by technological advancements and increasing competition, has further underscored the need for BSNL to reorient its HRD strategies and practices. In this context, this study endeavors to contribute to the existing body of knowledge on HRD in public sector organizations, with specific reference to BSNL.

The thesis is organized into several chapters, each addressing a specific aspect of the research. The first chapter introduces the research problem, objectives, and methodology, while the subsequent chapters review the relevant literature, present the empirical findings, and discuss the implications of the study. The final chapter summarizes the key findings, highlights the contributions of the research, and outlines avenues for future investigation.

In conclusion, this PhD thesis is a culmination of extensive research, data collection, and analysis, offering a nuanced understanding of the HRD climate within BSNL's Assam Circle. I hope that the findings and recommendations presented herein will contribute to the ongoing discourse on HRD in public sector organizations, informing strategies that can enhance organizational effectiveness and employee well-being.

Fazlul Karim

Research Scholar

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LIST OF ABBREVIATIONS

3G	Third Generation Mobile Telephony
4G	Fourth Generation Mobile Telephony
5G	Fifth Generation Mobile Telephony
ACC	Account Card Calling
ATC	Assam Telecom Circle
BSNL	Bharat Sanchar Nigam Limited
BWC	Broadband Wireless Access
CAGR	Compound Annual Growth Rate
CDMA	Cord Division Multiple Access
C-DoT	Centre for Development of Telematics
CLI	Ceiling Line Identification
COAI	Cellular Operator Association of India
DoT	Department of Telecommunication
DTO	Department of Telecom Operators
DTS	Department of Telecom Service
FPH	Free Phone Service
FSP	Fixed Service Providers
FTTH	Fiber To The Home
GDP	Gross Domestic Product
GSM	Global System for Mobile Communication
HR	Human Resource
HRM	Human Resource Management
HRD	Human Resource Development
ICT	Information and Communication Technology
IDC	Internet data Centre
LPG	Liberalization Privatization and Globalization
MTNL	Mahanagar Telephone Nigam Limited
NTP	National Telecom Policy
OD	Organizational Development

OCTAPACE	openness, collaboration, trust, autonomy, proactivity, authenticity, confrontation, and experimentation.
PSUs	Public Sector Undertakings
R&D	Research and Development
SWOT	Strength Weakness Opportunity and Threat
SSAs	Secondary Switching Areas
TRAI	Telecom Regulatory Authority of India
UAN	Universal Access Number
UAS	Unified Access Service
VPN	Virtual Private Network
VRS	Voluntary Retirement Scheme
VSNL	Videsh Sanchar Nigam limited
Wi-Fi	Wireless Fidelity

CHAPTER 1

INTRODUCTION

1.1 Human Resource Management and Development

Human resource management (HRM) is one of the most important aspects of every organization. It is concerned with the sum total of human element employed within the organization. The success of any organization depends on how properly the human resources of that organization are managed and utilized. The proper and effective utilization of all other resources depend on the efficient manpower of that organization. Now-a-days, human factor has been viewed as the most important among all the factors of production. The knowledge, skills, abilities of the personnel is the main asset of any organization. Therefore, every organization wants to develop the human resource for effective and efficient utilization of all other resources. In India, the term 'human resource management' is a recent origin. Human resource management gets its importance during 1970s in the country. But the concept was very familiar in Europe and America since early years of 20th century. During the late 70s, because of new technological adoption and changes, human resource management becomes an important topic of discussion in the country (Nadler, 1970). The development of human resources is the development of skills, knowledge, education, competencies, etc. in human resources to make them competent to accomplish their respective task effectively and efficiently (Parkar, 2003). Human Resource Management (HRM) is quickly gaining prominence in today's world. HRM has become a key strategic instrument used by firms to create and maintain a competitive advantage in commercial and public sector undertakings. Business organizations have also begun to recognize that the only way to obtain a competitive edge is to manage human resources properly, yet it is crucial to note that all organizations, particularly those in the manufacturing industry, are currently facing numerous human resource (HR) issues like training and development.

The most significant HR difficulties for all the sectors are adhering to best practices and developing the best model for attracting and maintaining competent people who conduct the organization's mandate. Industries and business

organizations are constantly active in overcoming HR difficulties by adopting different human resource policies based on scientific approaches. Several academics have also stated that HR difficulties impact overall industry performance and growth (Kumar and Sushmita 2011, Agarwal and Ramani 1976).

Human resource management may be linked back to the 1970s in India when concerns for welfare gave way to better efficiency, and a shift in professional attitudes among human resource managers was visible. Human Resource Development (HRD) became a prominent concern in the 1980s as a result of modern technology or other environmental changes. The importance of the human resource dimension in the industry was recognized in 1990s. In India, the human resource function has progressed through various stages, such as industrial relations, employee welfare, personnel management, labor administration, and, lastly, human resource management, human interactions, and human resource development. Human resource management has progressed from a pure support and hygiene job to a strategic one.

The telecom industry and telecommunication services have been recognized as an important aspect of economic development of any nation. At present day, it is the most important services needed in almost every organization for its growth and development. India is the second largest telecommunication provider in the world, having 1150.15 million of telecom subscribers as of December, 2023 (TRAI Report,2023). In India, telecom services have been providing by both public and private industries. The main public telecom organizations are Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited (MTNL). The BSNL providing services in rural and urban areas all over the country except two cities Delhi and Mumbai. MTNL, the other public communication industry providing services in these two cities. On the other hand, the private telecom service providers in the country are BharatiAirtel, Idea. Reliance Jio, Vodafone, etc. The public sector telecom industry in India is experiencing huge competition from private sector telecom industries in the country. The public sector telecom industry has the advantage of huge infrastructure and quality human resources but it experiencing low

performance compared to its private sector counterparts and has been declining its revenue since last decade (Sharma and Mishra 2015).

The Indian telecom business has grown to a scale of Rs 4000 billion at more than 30% growth rate per year, creating job prospects for over 15 million people directly or indirectly. According to research, the industry's expansion will produce direct employment for 2.9 million persons or indirect employment for eight million. In recent years, there has been a significant shift towards latest technology in the telecom business due to modernization, computerization and advancement of technologies, resulting in huge investment in this sector to have an edge over other competitors in the telecommunication sector. The productivity of BSNL's expensive physical assets, including telephone exchanges, buildings, and machinery, for conducting its primary business of delivering communication services to consumers, corporations, and governments, is heavily dependent on efficient human resource management. Private Indian cellular operators and Landline service providers put pressure on BSNL. This has an impact to lower the price on call rates, data, and user retention and attainment, which is expected to worsen as private telecom service providers offering numerous new facilities and services to the subscribers. These significant changes necessitate a new and methodical perspective on human resource planning. Using the instance of BSNL, researchers attempted to analyze information of the company, some of the workable solutions to the growing problem of human resources.

As a business, BSNL contributes considerably to economic growth and is employee-focused to ensure staff growth and development. Human Resources are one of the most significant assets of any organization. It is natural for any organization like BSNL to consistently increase employee abilities, broaden their expertise and knowledge, and assist them to accomplish their objectives. While BSNL does business, it prioritizes the development of employee's knowledge and skills through frequent training sessions. Employees in Telecom sector is trained for technical advancement to tackle technological difficulties. Development of human resource skills through computer learning, instillation of managerial skills, and so on

in BSNL's training centers located around the nation. The following points can be highlighted about the BSNL and its human resource development:

- Bharat Sanchar Nigam Limited (BSNL) employs around 75217 highly skilled & experienced workers (as of 01.01.2023).
- BSNL think that our most valuable asset is our workforce, which is among the best-trained in the telecom industry.
- BSNL think that our future is dependent on our employees who deliver services to and communicate with our valued clients.
- To face technological difficulties, staff are taught at BSNL's training centers around the country for technical advancement in telecom transportation, enrichment of individual skills through computer education, installation of managerial skills, etc. These centers have the necessary infrastructure amenities, including lecture halls, libraries, modern audio-visual equipment, dormitories, etc.
- The best training facilities are the Advanced Level Telecom Training Center (ALTTC) in Ghaziabad and Jabalpur, which are comparable to any world-class Telecom Training Center. The APEX Training Center at ALTTC, Ghaziabad offers six zonal training facilities that cover the whole nation and focus on increasing its personnel's technical and management abilities and competencies. These training centers also participate in the State and Central Governments' SKILL development initiative (Skill India).

1.2 Human Resource Management

Human resource management is concerned and deal with the sum total of human element employed within the organization. The success of any form organization depends upon how properly the human resources of that organization are managed, nurtured and utilized. The proper and effective utilization of all other resources depend on the efficient manpower of that organization. The knowledge, skills, abilities of the personnel is the main asset of any organization. Therefore,

every organization wants to develop the human resources for effective and efficient utilization of all other resources.

Human Resource Management can be explained as the process of achieving the best result in between organizations, individuals and environment. It is the process to bring together the people and the organization so that the objectives of all the stakeholders are met. *According to Edwin B Flippo, "Human Resource Management is the planning, organizing, directing and controlling of procurement, development, compensation, integration, maintenance and separation of the human resources to the end that individual, organizational and societal objectives are accomplished".*

According to Megginson, "Human Resource Management can be thought of as the total knowledge, skills, creative abilities, talents, aptitudes and belief of the individuals involved in and concerned with an organization".

Human Resource (HR) is the most crucial resource, or no other resource can be completely exploited to produce revenue and riches a country unless this resource is actively involved (**Jucius, 1973**). It is worth noting that human resources are responsible for the utilization of natural or physical resources, as well as the transition of the traditional economy into modern & industrial economies. Human resources make up a considerable portion of national production, and there is significant potential to enhance national wealth via effective development of human capital. The human component adds value to physical resources and gives the required energy to the economy.

1.2.1 Significance of HR

A country may be endowed with an abundance of natural, physical resources. Capital and technology may be translated into the economy of scale if competent people can mobilize, organize, and utilize the resources (**Metha, 1976**). A well-educated and well-trained workforce, according to **Galbraith (1960)**, is not just an economic source but also a nation's greatest kind of capital. As a result, fast physical capital production is a prerequisite for economic growth. The importance of human resources as an organization's most important asset is highlighted since they are the organization's intangible & valuable resource (Pfeffer, 1994). "The overall

knowledge, skill, creative abilities, talents, or aptitudes of an organization's personnel, and the value, attitudes, and beliefs of individuals engaged" (**Megginsion, 1977**). HRM professionals or departments engage in several activities to implement their human resource strategies to fill their key responsibilities and achieve their objectives. The processes of implementing human resource management are separated into four functional divisions such as acquisition, development, maintenance and compensation.

In today's global competitive and tough business environment, the success of the Indian business industry will be heavily determined by how it manages its people that is human resources, and the individuals or personnel who make things happen. Traditional HR management approaches have changed dramatically. Responsible trade unionism, productive output working conditions, and forceful professional management are unavoidable to confront the problems of the next millennium & achieve organizational excellence. Changes in the market environment forced the Indian business sector to look inside for human resource development. If Indian firms are to build and preserve their competitive advantage, the potential worth of their personnel must be improved through upgrading and connecting their skills and abilities to the market's current requirements. Human resource management is a purpose that is mainly and primarily concerned and deal with people at work & their interactions within organizations. It is that resource in an organization that plans, allocates, & supplies all other resources.

With the arrival of new millennium, analysts believe that the internal human resources, plays a significant role in driving the twenty-first-century business organization. To deal with the ever changing external business environment, businesses must put themselves through an indicative test to determine the objectivity of current HR procedures. It is the high time for business houses to reflect, benchmark, and embrace global processes to become international firms in future. Human resource development practices eventually become multinational because they need to work in multinational companies and roam around the world. Human resource practices in businesses may be studied in-depth and compared to worldwide trends.

The help of human resources required even the most the most advanced technology. The success of any high-tech technology is determined by how successfully it can be used to achieve the desired objective. Many organizations throughout the world acknowledged this during the last two decades and have shown tremendous concern for their people's resources by spending heavily on their development and growth. Organizations that aim to function worldwide need to equip their staff suitably in this day and age of computerization. A well-mediated strategy implementation plan for employing information technology to make human resource functions internationally competitive may help a business thrive.

1.2.2 Objectives of Human Resource Management

- To make optimal utilization of the abilities and skills of the human resource efficiently.
- To help the organization so that it can achieve its goal.
- To provide well trained and motivated workforce to the organization.
- To increase the job satisfaction among employees of the organization.
- To develop and maintain the quality of work life among the employees in the organization.
- To develop the workforce so that the productivity and efficiency in the organization can be improved.
- To communicate the policies and procedures to the employees so that they can be well acquainted with the organization.
- To maintain cordial relationship and develop sense of belongingness among workforce in an organization.

1.3 Human Resource Development

Human Resource Development (HRD) is a discipline or subject having paramount importance both at national level and international level, and it is much more important and significant in a developing economy and a populous country like India. The development of human resource is crucial in India where over 60% of populations are youth. The demographic dividend presents a unique opportunity for India to harness the energy, skills, and creativity of its youth to drive economic

growth and development. By investing in education, skill development and training, India can equip its youth with relevant skills making them employable which can reduce the unemployment rate. This in turn, can lead to increased productivity, innovation and competitiveness, ultimately transforming India into a knowledge based economy and securing its position as a global leader. Organizations around the world are becoming aware about the prominence of human resource. No matter how the automated and technology oriented an organization become, it almost impossible to manage it without the human efforts are integrated and coordinated with them. The realization of this has propelled Human Resource Development (HRD) become one of the most challenging areas of study in recent years **(Mathews:2000)**. The business organizations around the world can procure best machines and technology but the main difference between high performance and low performance of an organization depends on the efficient human resource of that organization. The success of an organization to a large extent depends on the efficient employees or workforce of that organization.

The survival and growth of any business organization depends upon the efficient performance of its human resources. Therefore, for the long run interest, organization must invest in this asset. World famous Economist Alfred Marshall realized this long back when he stated that “The most valuable of all capital is that invested in human beings”. Now almost all the business organization spending huge capital for the recruitment, selection, placement, training and development of the human resources. **(Bhatia B S, Batra G S 1981)**.

The paradigm of Human Resource Management has undergone serious transformation during the last decades from competitive advantage to continuous technological development, innovation for competitive advantage. Now-a-days the employees unlike their predecessors, are having more demand and high aspiration and they want early development of their skills and competencies. Therefore, to be successful in this competitive environment, organization have to develop the human resources and adopt appropriate Human Resource Development strategies to achieve the objectives and have edge then its competitor. Human Resource Development is a process to develop the human element working in an organization by shaping their

existing knowledge, upgrading their skills, perceptions and attitudes so that they can face the changing trends of the globalized economy and can use these developments for achieving organizational goals and objectives **(Micheal: 1995)**.

The Human Resource Development (HRD) consist of two term, 'Human Resource' and 'Development' which can be explained separately. Human Resource are the people who brings various characteristics at work either organizational level or national level. According to **(Megginson:1982)**, human resources are knowledge, skills, talents, creative ideas, and attitudes obtained among the population and 'development' is the acquiring the capabilities which are needed to perform the present job or assignment and to perform the future expected job. An organization want to grow and be dynamic, the people of that organization must be dynamic and active. By selecting the proper human resources and providing quality training to them, an organization can make its employees dynamic. An organization cannot survive up to certain point unless it is continuously alert towards the change in the environment and make their employees changes for the challenges. Therefore, Human Resource Development (HRD) is an important aspects and process for growth and development of an organization **(Rao T V, Abraham E S J, 1985)**.

Hence, Human Resource Development (HRD) is systematic learning process aim to match the need and aspiration of the organization with the need of individuals for the development of their career and growth. It is the process through which organization can produce behavioral changes in human resources to enhance their skills and knowledge so that they can cope up with the today's competitive globalized business environment.

1.3.1 Definition of Human Resource Development (HRD)

Many writers and experts in this field now use the term "Human Resource Development" (HRD) to describe how a business, as part of an HRM strategy, invests in the development of its employees' skills and knowledge **(Bratton & Gold, 1999 et., al)**. It is HRD's concept that enterprises are human creations, and as such, they rely on human competence to accomplish their objectives, and HRD

practitioners are champions of individuals and groups, work processes, as well as the honesty of organizations (**Hassan, 2007**).

The term Human Resource Development (HRD) has been defined by expert from different fields like economists, industrialists, management experts, thinkers, social scientists and so on. Some of the important definitions of HRD are:

Table 1.1: Definition of Human Resource Development

SL NO	Author	Definition
1	Nadler (1970)	<i>“Human Resource Development (HRD) is a of organized activities conducted within a specified time and designed to produce behavioral changes”</i>
2	Mclagan (1983)	<i>“Training and Development is identifying, assessing, and trough planned learning helping develop the key competencies which enables individuals to perform current or future jobs”</i>
3	Kelly (2001)	<i>“Human Resource Development (HRD) is a theory, a framework for the expansion of human capital within a organization through the development of both the organization and the individual to achieve performance improvement”.</i>
4	M N Khan (1987)	<i>“Human Resource Development (HRD) is process of increasing knowledge, skills, capabilities and positive work attitudes and values of all people working at all levels in a business undertaking”.</i>
5	D Smith (1990)	<i>“Human Resource Development (HRD) is the process of determining the optimum method of developing and improving the human resource of an organization and the systematic improvement of the performance and productivity of employees through training, education and development and leadership for the mutual</i>

		<i>attainment of organizational and personal goals”.</i>
6	<i>C.Leon Magginson</i>	<i>“HRD may be defined as development of people by providing the right environment where each individual may grow to his fullest potentialities. Human resources are viewed as a total knowledge, skills, creative abilities, talents and aptitudes of an organization’s workforce as well as values, attitudes and beliefs of individuals involved”.</i>

Source: The researcher created this table to provide the definitions.

T.V. Rao (1990) has defined the term Human Resource Development (HRD) and his definition is widely known as national definition of HRD as far as organizational context is concern. He defined as, “HRD is a process in which the employees of an organization are continuously helped in a planned way to:

- (a) Acquire or sharpen capabilities required to perform various functions associated with their present or expected future goals.
- (b) Develop their general capabilities as individuals and discover and exploit their own inner potentials for their own organizational purposes.
- (c) Develop an organizational culture in which superior-subordinate relationship, teamwork and collaborations among sub units are strong and contribute to the professional wellbeing, motivation of employees”.

According to American Society of Training and Development (ASTD), HRD is the integrated and combined use of:

- Training and Development of the people.
- Development of the organization.
- Career development to develop and improve individual capabilities, group development and organizational effectiveness
(www.astd.org.com).

1.3.2 Principle of Human Resource Development

The HRD managers are responsible for the development and growth of employees in any organization. The managers must comply with the some of the principle while formulating the Human Resource Development structure in an organization. Some of the important and major principles of HRD has been given Bellow:

- **Principle of organizational capability development.** It means the development of the employees along with the overall and all-round development of the organization. Employees cannot develop in isolation without the development of the organizational structure.
- **Principle of maximization of employee potential.** The HRD manager and system must provide a scope to employees so that they can identify and bring out their hidden potential and talent through which they contribute to organizational objectives.
- **Maximization of autonomy of the employees.** The degree of freedom given to the employees is known as autonomy. The HRD manager must give maximum autonomy to the employees for accomplishing their works.
- **Principle of delegation of authority.** The top-level managers must give full autonomy to the subordinate employees so that they feel the responsibility of doing their job.
- **Participative Decision-Making:** It is one of the important principles of HRD in which all the employee's concern are given full weightage for the decision making. All the employees both top level managers and subordinates take part in the decision making so that the employees feel comfortable in doing their job.
- **Principle of management of Change.** Change is the only constant in almost all the organization and every filed. In business organization, the changes may be technological changes, environmental changes, legal changes and so on. But there is a human tendency to resist the change initially. To survive in a competitive market, changes may take place and the employees must adapt with the changing atmosphere in the organization.

1.3.3 HRD Philosophy

Every organization which recruits people or human resources to carry out its activities, whether it is a government organization, business entity, or hospitals or any other form of organization, there are human and their contribution and efforts are needed to integrate with other available resources for accomplishing the objectives. The process of development of these personnel comprises a series of parts and HRD Philosophy is perhaps the most important and fundamental part of HRD plan. The HRD philosophy constitutes those beliefs, principles, ideas and vision etc. which are possessed by the management of any organization in respect to the development and growth of its people (**Pareek and Rao, 1975**). A well-established HRD philosophy plays two significant roles. First, it may give rise to one what may call 'Style of Management' that is how management of the organization works in a particular situation depends upon the philosophy of the organization for HRD development adopted. Secondly, the HRD philosophy makes the organizational objectives more precise and explicit. There are certain beliefs and ideas that are commonly being practiced for the success of a HRD program, these can be highlighted bellow.

- Human Resources can be developed at any point of time of an individual's life to an unlimited extent.
- Manpower resources are considered as the most important and valuable asset of the organization.
- It is very necessary to develop and nurture a sense of belongingness among the employees so that they can feel motivated and committed to their work and the organization.
- When the management of an organization takes excessive care for the fulfillment of the basic need and welfare of the employees, employees become committed towards the organization.
- In an organization where the workers are given full autonomy to work independently without any interference from the management, employees are observed to be more committed and responsible and highly devoted towards their work, they become very keen to provide the best of their efforts.

- It is the duty of every human resource manager to bring out the hidden potential of the employees and to utilize the potential to the fullest extent possible.
- The environment and atmosphere of the organization should be congenial, motivating, healthy so that the employees feel comfortable in accomplishing their job.
- Higher the level of authority of a person in an organization, the more alert he or she should be while analyzing the HRD function in order to ensure the effectiveness of the HRD.
- The HRD Climate of any organization must be very cohesive.

1.3.4 Human Resource Development: A Brief History

The contemporary human resource development process evolved via several stages, which are listed below:

The Industrial Revolution

The industrial revolution was characterized primarily by the invention of machinery, the connection of power to machinery, and the formation of factory systems and huge production. It was distinguished by fast technical advancement and growing specialization. As an outcome, the employer's workplace relocated from his residence to a factory, and he lost connection with his staff. Jobs became regular and monotonous as mechanization and specialization increased. It became essential to select a separate person to deal with labor issues.

Labor, on the other hand, was regarded as a commodity that could be purchased and sold. Because of the then-prevailing laissez-faire political attitude, the government did nothing to safeguard employees.

Trade Unionism

Unionism's core tenet was that management would be forced to address workers' concerns as a result of a union's collective influence. This was achieved using a variety of tactics, including strikes, slowdowns, walkouts, picketing, boycotts, and sabotage. Collective bargaining, a grievance system, arbitration,

disciplinary regulations, and employee benefit programs arose as a result of trade union management.

Scientific Management

It represented a tremendous advancement in human resource management. **F.W. Taylor** created four scientific management ideas.

- a) Creation of real science.
- b) Friendly collaboration between management and employees.
- c) Scientific worker selection and training.
- d) Growth of each employee to his or her maximum capacity.

Employer-employee interactions were significantly impacted by the scientific management revolution. As a result, management & human engineering became more formally trained professions. Opponents of scientific management, on the other hand, argue that the focus in the industry has been on technology rather than people.

Industrial Psychology

Industrial psychologists stressed the need to match worker abilities to jobs. Hugo Munsterberg made significant contributions to the research of employment needs in terms of mental and emotional needs and the development of testing devices. Selection, placement, testing, & training have all progressed.

Human Relations Movement

Hawthorne's trials and additional work focused on the influence of worker attitudes & moods on productivity. The significance of informal industrial alliances was underlined. The human relations movement deemed an organization as a social system, whereas scientific management saw it as a technological-economic system. Inter-personal connections should be strengthened to maximize the potential of people and communities.

Behavioral Sciences

Behavioral science disciplines such as anthropology, sociology, and psychology have given the real material for human resource development. During the

behavioral science period, new motivational and leadership strategies such as work enrichment, worker involvement, two-way interaction, or management by goals were developed. Abraham Maslow, Fredrick Herzberg, **Douglas McGregor**, **Rensis Likert**, & others made substantial contributions to the evolution of the behavioral science management study sets.

1.3.5 Evolution of Human Resource Development (HRD)

Human Resource management is said to have started in England during early 1800s, that time training was started for apprenticeship and craftsman. It was further advanced and developed during the Industrial Revolution began in the late 1800s. Different scholars have studied this subject and tried to find out the origin of the term ‘human resource management, human resource system and human resource development’. The economist did not give much attention to the development of human resources as an important factor for economic development. According to **Haslinda, (2009)** the origin of Human Resource Development (HRD) was in America during the time of Industrial Revolution in 1800s. While some social scientist argued and put their opinion that the origin of Human Resource Development (HRD) traced back in 1913 when American Ford Motor Company initiated and started training their workers for maximizing the production.

The early years of this century witnessed a concern for higher efficiency through a careful and systematic design and method of work in the organization. Emphasis of high level of employee efficiency had been shifted to the availability of good and skilled managerial personnel and employee higher productivity during the middle of the 20th century. In recent decades the focus had been shifted for demand of technical personnel, in response to the new laws and regulatory framework of the government. The term Human Resource Development (HRD) recently growing at fast pace because of the emphasis of Total Quality management (TQM) and productivity. The formal introduction of the term ‘Human Resource Development’ (HRD) was coined by Leonard Nadlar, professor of Washinton University and the author of the book “The Handbook of Human Resource Development”. He first coined the term Human Resource Development (HRD) at a conference viz.

American Society of Training and Development Conference in 1969. Thereafter, **Nadlar** wrote several books on training and development.

There are several trends through which the concept and idea of Human Resource Development (HRD) has been emerging. Now we are going to examine those trends of personnel function which evolve one stage after another in a chronological sequence:

Table 1.2: Evolution of Human Resource Development (HRD)

Concept	Description
The Commodity Concept	Human resource was referred as 'commodity' to be taught and sold. Wages were decided on the basis of demand and supply forces. Government also did not care much about the work force at that time.
The Factor of Production Concept	Labor is treated as any other factor of production such money, material, land, etc.
The Goodwill Concept	Welfare measure like safety, first aid, launch room, rest room, etc. These measures proved to be a source of boosting up the morale of workers, and enhancing their performance.
The Paternalistic Concept	Management must assume a fatherly and protective attitude towards employers. Paternalism does not mean merely providing benefits but it signifies to satisfy various needs of employees just as parents meet the requirement of children.
The Humanitarian Concept	To improve the productivity, physical, social and psychological needs of workers must be fulfilled. Elton Mayo and some other along with him stated that money is less a factor in determining output, than group standards, group incentives and security. The organization is a social system that has both economic and social dimensions.
The Human resource	Employees are the most valuable assets of an organization.

Concept	There should be a conscious effort to realize organizational goals by satisfying needs and aspirations of employees.
The Emerging Concept	Employees should be accepted as a partner in the progress of a company. They should have a feeling that the organization is their own. To this end, managers must offer better quality of working life and provide opportunities to people to exploit their potential fully. There should be opportunities for self-fulfillment in one's work. The focus should be on Human Resource Development.

Source: Rao V.S.P (2005), Excel Books, New Delhi.

1.3.6 Human Resource Development (HRD) in Indian Perspective

According to Professor Udai Pareek, the term Human Resource Development (HRD) was introduced in State Bank of India for the first time in the year 1972. Many experts in this field believe that the term Human Resource Development (HRD) has not been imported in India but it is a concept developed by renowned Prof. Dr. Udai Pareek and T. V Rao at Indian Institute of management Ahmedabad (IIMA) when they started a Review Exercise of the performance appraisal system of Larson & Turbo (L&T) as consultant during 1970s. During late 1970, this professional outlook disseminated to a number of public sector undertakings such as SAIL, BHEL, Indian Airlines and also in the private organization like Maruti Udyog Ltd. Larson and Turbo (L&T) Ltd. and TISCO (**Rao V.S.P 2005**).

The Human Resource Development as a system has been reviewed from time to time and improvements and development made keeping intact the core philosophy of the HRD. The reports of Dr. T V Rao and Dr Udai Pareek have sown the seeds for this new discipline, profession and function of human resource management. This pioneering initiative of Dr Udai Pareek and Dr T V Rao played the lead role in establishing of Human Resource Department in the State Bank of India and its Associates and Bharat Earth Movers Limited in Bangaluru in 1976 and in 1978 respectively.

The first workshop on Human Resource Development HRD concepts and ideas was held at Indian Institute of Management Ahmedabad (IIMA) in 1979. Many copies of the book which later published by Oxford and IBH as “Designing and Managing Human Resource System” were distributed among the attendance in that workshop. This workshop has been the beginning and pioneering initiative of disseminating the HRD in India. In following years during 1980 a number of workshops and seminars was conducted to develop HRD in IIMA and in the Indian society for Applied Behavioral Science (ISABS). IIMA workshops conducted to focus in conceptual parts and ISABS workshops focused on experiment. As the HRD started growing, Larsen and Turbo group initiated a HRD Chair Professor at Xevier Institute of Labor Relation in Jamshedpur. Dr T V Rao has been appointed the Larsen and Turbo Chair Professor and moved to XLRI to setup a HRD Centre in 1983.

In 1985, a national seminar was organized in Mumbai jointly by the XLRI and Larsen and Turbo. The Indian National Human Resource Development network was conceived in that seminar. The first HRD newsletter had been started after the seminar by the Centre for HRD at XLRI and it was sponsored by Larson & Turbo. From then onwards the National HRD network of India started shaping and become a large body about 20 chapters in a span of next five-year period. The National HRD network has been nurtured by the XLRI and IIMA on the one hand and on the other hand by the Indian corporate sector. The National HRD network gave birth to the Academy of Human resource Development. It is one of the landmark developments about the HRD in India.

T V Rao conducted a survey in 1982 regarding HRD practices in Indian industries. The survey gave a certain and positive result in the use of open performance appraisal system, improving the efficiency of training function, taking up overall organizational development and employee counselling. But no report found regarding using potential appraisal and development, reward and promotion. 17 out of 53 companies had formal policy on HRD.

The Government of India realized the importance of the Human Resource Development (HRD) and established a separate ministry in the name of Human Resource Development Ministry in 1986. In 1985-90, during 7th Five Year Plan, Mr.

Rajiv Gandhi the then Prime Minister of India very rightly emphasized the importance of human development and said that development is not just factories, roads. The real development is basically the people.

1.3.7 The Purpose of HRD

Human resource development aims to raise productivity and effectiveness at both the individual and organizational levels (Tabibi, 2011). A rising number of organizations consider human resource development essential to enhancing efficiency, fostering better working relationships, and generating bottom-line revenue (Vasantham, 2015;30). There are several advantages to be gained by the firm in question through appropriate HRD. Benefits include, but are not limited to, the following: It is the job of HRD (Human Resource Development) to assist people to develop their abilities. Developing new skills, knowledge, and attitudes is the goal of HRD.

When employees of an organization participate in an excellent HRD program, they become more involved in their jobs. Employees may be assessed focused on their performance in a superior performance evaluation system.

- Human resource development may assist in the creation of a respectful and trusting atmosphere.
- With the help of HRD, change acceptability may be encouraged. Employees recognized that they were better suited to problem-solving. Furthermore, the organization has defined goals for human resource development. Human resource development activities are unquestionably necessary for all executives. Human resource development results in enhanced efficiency, benefits, market response via organization access, and an engaged workforce.

The following are the important aims of human resource development **(Allameh & colleagues, 2012):**

1. Access to organizational expertise.
2. Enhancing efficiency and quality.
3. Encouragement of individual growth and development.
4. Bringing individuals into the business.

5. It should be emphasized that goals must be aligned with the organization's goals as well as purposes.

1.3.8 Objectives of Human Resource Development (HRD)

Human Resource Development (HRD) is basically a process and system of developing the employee's working ability in an organization by enhancing the knowledge and skills through training, education and proper guidance. The ultimate objectives of HRD are to achieve the organizational goals without compromising the goals of the workers working in the organization. It can be sum up that the main objectives of HRD of any organization whether business or government organization is to prepare a competitive workforce to adjust with the complexities due to changes in the technological, economic and social environment. Therefore, the main focus is to make the HRD climate sound and planned way to develop employees **(Rao, 1992)**. Some of the main objectives of HRD in an organization can be discussed as under:

- To maximize the capabilities of each employee for achieving individual and organizational goals.
- To develop the abilities of the employees for the present and future jobs.
- To provide a comprehensive opportunity and framework for the development of employees to the fullest extent possible of their potentials.
- To develop a true sense of belongingness and cohesiveness among employees working in an organization so that they can give their best at the work place.
- To develop team spirit, collaboration with other team and team work in the organization.
- To develop a better work environment which leads to higher productivity and profits for the organization.
- To generate a systematic flow of information among departments and employees in an organization.
- To ensure quality of work for grater productivity and higher profits.
- To develop the organizational culture maximizing organizational effectiveness **(Megginson, 1993)**

1.3.9 Scope of HRD

Human resource development is comprised of the acquisition, development of human element, and utilization of human resources in a systematic manner. HRD focuses on the development of human resources to achieve individual, group, and organizational objectives through the efficient use of these resources. Consequently, the scope of HRM is enlarged, and HRD is now an intrinsic part of HRM. HRD contributes to successful human resource management. Consequently, the scope of HRM is enlarged, and HRD is now an intrinsic part of HRM. HRD contributes to successful human resource management. The scope of HRD encompasses all HRM functions. The HRD scope covers.

HRD Functions:

a) Improve productivity:

The improvement of an organization's overall productivity can be significantly attributed to the HRD department's efforts. It does this by giving staff a wing of techniques, which ultimately contributes to the personnel's overall growth and development. This is a methodical and well-planned approach that focuses on preserving the right kind of work culture, one in which employees are acquainted their responsibilities effectively and, as a result, the organization achieves higher levels of productivity.

b) Facilitate employee growth:

This strategy focuses on the overall growth of the human resources that are assigned to the many functions that exist within an organization. HRD is responsible for planning and implementing a variety of programs that aim to improve the employees' knowledge, skills, and capacities. They receive instruction and direction from subject matter experts to prepare them to take advantage of possibilities that will become available in the near future.

c) Organization Development

The process includes reflection, systems improvement, planning, and self-analysis. To improve the organization's ability to adapt to new circumstances. In the context of an organization, organizational development is the means and activities an organization utilizes to connect its people to its goals. Everything a person does in an organization (i.e., a group of people and resources that come together to form an entity) is part of the process of institutionalizing good change or moving an organization forward. As a long-term strategy, OD (Rothwell & Sullivan 2005; 19-20) emphasizes employee participation in assessing the current state and a positive future state, making free and collaborative decisions about how an application should proceed, and encouraging the system to assume responsibility for the achievement and evaluation of results. When it comes to Organizational Development (OD), this means that it is a process of transforming the present situation of an organization into a better fit for the changing external environment as well as the working environment by addressing current issues as well as reducing the gap between the organization's various departments and its employees, thereby increasing the Organization's effectiveness. Why is OD so important? Macro adjustments are aimed at improving the overall efficacy of the organization, whereas micro changes are aimed at improving the performance of individuals, small groups, or teams. For example, several firms have implemented employee participation initiatives that demand fundamental changes in job standards, incentive systems, or reporting procedures to increase organizational effectiveness (Werner & Desimone, 2012;11).

d) Career Development

Individual & organizational performance may be improved via career development, which involves various activities. Individuals and groups gain from career development, extensively studied in the academic literature (Banks & Nafukho 2008). Individuals grow through CD's "many phases, each with its own set of problems, themes, and duties," according to its definition. Career management and career planning are the first two phases of professional growth. Individuals, with the help of a counselor and others, take CP steps to assess their strengths & skills to create a true career plan. To attain that aim or to focus on what a firm can do to assist

employee career development, CM includes taking the appropriate measures. T&D and professional advancement are intricately linked. A company's training plan might help employees reach some of their career goals (Werner & Desimone, 2012). Career management, on the other hand, refers to services that satisfy the needs of businesses (e.g., performance evaluations, management succession & replacement planning) whereas career planning refers to services that fulfill the needs of people (Bernes, 2000; 11). Career development includes both personal and group components (Agba & colleagues 2010). In addition, companies employ career development as a systematic method to guarantee that they have the right people on hand when they need them. It is not necessary to choose between a personal career and the demands of a company. To meet the needs of both employees and employers, organizations should provide career assistance (Mondy & Martocchio, 2016).

As a result, (CD) is a technique that tries to improve both human resources and company performance. There are further CD approaches, like: (promotion, transfer, demotion, or exit). Individual career planning was implemented. There are strategies to build employee satisfaction & motivation by understanding their live job in successive steps beginning with the initial road to success until the age of retirement by self-assessment (knowledge, skills, and ability), and it is an ongoing process (workshops, teaching). At the organizational level, on the other hand, career management is used, which deems what the employees' current needs are & what the organization's future needs are, or then takes the essential stages to achieve that career plan via employee evaluations, job rotation, succession management, development, learning, and consultation.

To summarize, why is CD important? It improves individual & organizational performance. It boosts productivity, which helps the firm meet its objectives. As a result, CD:

- Assist workers in finding choices and possibilities and clarify the performance objectives that are expected of them.
- Assists employees in developing their skills and talents, as well as bridging the gap between their abilities & job needs.

- Identify competent persons for leadership, professional, and management positions.
- Encourages employees to spread a sense of enjoyment and fulfillment.
- There will be no issues with the organizational structure, functions, and system promotion.

e) Acquire the right talent:

It is a powerful tool that assists organizations in recognizing and recruiting qualified candidates for open positions. Before assigning people to different positions, they are given the appropriate testing and evaluations to ensure that they are qualified for those jobs. Human resource members receive training and direction in order for them with the necessary skills to carry out their responsibilities in an effective manner.

f) Motivate members:

The performance appraisal process is one way that HRD helps to inspire employees towards toward the poles. The contributions that employees make to the overall productivity of the company are taken into consideration when determining appreciation and compensation for such contributions. They receive a variety of financial and non-financial incentives, which serve to motivate them to execute effectively and efficiently. Employees, with an eye on receiving a prize for outperforming other members, labor with full spirit in anticipation of receiving the incentive.

g) Training and development

The distinction between training and growth is unexplained. Development, as defined by Noe and others, is a future-oriented concept. Education that is not directly relevant to an employee's present position is considered development. The conventional focus of training, on the other hand, has always been on helping workers do better in the positions they already have **(Noe & others, 2011)**. According to Yahaya and others, training is a process of education that a company uses to help individuals acquire the information, skills, and attitudes they need to succeed in their employment. An employee's overall development might be

considered a learning process that is not tied to his current employment (**Yahaya and others, 2009**). In this case, they see a combination of forward-looking development and education preparing workers for present roles. The process through which people learn the skills they need to do their occupations (MATHIS & JACKSON, 2011). Employees should be prepared to take on more responsibility while also enhancing their existing job performance (Werner & Desimone, 2012).

Several authors, on the other hand, integrated training with development. Training and development, as described, are meant to enhance worker productivity via a learning procedure that involves information acquisition, skill improvement, ideas, rules, or altering attitudes and actions in an organizational setting. Furthermore, it focuses on modifying or enhancing people's knowledge, abilities, and attitudes (**Werner & Desimone, 2012**). T&D is a conscious attempt by a business to assist its employees in learning job-related activities, according to (**Pynes, 2009**). Learning and practicing new skills. Researchers concur with all of the preceding writers, but they feel that the convergence of elements is crucial because humans can survive without any of them. Training is vital for dealing with current challenges, but development is necessary to improve our standing and prevent future problems generated by future changes. Without a doubt, the contents are separate (as stated in table 2), However, they are complementary to one another, or the outcome is geared toward fulfilling the organization's goals. Thus, training and development (T&D) is a process that strives to develop and improve human resources through continuous learning to equip them with the skills essential to do their jobs successfully. Continuous learning and development aimed at enhancing the current and future responsibilities of human resources.

Table 1.3: Differentiation Between Training & Development

Dimensions	Training	Development
Requirements	It all depends on the absence of available talents.	Depends on personal ambition.
Influence	On the current	In the Future performance

	performance.	
Focus	Focus on current job tasks	Willingness to embrace the new duties' expectations.
level	Dedicated to all administrative staff members.	Dedicated to all managerial levels.
Goal	Transfer of necessary skills to the current trainees.	Development of general skills for trainees.
Time	Short term: to focus on specific deficiencies	Long-term: to improve employee skills and provide a diversity of jobs to manage variances.

The majority of authors believe that learning & development are complementary and stress their relevance by preparing present human resources or giving them skills, and talents, or evolving too eager to the prospect of those resources to confront difficulties & changes. The training procedure is the cornerstone of doing development. Employee training and development, according to **(Nzozzo & Ongori)**, enhances workplace performance, inspires teams, boosts employee morale, and leads to job satisfaction. The most common methods for evaluating training programs are the reduction of workplace accidents or the decrease in waste production (Ongori & Nzozzo, 2011). Training & development are essential because:

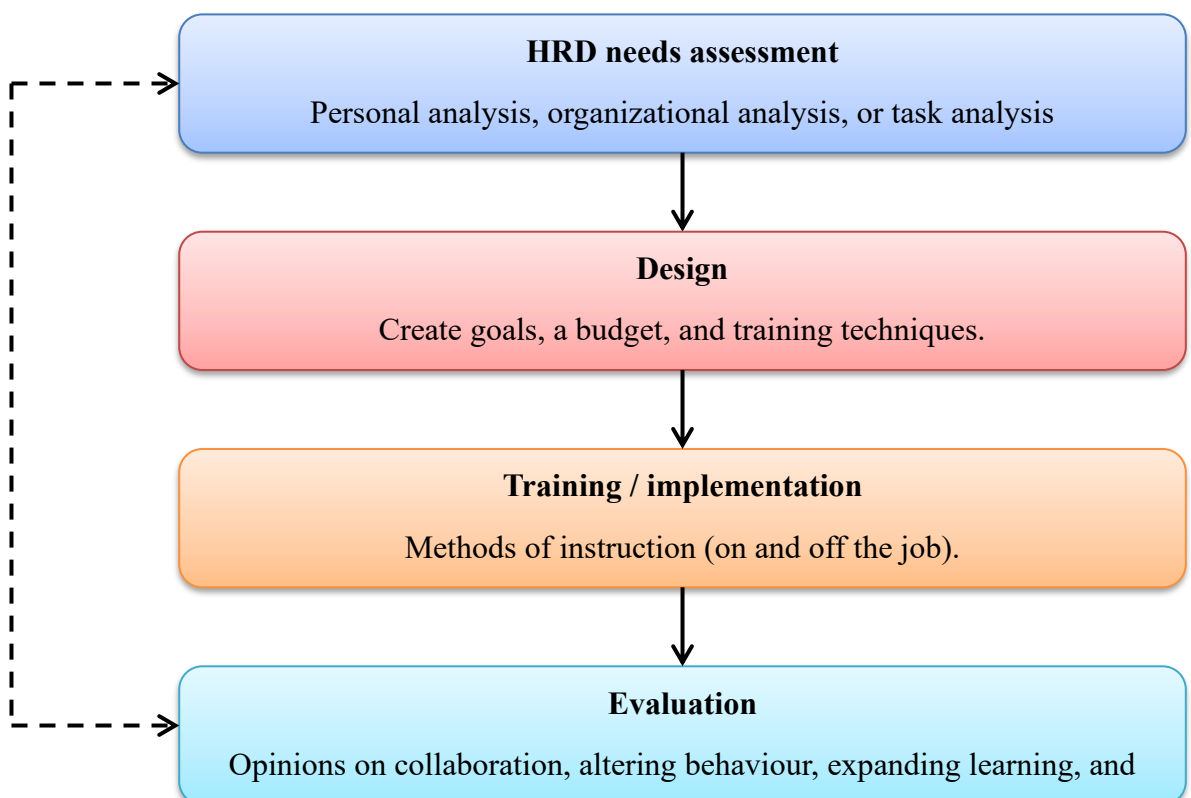
- Help in correcting staff flaws.
- Increased worker productivity.
- Reliability in job performance.
- Ensuring employee satisfaction.
- Enhanced productivity.
- Enhanced service and product value

- Enhancements to service & product quality
- Diminishing supervision.

As a result, a low staff turnover rate can be achieved by providing employees with more freedom and helping them resolve problems and improve their skills and abilities, as well as increasing operational efficiency by ensuring that employees are happy in their jobs and increasing their motivation.

1.3.10 Human Resource Development Process

What precisely is the HRD Process Model? Although it is agreed (Gibb, 2006; Swanson & Holton, 2001; Hill & Stewart, 2000; Werner & Desimone, 2012) that the HRD process contains several processes, some writers characterize it as four or five steps, while others describe it as three. So, after reading these, writers may infer that the HRD procedure contains four essential phases for enhancing performance:



Sources: https://www.researchgate.net/publication/327546162_Human_Resource_Development

a) Step 1: The HRD Needs Assessment

Every job, whether challenging or easy, requires appropriate qualifications for the job. As a result, if a person lacks the required qualifications to do a career or meet up any adjustments, it becomes difficult. So, HRD requires evaluation to determine what the problem is and who has to develop it. HRD needs assessment may be described as evaluating the gap between present employee skills and what is required to perform.

Employees must ask questions at this stage to determine who needs training & development and what important requirements exist. Based on this information, it is vital to analyze many ways to identify critical needs: Determine organization performance gaps that can be filled by training, and develop the skills needed to function in the workplace. The TPS's integrity is demonstrated by its link to key performing objectives and by accurately answering one and more of the following points:

- (1) Did the work process perform better?
- (2) Did the individuals (group) perform better?
- (3) Did the organization perform better?

Holton / Swanson (2001; 214). Three analyses are needed to solve these problems.

- **Organizational Analysis**

Organizational results & future organizational needs can be used to identify training needs. Identifying the skills and abilities that are needed now and in the future is an important part of training planning. The organizational analysis must consider the impact of both internal and external factors on training. Before these issues become critical, they should be addressed, for example, by current employee technological obsolescence or a lack of skilled labor pool from which to recruit new employees (Jackson & Mathis, 2011).

- **Task Evaluation**

A study of trade to determine the needed abilities (Dessler, 2013; 249). Performance faults need an understanding of the activity, work environment, or individual. HR professionals analyze how tasks are completed to perform task analyses. Equipment and environment, time limitations (including deadlines), safety concerns, or performance demands (Noe & others, 2011).

- **Person Analysis**

Person analysis can assist in identifying workers who require training, regardless of whether their present or predicted performance suggests a need for training. Employee preparedness for training may also be determined via person analysis. Readiness for training relates to whether personnel possess the human traits (abilities, attitude, beliefs, & motivation) required to learn and apply program material on the job, & the work environment supports education while not interfering with production. This method entails assessing a person's attributes, output, input, outcomes, and feedback (Noe, 2010).

b) Step 2: Design

The HRD program and intervention are designed in the second step of the training & HRD process. If the intervention includes a development and training program, the following actions are often completed during this phase:

- Choosing the program's precise objectives.
- Creating a program-appropriate lesson plan.
- Creating or collecting the necessary materials.
- Choosing who will give the program.
- Selecting the correct approach or ways of conducting the program.
- Organizing the program.

The selection and development of program material are part of the design process. A lot of the time, this involves deciding on the best location for the program

(for instance, in a classroom or online), the methodologies used to facilitate education (for instance, lecture, conversation, role-playing, or simulation), as well as the materials to be used to deliver the program (e.g., worksheets, job services, web-based and web-enhanced equipment and materials such as Microsoft PowerPoint slides) to use (Kumar & others, 2013). As a result, we need to set goals, create a budget, or decide on training techniques at this point (On & off the job).

c) Step 3: Training / Implementation

An effective HRD program or intervention is the result of a thorough assessment & design process. There must be a focus on the most effective ways of delivering or conducting the program or intervention. For any HRD program to be successful, there are several obstacles to overcome, such as ensuring that the program is conducted as planned, creating an ecosystem conducive to learning, and dealing with any difficulties that may emerge (disagreements amongst participants, missing equipment, etc.). Werner as well as Desimone (2012) There are two methods of training, according to certain writers. TÜZÜN (2005) defines training approaches as follows.

- **Off - The Job Training Methods:** A exercise program that takes place outside of the workplace is known as off-the-job training. Off-the-job training, on the other hand, is usually designed to address the collective learning needs of a company's employees, rather than catering to the needs of a single individual. Lectures, computer-based education, games, and simulations are all instances of off-the-job training. To get an overall comprehension of a subject and to affect one's attitude about a subject through education, lectures are the greatest method. The term "Computer-Based Training" encompasses a wide range of educational approaches that make use of computers. To better prepare trainees for their jobs, games & simulations are used to replicate or simulate processes, events, and scenarios that may arise.
- **On - The Job Training Methods:** The goal of on-the-job training is to teach employees job-related information and abilities. The skills and knowledge needed for a profession are intricately linked. On-the-job training methods

involve things like job teaching, work rotation, mentoring, and apprenticeship. Getting Things Done. Students are required to follow a step-by-step process to study systematically. Routing employees from one position to another and from one project to another to implement various human resources strategies is known as "job rotation". When it comes to education and training, coaching is the most effective way. Apprenticeship is a more traditional educational model that emphasizes long-term learning via direct experience.

d) Step 4: Evaluation

Finally, HRD evaluation refers to the result. Is HRD successful or not (partnership opinions)? Do people profit or not from the HRD procedure (expanding learning, altering behaviors)? And do they meet their objectives? In this case (Kumpikaite & Sakalas, 2011) Explain evaluation, and Phillips (1996) states that they may perform a range of tasks inside the firm. The following tasks can benefit from the evaluation:

- Determines whether an HRD program is meeting its goals.
- Determine its strengths & flaws.
- Calculating the cost-benefit ratio.
- Determine who should be involved in future HRD initiatives.
- Determine which members benefitted or leased the most from the plan.
- Reiterate important topics to the applicants.
- Collect data to use in the marketing of future initiatives.
- Establish whether or not the program was suitable.
- Create a database to help management make decisions. (1.20)

1.3.11 Importance Human Resource Development (HRD)

In the world of LPG (Liberalization, Privatization, Globalization), no organization can survive without increasing the capabilities of its people. The business scenario has been changing by the passage of time and hence the organization has to change its employees with the changes of environment (**Rose**

and Kumar, 2006). The changes in technology, economic policy, organization need multi-tasking employees which raise the need of human resource development. To survive in such competitive environment, the organization need skillful employees for the proper utilization of technology and other available resources. Rapid changes in government policies, changes in the trend of industrial structure, the industrial relation raises the need of human resource development in every sphere of an organization. The HRD must be viewed as total system interrelated and interacting with other organizational system (**Shrivastav, 1987**). HRD has been considered as the fundamental and most important approach for the higher profitability, higher productivity and supportive industrial relation in the organization. The employees find a means to accomplish their self-actualization, can modify their behavior, and most importantly can find a way to learn which is needed to do their assign job.

1.4 Human Resource Development (HRD) Climate

Organization become dynamic and growth oriented only if the people of that organization are dynamic and proactive. All the organization need to create an atmosphere in the organization for employee development to make the employees dynamic and proactive. It requires proper selection of people and after selection, nurturing them for their development as per the need of the job assigned to them so that they can accomplish their job effectively and efficiently. An organization cannot survive all the time unless it continuously remains alert for the changing environment. HRD is an integral part of growth and development of an organization. HRD climate is a component of organizational climate. It may be characterized as an employee's impressions of an organization's developing environment. The following qualities will characterize this developmental environment (Rao & Abraham, 1986):

The amount to which these inclinations exist in organizations varies. Some organizations may exhibit some of these traits, while others may exhibit only a few or all of them. Based on these patterns, an organization's profile may be developed. HRD environment adds to the general health and self-renewal capacities of organizations, which in turn increases the enabling abilities of people, dyads, teams, and whole organizations.

1.4.1 Definition of Human Resource Development (HRD) Climate

The HRD climate can be created by employing suitable HRD processes and senior management's leadership styles. HRD environment serves both as a means to an end and as an end in itself. In the recent past, several HRD climate measurement equipment's has been produced. These instruments are frequently used to periodically analyze the climate, maintain profiles, and create interventions to further enhance it.

The term "climate" refers to the quality of an organization's internal environment, which influences the quality of cooperation, the growth of individuals, the degree of members' dedication or commitment to organizational purpose, and the effectiveness with which organizational purpose is translated into results. Climate is the environment in which people assist, evaluate, reward, restrict, and educate one another. It affects the individual's perspective on his work and environment, as well as his morale.

Human Resource Development (HRD) Climate is an integral part of organizational climate. It is defined as the perception of employees towards the HR development environment and process of an organization. The HR Development climate of any organization has the following characteristic or tendency (Rao T V and Abraham E S J, 1986).

- The organization must have a tendency at all levels from top management to lower-level management to treat the employees as the most important asset.
- The management of any organization must have a perception that the development of competencies among employees is job of every supervisor or manager.
- The management must have a faith in the capability of employees to change and acquire new knowledge at any stage of life.
- The management of the organization produce a tendency of open communication and discussion with the employees rather than being secretive.

- The management should encourage its employees to take risk and experiment new things.
- Management makes efforts so that the employees recognize their strength and weakness.
- The organization must create a general climate of trust.
- The employees must be helpful to each other and must be collaborative to each other.
- The organization must have team spirit among the employees.
- There must be very supportive personnel policies in the organization.
- All the HRD Instruments like training, performance appraisal, reward, potential appraisal, career planning must be supportive and not based on any favoritism.

Organizations may differ in the extent to which they have these tendencies. Some of the organization may have all the tendencies while many organizations have a few tendencies. The organization having these tendencies may have a good HRD Climate in which the employees may get ample opportunities to grow and contribute to the organization's development.

1.4.2 Some of the important features of HRD Climate

- **Individual initiative:** The degree of freedom, responsibility, independence an individual has in an organization.
- **Direction:** The degree to which the enterprise creates objectives and performance expectations.
- **Risk tolerance:** The degree to which an organization member are encouraged to be innovative, creative and risk taking.
- **Integration:** It is one of the most important characteristics of HRD climate. It is the degree to which all the department working unitedly and coordinately in an organization.
- **Management support:** The degree to which the top management of an organization provide support to the employees and provide clear communication and assistance.

- **Control:** The various rules and regulations and the amount of direct supervision used to oversee and control employee behavior.
- **Identity:** The degree to which organizational members identify with the organization as a whole rather than their individual identity or identity for a particular role or work.
- **Reward system:** The reward and promotion or incentives are awarded for the performance not favoritism.
- **Conflict tolerance:** The degree to which the employees are encouraged to resolve conflict and criticism.
- **Communication Patterns:** The degree of organizational communication flow by maintaining the hierarchy and authority.

1.4.3 Positive HRD Climate deals with

- Encourages innovation and creativity
- Foster team work and collaboration.
- Provides opportunities for growth and development.
- Encourage open communication
- Recognizes and rewards employee contribution.
- Empowers employees.
- Provides feedback and coaching.
- Encourages participation and involvement.

1.4.4 Need for HRD Climate in an Organization

Top to Bottom effort

An organization become a complete organization when it includes top level authority to bottom level employees or workers. When the development of all the stakeholders starting higher authority to lower-level workers are taking place, we can say the real development of the organization. The higher authority should not think individually that their only task is to take decision and communicated with the lower-level workers. They should emphasize on how the work can be implemented

properly by adopting various techniques. The lower-level employees should be very loyal toward the organizational achievement.

Manager and Supervisor role as motivator

To prepare a good human resource development climate, the role of supervisor and manager is inevitable. They are the key players in a good HRD climate. Manager and supervisor need to help the lower-level employees to develop their competencies. The higher authority must share their expertise with the lower-level employees to make them updated and skillful.

Faith in Employees

In a develop HRD climate, the employer should have faith on its employee's abilities and capacities. Whatever the amount has invested, it should be based on the development of the employees. The organization's top authority should feel that without worker, the organization cannot run at the same time the lower-level worker should feel that if the organization do not run well, we cannot survive in the organization.

Free Expression of feelings

The employees of any organization must express their feelings freely. The top management should express their feelings to the lower-level employees and whatever the employees think about the top management, they should express their views. In other words we can say that there should not be anything hidden within the organization. The communication should be open and free. Free and open communication helps to build a HRD climate in the organization.

Feedback

The management should take the feedback regularly to know the loopholes in the system. This will boost the confidence among the employees in the organization. There will be a sense of trust and confidence among the employees towards top management. Regular feedback helps to remove the weakness and drawbacks in the system as well as among the employees.

Helpful Nature of employees

The nature of the employees both top level management and lower-level workers should be helpful towards each other. There should be a tendency to help each other in time of need. All the stakeholders of an organization should be very helpful with each other.

Supportive Personnel Management

Personnel policies of the organization should be supportive and motivate the employees to give their best to contribute more from their part. Top management philosophy should be clear towards the human resource of the organization and its well-being to encourage the employees.

Encouraging and risk-taking experimentation

The top-level management should encourage the employees by giving the authority and responsibility to take decision. Initially this initiative may cause little bit problem but in course of time employees learn and it bring expertise in them. The level of confidence will be increased which helps in future for organizational development. Once the employees are confident to take decision, the organization can assign risky task to them without much hesitation.

1.4.5 HRD Climate in Indian Organizations

An organization's human resource development culture is crucial for ensuring employee competency, motivation, and growth. By adopting effective human resource development methods and leadership styles, upper management can foster an environment conducive to human resource growth. The environment for the development of human resources is both a means to an end and an end in itself.

The ability and motivation of an organization's members impact its success more than virtually any other element. While this has always been the case, recent developments have focused emphasis on how human resource development initiatives may be leveraged to guarantee that organizations have the resources they need to meet the issues they face (Desimone, Werner, and Harris 2002).

Multiple scholars have investigated the HRD atmosphere and its connections within Indian businesses. Historically, HRD climate research projects aimed to identify the HRD climate components or dimensions of an organization. OCTAPAC culture, integrity, participation, training and development, fair compensation, corporate philosophy, superior-subordinate relationships, and respect for the individual have been identified as significant factors influencing the HRD climate in numerous business organizations, including hospitals, educational institutions, and financial institutions (Alphonsa, 2000; Rodrigues, 2005;). In addition, substantial research is being conducted to identify the degree of the growth-friendly environment in different sorts of enterprises. Later, the relationship between HRD climate and numerous attitudes and behaviors was emphasized (cf. Ahuja, 2002; Jain et al. 1997; Kumar and Patnaik, 2002; Purang, 2008)

The HRD climate is characterized by tendencies such as treating employees as the most valuable resource, believing that developing employees is every manager's responsibility, believing in the capability of employees, communicating openly, encouraging risk-taking and experimentation, assisting employees in identifying their strengths and weaknesses, creating a general climate of trust, collaboration, and autonomy, and implementing supportive personnel policies and HR practices. To facilitate HRD activities, a conducive environment for growth is required. The first step is for senior leadership to embrace these ideals. When a significant number of people accept these ideals, an HRD-friendly environment emerges. This favorable HRD environment improves the effectiveness of existing systems and makes businesses more amenable to adopting suitable new systems (Athreya 1988). A thriving HRD culture improves an organization's internal environment by enhancing employee involvement, participation, and job satisfaction.

1.5 Elements/Dimensions of HRD Climate

Human Resource Development Climate (HRDC) has 3 main dimensions or elements. These elements are:

1.5.1 General Climate: The General Climate of HRD of an organization deals with the importance given to human resources development in general by the top-level

management and the line managers. It is the attitude and behavior of supervisors towards employee development. The general climate deals with what the bosses of top management are doing regarding the employee development rather than saying. It focuses the actual support needed by the employee for their development.

- **Top Management Style and Philosophy:** The top management believing in employee's capabilities and giving them responsibilities and authorities, openly communicate with them and taking suggestion from the subordinate, participative management approaches are some of the important dimensions that directly helps to the creation of a better and positive Human Resource Development Climate in the organization. (Dyer and Shafer, 1998)
- **Personal Policies:** The personal policies of an organization with tan aim to optimum allocation of resources for the development and welfare activities. Collaborative attitude among the employees, personal policies that give equality in appraisal of the employees helps in creating a better HRD climate. Therefore, every organization should formulate the personnel policies that shows more concern for the employees.
- **Positive attitude towards development:** The top management must provide a helpful and supportive attitude towards the development of the human resources of the organization and a cordial relationship with them plays an important role in generating a HRD Climate.
- **Commitment of Line Manager:** The line manager's attitude of any organization with supportive behavior with the subordinates can be helpful for creating a develop HRD climate. The line managers must devote their time for the development of the employees' capabilities.
- **General climate or Top management support includes**
 - Commitment of top management
 - Involvement of top management.
 - Empowerment
 - Communication
 - Resource allocation
 - Recognition and rewards

- Strategic integration
- Transformational leadership.

1.5.2 HRD Mechanism/ Sub-System:

The items dealing with HRD such as performance appraisal, potential appraisal, career planning, employee welfare promotion, transfer, feedback counselling, organizational development, rewards, quality circle, assignment group, motivation, leadership, etc. are the sub-system of HRD and the success of an organization depends on the successful implementation of these subsystem. These sub-systems are known as HRD Mechanism. Human Resource Development (HRD) is framework and system in an organization for improving and developing the human element in an organization. The management of the organization implement certain systems or sub systems through which the functions of HRD are accomplished. The main purpose of implementing such sub-system is to gain competitive advantage with help of a competent human resource. All the sub-system of HRD mainly focus on teaching the necessary skills and provide knowledge which help them to accomplish their assigned job. The HRD sub system also enhance the technical and communicative skills which helps the employee's efficiency and productivity (Sheikh: 2009). There are numerous instruments which can be used to implement the HRD as a system and each instrument may be called as sub-system. Each of these instrument or sub-system focuses on some particular aspects of HRD. These instruments sometime used simultaneously to accomplish the task effectively and efficiently. Any formal or systematic way of facilitating motivation, competency, and development can be called as HRD instrument or sub-system (Pattanayak, B. 2005). The most commonly used instruments/ mechanisms/ sub-systems in an organization are:

- a) Performance Appraisal
- b) Potential Appraisal
- c) Career Planning
- d) Training and development
- e) Organizational Development
- f) Role Analysis

- g) Employee Welfare and Quality of work Life.
- h) Self-Renewal and Institution Building.
- i) Rewards
- j) Quality Circles, Task forces and Assignment groups

(a) Performance Appraisal

Performance Appraisal is an important and indispensable instrument of HRD to analyze and process the performance of the employees which can give the management a clear idea about the employees where they actually stand, what is the expectation from them and what they are actually contributing for the organization. The main aim of developing performance appraisal sub-system is to get the actual position about the past, present or future performance of the employees. To attain this, the target is set which is desired and wanted to attain by the organization. Performance Appraisal is one of the most important instruments of HRD through which the performance of the employees are assessed periodically in view of the difficulties faced by the employees and the identification of their development needs. (Tripathi: 1997).

(b) Potential Appraisal

The Potential Appraisal refers to the abilities and skills of an employee. The main purpose of potential appraisal is to identify the potential of a particular employee to promote him in a higher position in the hierarchy to take higher responsibility. Potential Appraisal provides the important information of an individual which would be beneficial for the organization in framing the career path of that employee. At present day business, organizations are diversified and their operation demands dynamic abilities from the part of the employees in the organization. As the diversified organization demands challenging needs, the organization requires employees which are much competent to face the competition in now-a-days dynamic business world. Therefore, every organization needs to have a potential appraisal of the existing employees so that they can perform diversified task (Rao: 2005)

(c) Career Planning

Planning bridges the gap between present and future. Career Planning is one of the most important instruments of HRD for the growth and development of employees. The first step in Career Planning is SWOT analysis of an employee, an analysis of strength, weakness, opportunity and threat possess by an employee working in an organization. The career of an employee must be planned based on one's training, education and experience. Employees must discover their career keeping in mind the individual needs and capabilities. They employee should aware of the potential they possess and plan their career accordingly.

(d) Training and development

The distinction between training and growth is unexplained. Development, as defined by Noe and others, is a future-oriented concept. Education that is not directly relevant to an employee's present position is considered development. The conventional focus of training, on the other hand, has always been on helping workers do better in the positions they already have (Noe & others, 2011; 259). According to Yahaya and others, training is a process of education that a company uses to help individuals acquire the information, skills, and attitudes they need to succeed in their employment. The training and development instrument of HRD includes:

- Assessing the training needs of the employee
- Setting up the performance goal of the employees.
- The development strategy must be planned according to the need of the employee.
- Developing the strategies for training and prepare the training module.
- Arrangement of the training venue and aids.
- Evaluation of the training accomplished.

(e) Organizational Development

Organizational Development is planned systematic and ongoing process to improve an organization's overall performances, effectiveness and alignment with its vision and mission. It is the change of the organization so that it can be well acquainted

with new technologies, challenges and markets. Since the organization is an open system, it must develop according to the changing environment.

(f) Role Analysis

Role Analysis is a systematic process to examine and understand the responsibilities, expectations, requirement of a specific job or position within an organization. Role is a set of pre-determined behavior patterns assigned to a person occupying a position in an organization. Role Analysis is a process or technique through which contribution of the human resource maximized to attain the organizational objectives. It emphasizes on the demand made by the role holder, what they need and want to learn and what they are capable of performing. The objectives of Role Analysis are

- Clarify job responsibilities and expectations.
- Identify key performance indicators (KPIs)
- Determine necessary skill and competencies
- Establish clear roles and boundaries.
- Improve communication and collaboration
- Enhance job satisfaction and engagement
- Support talent management and development.

(g) Employee Welfare and Quality of work Life.

Employee Welfare refers to the overall well-being and satisfaction of employees in the work place. Quality of Work life (QWL) encompasses the aspects that impact on employee's job satisfaction health and overall quality of life. Welfare measure of the employees should be first priority among the top-level managers in the organization. As the human element are considered the most important and greatest asset, their welfare must be given priority in any organization. Key components of QWL and employee welfare are:

- Physical work environment
- Economic and financial security
- Personal and Professional Growth
- Work life Balance

- Health and Wellness
- Safety and security
- Recognition and rewards

(h) Self-Renewal and Institution Building

Self- Renewal refers to the process of continuously updating, revitalizing and transforming oneself to stay relevant, effective and adaptable in a rapidly changing competitive business environment. Whereas institution building refers to the process of creating, strengthening and sustaining organizations, system and structures that support the wellbeing and development of individuals communities and society.

(i) Rewards

Rewards are the incentives or motivators that organization offer to employees, teams or departments to recognize and encourage desired behavior, performance and achievements. It is the appreciation towards the employees for their performance in the organization. There are various types of rewards like monetary rewards and non-monetary rewards. Monetary rewards include salary increase, bonuses, profit sharing, stock option, etc. And the non-monetary rewards include recognition award, promotions, professional development opportunities, etc.

(j) Quality Circles, Task forces and Assignment groups

Quality Circle refers to a small group of individuals of an organization from the same work area who set and meet regularly to identify, analyze and solve quality related problems in a organization. The main purpose of this type of circle is to enhance the quality of the product or services. Task Force is temporary group formed in an organization to tackle a specific, complex problem or project. It generally addresses critical issues. Assignment Group is a small group of employees assigned to a work on a specific project or task.

1.5.3 OCTAPACE Culture:

OCTAPACE is the acronym for ‘Openness, Collaboration, Trust, Authenticity, Proactivity, Autonomy, Confrontation and Experimentation’. It refers to degree of openness, collaboration, trust, authenticity, proactivity, autonomy, confrontation and

experimentation in the organization. The elements in OCTAPACE culture examine the organization whether it is in favor of creativity and innovation or not. A punishment oriented and autocratic environment do not encourage critical thinking, innovation and creativity. The development of employee only possible in a congenial work environment where freedom of expression and experimentation is possible. Without OCTAPACE culture in an organization, the employee growth and development become stable. OCTAPACE element of HRD deals with an environment of trust so that employee can take decision and show proactive attitude towards innovation and creativity and all the disputes are settled with positive interaction in the organization (Mohanty et.al., 2012)

- a) **Openness** is the environment where employees feel free to express their feelings, views, ideas and opinion with one another irrespective of their status and designation in the organization. Employees are encouraged to express their thinking and views their opinion is taken seriously.
- b) **Collaboration** is that culture of an organizational climate where people help each other. All the employees working like a team and everyone in the team are ready to help each other and also ready to sacrifice one's personal interest to achieve the organizational goals.
- c) **Trust** deals with the environment or climate where people believe one another and act just getting instruction without having a written order. This is a culture of trustworthiness among the individuals working in an organization.
- d) **Authenticity** is speaking the truth without any fear or hesitation and one should keep the promise he or she made. it is the higher order of trust. It is expected that no one make any false promises within the organization and what to say must mean it. All the people speak from their heart and not make any promise to please anyone. Everyone gives his fullest capacity possible to keep the promise he made.
- e) **Proactivity** is a culture where everyone has been encouraged to take initiative and try to make things happen. Anyone in the organization can explore his experience in accomplishing a particular task. New activities and

new way of doing a piece of work is encouraged within the organization. It is a culture where employees are being encouraged to take initiative for new activities.

- f) **Autonomy** is the discretion one employee have irrespective of his level or position in the organization. The discretion in any form like decision making, method of doing a work. In simple term, all employees in the organization have autonomy to accomplish his assigned job by utilizing any method which he thinks fit well. The employee should feel that he has freedom to choose what he wants for the job assigned to him.
- g) **Confrontation** is a face-to-face interaction where individuals or group of people address and resolve conflicts, disagreements or issues. It may be interpersonal confrontation or group confrontation. All the issues are being addressed in the organization in direct, honest and respectful way without hurting anyone.
- h) **Experimentation** is systematic process of testing one's ideas to solve a problem. It is the effort provided by the employees to try out new ways of doing things and experiment with new decision. The management do not interfere is such a situation when an employee using his experience in doing a particular work. It is a culture where everyone can initiate and experiment his own way of doing a job.

All the systems, techniques and structure that an organization uses to help the employees to strengthen their capabilities are being viewed as HRD mechanisms. These mechanisms can be used to facilitate favorable HRD climate within an organization. The Human Resource Development function has been initiated by most of the organization and many of them are yet make their presence felt. It also reveals that no organization has introduce all the HRD mechanism or sub-system at a time to get the best outcome.

Different authors have focused on different issues on HRD mechanism and there are some authors whose main focus is on potential appraisal, job enrichment and job enlargement. These three groups have taken with the following assumptions:

- a) If HRD is to be applied effectively, it requires a broad supporting environment. A helpful environment includes not just top management and line management dedication, but also strong personnel policies and constructive attitudes toward growth.
- b) Successful HRD implementation necessitates an integrated approach to HRD & efforts to employ as many HRD mechanisms as feasible. Performance evaluation, prospective appraisal, performance awards, career planning, feedback & training, counseling, employee welfare for good work-life, job rotation, and so on are examples of these methods.
- c) The OCTAPAC culture is crucial to HRD promotion. Employees are open when they feel free to share their thoughts, behaviors, & feelings with their coworkers. Confrontation is the procedure of bringing issues & concerns to the surface to address them rather than hiding them for fear of causing or being caused damage. Taking individuals at their word and trusting what they say is all trust is about. Employees are encouraged to take the initiative & risks when given autonomy. Authenticity refers to people's propensity to do what they say. Collaboration entails accepting interdependence, being helpful to one another, and working as a team.

1.5.4 Functions of HR Manager in Effective HRD Climate

- The HR manager must develop a Human Resource Philosophy for the total organization and the top management of that organization committed constantly.
- The HR manager must keep inspiring the line manager to have continuous desire to grow and develop.
- The HR manager continuously plan and design new methods for employee development in the organization.
- The managers constantly monitor the implementation of various HRD mechanisms which lead to employee development.
- Managers know the goal and objectives of the organization and hence direct all the HRD efforts to achieve these objectives.

- The manger should influence the personnel policies of the organization by providing valuable inputs to the personal department.

1.5.5 Competencies Required for HRD Manager

- He or She must possess positive thinking and positive attitudes towards the people.
- He must have a high ambition to learn new things.
- Strategic thinking with quality managerial and leadership skill.
- Good communication and interpersonal skill.
- Training need assessment ability.
- Talent development and change management.
- Conflict resolution.

1.5.6 Future Perspective of Human Resource Development

In the new era of globalization there is no national boundary in respect of business, commerce and industry. To survive in this stiff competition, an organization require effective and dynamic workforce who can take initiative and bring innovative ideas for the organization which give an edge over other competitor in the market. It is the responsibility of every HRD manager to think strategically and have farsighted vision in implementing HRD strategies which can exploit the present and future opportunities to beat the competitors. Forecasting the future in a perfect way is the sign of good leader and hence the HRD manager must widen his horizons of innovations and creativity to find out the better prospects for employee growth and development. Following are the some of the perspectives every managers must deal with:

- Technological advancement.
- Customers from new and diverse area.
- Changes in the source of financial resource and raw materials.
- Corporate restructuring.
- Industrial structure modification.
- Government changes the business regulatory framework regarding corporate governance.

- Downsizing of enterprises.
- Mergers and acquisition.
- New corporate strategies.
- Exploration of new markets.
- Diversification of existing product and services.

1.6 Research Methodology

1.6.1 Introduction

The telecommunications industry has long been seen as being crucial to a country's economic growth. Both governmental and private sectors have offered telecom services in India. Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited are the two primary public telecom companies (MTNL) offering telecommunication services in the country. The present study attempts to assess the HRD Climate and policies prevailing in BSNL Assam Telecom Circle. It also describes the study's conceptual framework and research methods. The research methods and related terms like concept of research, research technique, as well as the objectives and hypotheses of the study has been discussed. The study briefly includes categories of data, sampling, research area, number of participants, and data-gathering methods and methodologies. The research design and conceptual design, which introduces the essential concepts of research, are also significant aspects of the study.

1.6.2 Operational Terms

The operational term is a comprehensive description of the technical phrases and measures employed during data gathering. This is done to standardize data. Whenever data is acquired, it is essential to outline the collection process precisely. An operational definition enables researchers to specify what they intend when using a certain phrase. Typically, operational definitions are quantifiable and tangible. Defining variables in this manner enables others to determine the validity of the research. The “operational terms” of the study are defined below:

a) Human Resource Development

“Human resource development” is the procedure by which a business raises the value of its business by raising the value of its personnel. Organizations may assist employees in improving in a number of ways, including professional development, career training, opportunities for progress, and legal required knowledge. The “human resources department” (HRD) of an organization is in charge of a wide range of employment-related responsibilities.

b) Bharat Sanchar Nigam Limited (BSNL)

“Bharat Sanchar Nigam Limited” is an Indian central government-owned enterprise with headquarters in “New Delhi”. It is administered by the “Department of Telecommunications, Ministry of Communications” of the Indian government. It was formally formed by the “Government of India” on October 1, 2000. The “Bharat Sanchar Nigam Limited” is a telecommunications company wholly owned by the Indian government with headquarters in New Delhi.

c) Human Resource Development Climate

“Human Resource Development Climate” refers to how workers perceive the climate or environment for the growth of human resources inside an organization. Interventions in human resource development have as their main objective to provide activities and other mechanisms that help individuals and organizations achieve their goals. The “top management's care and value” for “workers, a friendly workplace environment, camaraderie, openness and freedom for experimentation, trust, team spirit, attention on employees' welfare, etc.” were all considered indicators of the HRD climate.

d) Assam Telecom Circle

The “Assam Telecom Circle” was established on January 20th, 1987. All “BSNL Telecom Services” in the whole “state of Assam” are under the general supervision of the “Chief General Manager, Assam Telecom Circle”. The Circle Head Quarter can be found at Panbazar, Guwahati. It is under the control of “Government of India's Ministry of Communications”, “Department of Telecommunications”. The Government of India officially incorporated it on

October 1, 2000. One of the most vital forms of communication available to people today is telecom.

1.6.3 Significance of the study

It is the day of Information and Technology (IT) and the whole world become more competitive in every field. The success of any organization depends on the quality of services provided to the people. All the other factors of any organization depend on the human capital it employed. The quality manpower resource of any organization determines the degree of its success. One of the tough job for any organization is to develop its human resources to survive in the competition with competent workforce. The competent workforce can be created within the organization by adopting sound human resource development climate (Kessels ,2009). Hence HRD has its own significance in every organization irrespective of its size and manpower. The Government of India recognized the human resources as important capital and created a separate ministry as Ministry of Human Resource Development (MHRD) in September 26, 1985

The real strength of any country or any organization is its human resources. The eminent philosopher of China Kuang Chung Trun (Deb, 2010) said that “if you wish to plan a year, sow seeds. If you wish to plan for 10 years, plan trees; if you plan for a life time, develop men”. From the quotation, it can be realized the importance of human development. A sound human resource development climate is very important for the success of any organization. Sound HRD climate of any organization helps its employees to develop with greater opportunities and can explore their potentials which lead to job satisfaction of employees.

The study assists to the human resource development climate in BSNL and the challenges that employees encounter. Human resource development has been found to have a significant and obvious impact on the productivity of workers. Therefore, a company's HRD environment has an impact on the standard of employment and employee performance. BSNL has struggled financially over the last few decades despite having a sizable prospective staff and infrastructure. A public corporation like BSNL's human resources are impacted by a variety of circumstances, including

management issues, legal issues, and political issues. The process through which an organization ascertains the training and development needs of its workforce and assists its employees in satisfying those needs is known as human resource development, or HRD. The success of an organization is based on how successfully it serves its customers. All other aspects of a company are dependent on its human capital. The success of a company is contingent on the caliber of its employees. The greatest difficulty for every corporation is to cultivate its employees in order to remain competitive in business. By fostering a favorable environment for human resource development, an organization may develop a skilled workforce.

The present study is of great significance as it ascertains the HRD Climate of BSNL, Assam Telecom Circle. BSNL is one of the largest public sector undertakings in India. The assessment of the HRD climate and human development policies will be of immense help to the organization in particular and the government in general so that the government can formulate sound HRD policies. The study with a large sample size of 705 respondents provides scope to find out the views of different categories of employees how they differ on the issue relating to HRD Climate in the organization. The present study will help to provide scope for implementing changes in the policies relating to Human Resource Development Climate in the organization. The study will also help the future research in the communication sector in the country.

1.6.4 Conceptual Framework for Research Variables under study

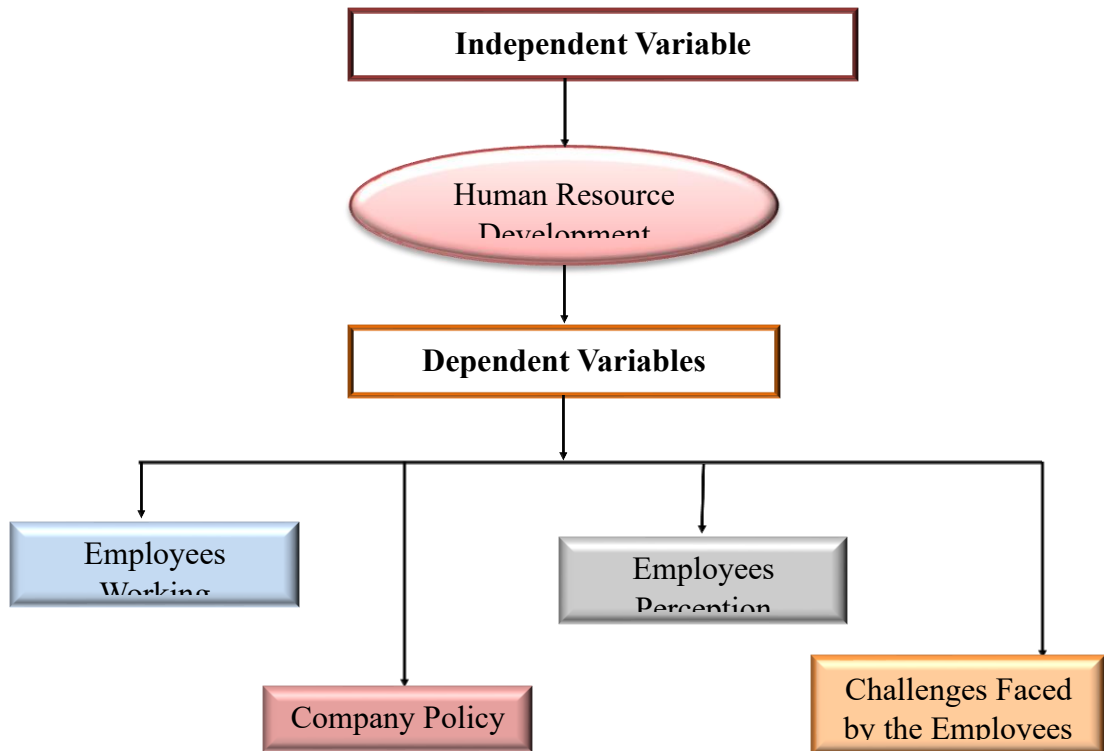


Figure 1.2: Conceptual Framework

1.6.5 Variables of the study

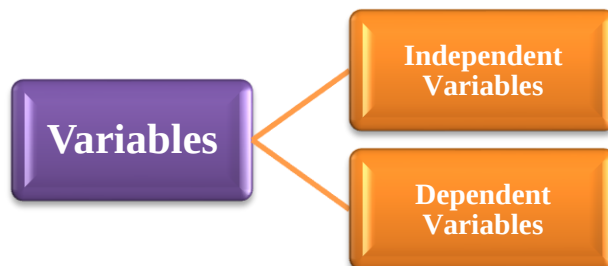


Figure 1.3: Types of Variables

a) Independent variables

In innovative research, the independent parameter would be changed or altered to investigate its consequences. Because it is unaffected by the other research variables, it is known as an “independent variable.” These expressions are frequently used in statistical data to assess how well an independent variable change may predict or characterize variance in the dependent variables. An independent variable in experimental research is a variable that is manipulated or adjusted to investigate its effects. It is called “independent” because it is unaffected by any other study variables. The “independent variables” in the study are “Human Resource Development Climate”.

b) Dependent variables

The dependent variable is the one that is assessed during operation and changes as a result of it. The dependent parameter reacts to the independence component. It becomes dependent when it is reliant on the “independent variable. A “dependent variable” changes in response to a change in an “independent variable”. In statistics, dependent variables are often referred to as response variables. The Dependent variable in this study is Top Management support, HRD Mechanism, OCTAPACE Culture, company’s HR policy and challenges faced by the employees in the organization.

1.6.6 Objective of the study

The main objective of the study is to examine the “Human Resource Development Climate and the challenges faced by BSNL employees based on an empirical survey. The study also attempts to find out the HR policies of BSNL. The specific objectives of the study are:

- a) To study the demographic profile of the employees working in BSNL Assam Telecom Circle.
- b) To analyze the different dimensions of Human Resource Development (HRD) climate in BSNL, Assam Telecom Circle.

- c) To assess the employee's perception on existing Human Resource Development (HRD) climate of BSNL, Assam Telecom Circle.
- d) To identify the recent challenges faced by the employees of BSNL working in Assam Telecom Circle.
- e) To examine and analyze the policies and procedures of human resource development in BSNL, Assam Telecom Circle.

1.6.7 Hypothesis of the study

H1: There is a significant contribution of 'General Climate' in the overall HRD climate of the BSNL.

H2: There is a significant contribution of the OCTAPAC culture in the overall HRD climate of the BSNL.

H3: There is a significant contribution of 'HRD Mechanism' in the overall HRD climate of the BSNL.

H4: There is no significant difference in the perception of employees regarding HRD Climate with respect to their demographic profile (Gender, Age, Education, Experience, and Income).

H5: There is no significant difference in the perception of employees regarding HRD climate in the select units of the study (Dibrugarh SSA, Kamrup SSA and Silchar SSA).

H6: There is no significant difference of recent challenges face by the employees in the select units of the study (Dibrugarh SSA, Kamrup SSA and Silchar SSA).

1.6.8 Research Design and Methodology

Research Design

This research is exploratory in nature and the primary data was collected from the employees of BSNL working in Assam Telecom Circle. The data collected through a well-developed questionnaire based on Likert's Scale. The HRD Climate and HR policies of the organization are analyzed. The design of the study exclusively

depends on the primary data collected from the employees of three different SSAs in Assam, Telecom Circle.

Study Area

The study was conducted in Assam Telecom Circle of BSNL. There are three telecom circle of BSNL in Northeast of India. These are “Assam Telecom Circle, Northeast I and Northeast II”. Assam telecom circle has seven “Secondary Switching Areas” (SSAs) (Bongaigaon, Dibrugarh, Jorhat, Kamrup, Nagaon, Silchar and Tezpur), “Northeast I Telecom Circle” has three SSAs (Meghalaya, Mizoram, and Tripura) and the “Northeast II Circle” has three SSAs (Nagaland, Manipur, and Arunachal Pradesh). Assam Telecom Circle is the largest circle in Northeast India in terms of “Secondary Switching Areas” (SSAs) and employees. Therefore, Assam Telecom Circle was selected as the study area.

Targeted Population

The “target population” is the group from which the intervention may get studied and conclusions drawn. When performing cost-effectiveness research, the characteristics of the target population and any subgroups should be specified in detail. The target population refers to the whole group of individuals from which a sample may be drawn. The sample is made up of the individuals who take part in the study. Participating individuals are referred to as “participants”. The targeted population of the study consists of all the employees working in Dibrugarh, Kamrup (Guwahati) and Silchar SSA of BSNL in Assam Telecom Circle.

Table 1.4: Name of the SSAs and number of employees working in Assam Telecom Circle (BSNL)

Name of the SSA	Number of employees								Total
	Executive				Non Executive				
	Group A		Group B		Group C		Group D		
	Male	Female	Male	Female	Male	Female	Male	Female	
Dibrugarh	17	8	53	17	173	61	57	29	415
Jorhat	8	5	51	6	131	26	69	18	314
Kamrup (Guwahati City)	26	3	121	14	302	114	210	72	862
Nagaon	7	6	59	6	147	51	71	23	370
Bongaigaon	7	1	39	9	97	43	61	26	283
Tezpur	8	4	67	11	150	41	53	33	367
Silchar	8	4	55	17	171	71	56	15	397

Source: collected from office record of BSNL, Assam

Sample of the study

The “sample size” of the study is 705 from the 3 selected SSAs (215 from Dibrugarh, 280 from Kamrup and 210 from Silchar). The sample size from three different SSAs (Secondary Switching Areas) has been selected based on Krejcie and Morgan (1970) sample size table. The sample distribution is given in the following table:

Table 1.5: Sample size of the Study

Name of the SSA	Executive	Non-Executive	Total	Sample Size
Dibrugarh	95	320	415	215
Kamrup	164	698	862	280
Silchar	84	313	397	210
Total	343	1331	1674	705

Source: Prepared by the researcher.

1.6.9 Sampling Technique

The researcher selected the sample from the population using Random Sampling Technique. For each SSA, random sample has been drawn using Krejcie and Morgan (1970) formula. For Dibrugarh, total population is 415 and 215 has been selected as sample as per the table. For Kamrup, total population is 862 and 280 has been selected as sample as per the table. For Silchar, total population is 397 and 210 has been selected as sample as per the table. Random number generated by using excel and then collected data from the respondents.

Random sampling is a method of selecting a sample from the population in which every individual or item has an equal chance or probability of being chosen. A random sampling technique is intended to correctly represent the total population. It ensures that the results of the sample are equivalent to those that would have been obtained if the entire population had been examined.

1.6.10 The process of Data Collection

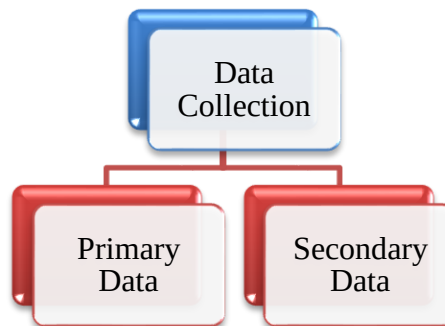


Figure 1.4: Data Collection

Primary data: A primary data source is an original source of data that was gathered directly for a specific study aim or activity for the first time. A standard questionnaire is used to gather the primary data. The “questionnaire” comprises of two parts. The first part comprises of respondents' demographic profiles. The second section of the questionnaire includes the “HRD Climate Questionnaire” created by Rao and Abraham (1990) at “The Centre for HRD”, “Xavier Labour Relation Institute” (XLRI), India. The 38-item HRD climate questionnaire employs a five-point Likert’s scale. The researcher added another two dimensions in the

questionnaire such as HR Policy and Challenges of BSNL employees to gather information.

Secondary Data: Secondary data refers to the existing data that has been collected by someone else for some other purpose or research. The secondary data is readily available and can be obtained from various sources. For this study, the researcher collected the relevant secondary information from Journals, News Papers, Annual Reports, Books, research Thesis, Articles and so on.

1.6.11 Statistical Tools

Statistical tools refer to the methods, techniques, and software used to collect, analyze, interpret and present data. The statistical tools help researchers, data analyst, data scientist to extract insights, identify patterns and make informed decision from the data. The different statistical tools used in this research has explained bellow:

a) Excel

Microsoft Excel is popularly used statistical software that acts as a tool for understanding statistical ideas and calculating to validate the hand-worked calculations when resolving work challenges. Excel is a spreadsheet tool included in Microsoft's Office productivity suite. Microsoft Excel may be used to format, organize, and compute spreadsheet data. In the present study, the researcher used Excel organize the date in different categories, tabulation of the data etc.

b) SPSS

SPSS stands for “Statistical Package for the Social Sciences” and is a statistical program that allows the author to read and write tables in external relational databases. “SPSS Statistics places constraints on internal file structure, data types, data analysis, and correlating files, all of which greatly simplify programming”. Descriptive and bivariate statistics, numerical result predictions, and group identification forecasts are all available through SPSS's data analysis features. The software can also translate data, create charts, and do direct marketing.

1.6.12 Statistical Technique

The study included several statistical techniques, such as Arithmetic Mean, Standard Deviation, ANOVA, Correlation, T-test, and Regression are used to conduct the research. As part of the comprehensive research approach, a comprehensive literature search was undertaken.

a) Arithmetic Mean

The arithmetic means also referred to as the actual average or arithmetic average, is a mathematical term. It is determined by adding up all the quantities in a particular data gathering, then dividing that total by the number of Quantities in that collection. The arithmetic mean (AM) of uniformly distributed integers is equivalent to the middle value. Furthermore, the AM is computed using a variety of methodologies that depend on the number of units and the dispersion of the data.

$$m = \frac{\text{Sum of the terms}}{\text{number of terms}}$$

b) Standard deviation

The “standard deviation” of a large population or sample and the standard error of a statistic (such as the sample mean) are not always the same, but they are linked. To find the “standard deviation”, multiply the variances of each set of data by the square root of their variance.

$$\sigma = \sqrt{\frac{\sum (x_i - \mu)^2}{N}}$$

c) ANOVA

ANOVA is a “statistical test” that evaluates the means of groups of independent variables to discover if they are substantially different from one another. Check the whole ANOVA one-way explanation. ANOVA, or analysis of variance, is a sophisticated statistical approach that involves dividing the detected variation into separate components to perform various test statistics.

d) Correlation

Any statistical relationship between two “random variables or bivariate data”, regardless of whether it is causal, is referred to as “correlation or dependence”. In the broadest meaning, “correlation” may refer to any sort of relationship; however, in statistics, it often describes the degree to which two variables are linearly associated. Correlations are advantageous as they can reveal a predictive relationship which can be utilized in practice.

e) T-test

A statistical test for evaluating the means of two groups is the t-test. It is widely used in hypothesis testing to see whether a method or treatment actually impacts the population of interest or whether two groups are different.

f) Regression

A “statistical technique” called “regression” relates a dependent variable to a group of independent variables. The relationship between changes in the dependent variable and changes in one or more explanatory factors may be shown using a regression model. Regression is a statistical method that is employed in the disciplines of "finance, investment, and other disciplines" in order to evaluate the type and strength of the relationship between one dependent variable and a number of independent variables.

$$Y = a + bX + u$$

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

In this chapter, the researcher has investigated past studies that have focused on the similar criteria as the present research. A literature review seeks to identify, evaluate, and comprehend the current corpus of recorded work produced by scholars and practitioners. The pertinent literature exposes the origins of essential concepts, theories, and hypotheses, as well as crucial data on issues, evaluations of current methods, and empirical research. Reviewing past research on the similar issue reveals the kind of questions that have previously been posed and the areas of investigation that have already been explored. It is essential to study the pertinent literature and research since they outline the methods and techniques that must be adhered to. This is an attempt to understand the work already completed by various researchers in the field of Human resource Development. An extensive study and review of different research papers, books, thesis is mandatory to complete the present research thesis.

The literature review provides a conceptual framework for the intended research and recommends procedures, processes, data sources, and statistical measures that would be most useful in addressing the problem selected for this inquiry. The researcher's basis for developing their hypothesis is obtained from examining pertinent literature. In academia, "literature" starts with an initial writing on a subject that critically evaluates the information gathered from primary sources to further earlier studies. The quality of several different research outputs such as encyclopedias, academic papers, research journals, reports, periodicals, and online resources created by subject-matter specialists is evaluated in a literature review, which is a written document.

Now a days many business organizations and corporations shifted their focus from monetary or financial resources to bring and develop intellectual human resources and which is known as the most important factor among all other factors of production and for this reason, all the organization are working hard for the

development of their people to make future resource of the organization by developing their skills. The organization having better HRD climate and personnel policies are more efficient than organization with poor HRD climate. The human resource development (HRD) may be seen as an important branch of Human resource management which is concerned with the development and wellbeing of the people at work. It enhances the overall quality of the product and services and the turnover of the organization improved. The HRD as a field of study emerged during early part of the seventies in last century. So, in comparison to other field of management, HRD is a new concept. Since its inception, number of research conducted by the researchers and academicians throughout the world to define the subject matter. The HRD is yet to be accepted as a separate discipline or field of knowledge. It is an endeavor to look deep into the existing literature to evaluate the subject matter of HRD.

The relevant literature provides crucial information on concern area, evaluations of current practices, empirical investigations, and the historical context for important concepts, theories, and hypotheses. It is helpful to review earlier research on a subject to discover what sorts of concerns have been raised and what lines of investigation have been taken. Reading up on the relevant literature and research is essential since they set forth the guidelines that must be followed. The name “Bharat Sanchar Nigam Limited” can be shortened to BSNL. Today, it is the seventh largest department worldwide and the fourth largest in Asia of the Tele-Communication Companies. Which one of India's most lucrative industries? (Sahoo & Mishra 2013). The chapter highlights the research gap and provides a comprehensive overview of the literature on “Human Resource Development (HRD)” methods and policies. Following is a model process of literature review.

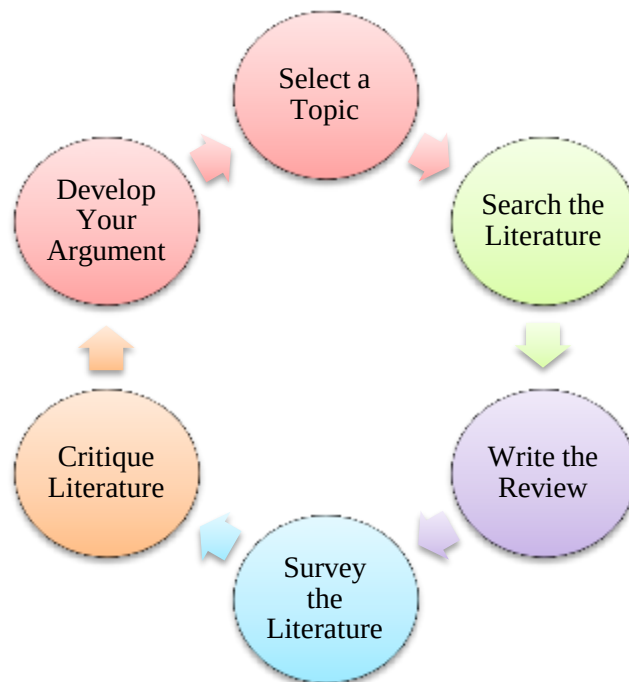


Figure 2.1: Literature Review process

This is an attempt to familiar with the work already done by various researchers in the area of human resource development. A thorough study and review various research papers, thesis, books are mandatory to complete this research project. Regarding this, the researcher reviewed thesis, research papers, books, newspapers, journals and other various sources which provide an insight into the contribution in this subject matter of Human Resource Development. The content of this chapter is the studies of the previous researchers in India and researchers from foreign countries. The term human resource development climate has been trending for quite some time now. Rao and Abraham (1972) were the two who coined the concept for the first time in India in their paper “HRD Climate in Indian Organization”. From then onwards a large number research studies and literature exist in this field.

2.2 Literature Review

In this chapter, the researcher made an effort to collect all such studies, books, papers, articles, thesis, etc. which have direct or indirect linkage for this research. The researcher made an attempt to survey an exhaustive literature both printed and

online based on the themes mentioned bellow. The researcher reviewed the literature based on following broad segment:

- Review of literature relating to Human Resource Development.
- Review of Literature relating to Human Resource Development Climate.
- Literature Review relating to Telecom Sector in general and BSNL in particular.
- Review of Literature with regard to Human Resource performance issues

2.2.1 Review of literature relating to Human Resource Development

Nadler L, (1973) Introduced the term HRD in his book “Developing Human Resources”. The author provided a conceptual umbrella under which the field began uniform using the three-fold notion of education, training and development. The term HRD was earlier known as personnel management which started to ceased by 1980s (Rao, 1982). The other experts like Inglis 1980, had predicted that by the end of 1980s, the traditional personnel function would obsolete and replace it by human resource development (HRD) come into existence as an emerging concept. He also asserted that the traditional confidential method of reporting will be replaced by process of utilization-oriented methods.

Nadler, (1980) describe Human Resource Development as an “organized learning experience within a given period of time with the objective of producing the possibility of performance change”. He further argued that some of the similarities and differences between Human Resource development and Organizational Development (OD). He said that the field of human resource development is based on learning and without learning, it is uncertain whether one can successful or not. On the other hand, OD was described as an element of Organizational Behavior. The other aspects of Organizational Development is concerned with interpersonal relationship and include team building. The focus of HRD is to develop the technical skills among individuals.

Rao (1985) described and gave his opinion that human resource development is a process and not a set of mechanisms and techniques. His opinion is that the mechanism and techniques like performance appraisal, training, counselling, OD etc. are used to facilitate and promote the HRD in a continuous way. Every organization can facilitate the process of development of its people by advance planning, by allocating resources for the purpose and by HRD philosophy which values human being and want to promote their development. The capabilities of employee should continuously acquired and sharpened and for that a good and enabling organization culture is much essential. The author also gave his opinion that to get the fullest benefit of HRD, it should be inducted in the organization as a total system not a sub system in the organization.

Sharma, A. & Purang, P. (2000) stated that values play a major part in management as a result of the multi-nationalization of organizations today. Today's organizational values offer a comprehensive and all-encompassing standard for determining whether the acts, beliefs, and attitudes of members were correct or incorrect. Values were both implicitly and openly ingrained in organizations at the same time. Thus, the case study tried to determine the degree of value institutionalization and its connection to other organizationally relevant variables, such as the HRD atmosphere. Since value institutionalization and HRD climate were extremely significant positive relationships, it suggested that the more ethical an organization's activities were, the better the HRD climate would be. The majority of organizations around the world have begun to recognize the importance of creating Organization Development Strategies with consideration for issues of values, commitment, and HRD climate. The case study provided us with an extremely useful understanding of the dynamics of the value system in connection to the organizational climate for HRD.

Rao, T. V. et al. (2001) stated that in the last 10 years, human resource development frameworks from many world regions have increased. These are being utilized by Indian enterprises to enhance their HRD systems and effect. “At the Indian Institute of Management in Ahmedabad, Udai Pareek and T.V. Rao” created an Integrated HRD Systems Strategy for Indian businesses on behalf of Larson and Turbo (L&T). The study explored the existing structure of the HRD function and HRD subsystems

in India concerning the “Integrated HRD Systems” structure. The study also discussed contemporary methods of HRD. Because of such Indian firms' experiences in adopting this framework, the study identifies the conditions necessary for the success of various HRD structures in India.

Baniya, L. B. (2004) viewed a company's human resources as its most valuable asset. The study's primary focus was on how this significant asset is overseen and developed in Nepalese business organizations. The study showed that Nepalese business organizations do not have a systematic approach to developing human resources. The majority of organizations neither have a personnel manager to oversee human resources matters nor do they set aside funds in their annual program for human resource development. It exemplified how human resources are given little priority in organizations. However, it was a positive sign that some organizations have begun to train their staff members even though they lack a clear policy framework.

McMurray, A. J. et al. (2004) investigated the connection between organizational atmosphere and commitment. Three sizable Australian automobile component manufacturing businesses provided the subjects for the study. A response rate of 97.8% resulted in 1,382 useable surveys. Organizational commitment and organizational environment were significantly correlated (.66). The claim was supported by the study's findings on the second-order organizational commitment construct, which showed that attachment and detachment commitment aspects were important in the industrial sector. Supervisors, foremen, other leaders, and HRD specialists have long been undervalued despite playing crucial roles in creating favorable corporate impressions and workers' loyalty.

Osman-Gani, A. M. & Jacobs, R. L. (2005) found that modern organizations were constantly experiencing technological change. Human resource development theory and practice have been grappling with how to prepare employees for technological change. In Singapore, where businesses are constantly adapting to the rapid changes in technology in order to remain competitive, the study looked at how organizations there develop their human resources. The finding revealed consistent behavior patterns across industries, but the transport and communications sectors revealed

some variation. The most popular training strategy reportedly used to address organizational change needs is on-the-job training. The subject of the debate and the suggestions was the requirement for better change management methods.

Hassan, A. et al. (2006) assessed how employees perceived “Human Resource Development (HRD)” practices, determined whether ISO certification affects the HRD system in any positive ways, and investigated the impact of HRD practices on the environment for employee development and quality orientation within the workplace. The findings showed significant inter-organizational variations in HRD practices. Employee reviews were modest overall, though. Comparatively speaking, ISO-certified businesses achieved better means in several HRD aspects. Organizations with improved information systems, reward and recognition programs, and systems for learning, training, and development encouraged the growth of human resources. “Career management, productivity guidance and growth, role efficacy, and reward and recognition systems” all indicated quality orientation. Researchers and HR professionals can utilize the findings to raise management issues and advocate for better HRD systems and practices.

Hassan, A. (2007) developed the Mission statements of organizations that emphasized the core ideals. Certain values can be established in staff employees depending on how they are treated and nurtured. Consequently, “Human Resource Development (HRD)” practices and organizational values appeared to be closely related. The study's goal was to empirically look into this link. The study examined employee perspectives as opposed to management perspectives. In the context of developing nations like Malaysia, there was little empirical research on the relationships between HRD and organizational values. The study described a feeble effort to close the gap. Organizational traits “including cooperation, innovation, excellence, delegating, and humane treatment” were positively connected with HRD activities “like prospective evaluation and promotion, learning/training, performance coaching, and development.” As a result, values like creativity and trust were negatively linked with traits connected to the performance rating system, career planning, and contextual analysis.

Lombardozi, C. (2007) viewed that practitioners of "Human Resource Development (HRD)" were being urged to base their decisions more heavily on empirical research. In order to maintain competence, the study encouraged HRD professionals to put five imperatives into practice. Conscious competency practice, asking for the evidence and research foundation for answers, investigating strategic HRD challenges, collaborating with researchers, and remaining up to date in the area are some of these imperatives. The study offered five concrete requirements that guarantee the evidence and knowledge basis required to be proficient in their industry. It requires dedication, but that dedication may aid in fostering organizational outcomes and employee growth and development that would make us pleased to work in this field.

Pillai, P. R. (2008) stated that a competent workforce was the most valuable resource for every firm. In light of the many obstacles modern organizations must contend with, employee competency was crucial. Talent management, employee engagement, and staff retention have emerged as HRD professionals' top priorities. Because banking was an industry that invested heavily in human resources, it was more important to banking organizations. Employees should be receptive to learning and change in order to maintain and improve their competencies. The initiative-taking approach can be created by giving employees the right opportunity and motivating them by creating an environment that is encouraging and conducive to learning. The study tried to examine how the HRD climate in banks affects the employees' commitment to learning.

Haslinda, A. (2009) stated that the Scholars, academicians, and practitioners" have all utilized the terms HRM and HRD in their work. The titles or designations for HRM and HRD, as well as their roles in managerial functions, are confusing. The study's goal was to be investigated how the phrases "human resource management (HRM) and human resource development (HRD)" have changed over time. The Study developed ideas related to human resource management and development terminology based on a literature survey. The result demonstrated how the phrases HRM and HRD have changed in tandem with globalization and the fast advancement of technology. New terminology was thought to be required to describe innovative

ideas, conceptions, and philosophies of HRM and HRD as a result of these environmental changes. The philosophy of HRM and HRD would soon be described by innovative words that would appear. The study made the case that before HRM and HRD are implemented in companies, practitioners should comprehend the numerous terminologies used to define them. They should avoid using new names to express already established concepts or functions of HRM and HRD.

Khan, M. T. & Khan, N. A. (2011) stated that the concept of HRD is significant right now. Management experts view it as a branch of Human Resource Management, but many experts and researchers have expanded its application and integrated the concept of Human Resource Development (HRD) by examining it from a socioeconomic perspective and adding additional dimensions like “physical, intellectual, psychological, social, political, moral, and spiritual development.” Economic (financial) development affects the body, mind, and spirit, and vice versa. Economic development was also a prerequisite for political and social advancement. As a result, training and development are no longer the only components of HRD; instead, it has taken on a multidimensional form known as integrated HRD.

Chaudhary, R. et al. (2012) reported that enhanced work engagement might have a significant impact on team, individual, and organizational performance. The goal of the study was to examine how job engagement among business executives of particular Indian business firms was influenced by occupational self-efficacy and the “HRD” atmosphere. Additionally, it attempts to investigate how the HRD atmosphere affects the link between job engagement and self-efficacy. Online surveys and in-person visits were also used to gather data. All research variables were found to be significantly correlated. All of the research hypotheses were verified. It has been discovered that the association between job engagement and occupational self-efficacy was partially mediated by the HRD atmosphere. It was interesting to note that self-efficacy and HRD atmosphere both have an impact on job engagement both directly and indirectly through affecting one another. The workforce must be supported by self-efficacy as a dispositional attribute if they are to be engaged at work. Additionally, boosting the HRD environment may

substantially impact increasing the level of engagement at work among Indian company leaders.

Khan, N. A. & Tarab, S. (2012b) found that a favorable HRD environment was crucial for productive work and the eventual accomplishment of corporate objectives. In the Indian setting, the form of an organization impacts the prevailing culture. The Indian telecom industry has recently had some of the fastest global growth, thanks in large part to its unrivaled expansion in mobile telephony. Since culture impacts climate, this study compared the outcomes of the public and private sectors of the Indian telecom business to determine which climate is more prevalent. A 38-item questionnaire for a survey on the HRD atmosphere was divided into three categories: The existence of the HRD climate has been evaluated using the general climate, OCTAPAC culture, and HRD processes, as well as the t-test. The result showed a big disparity in the HRD climate in both companies.

Kewlani, S. (2013) stated that due to the fact that an organization's success has been based on the abilities and skills of its human elements, the value of personnel and the difficulty and pain of developing them become the determining factor for evaluating the HRD climate in existing business organizations in the current dynamic and unstable environment. The growing concern for human welfare management emphasizes the value of competent people as an organization's most valuable resources. One of the key responsibilities of HRM is HRD, which is a process by which individuals are assisted in acquiring skills. Educational institutions were no exception regarding the importance of studying the HRD climate in organizations. Additionally, the quickly developing B-schools in the central region encourage research into the academic environment, which was one of the main sources of the country's supply of capable students. The objective of the study was to determine how developed the academic climate is in India's central region. Utilizing a structured HRD climate questionnaire, data were collected from the staff of a few chosen management institutes. Statistical methods were used to examine the data, including mean, standard deviation, and Z-test. The results demonstrated that the HRD climate in management institutions was generally favorable, with lots of opportunities for improvement. Academicians' perceptions of the HRD climate do

not significantly vary based on gender or educational background, but they do based on age.

Purohit, B., & Verma, R. K. (2013) examined the few studies that have “the Human Resource Development (HRD)” climate at the organizational scale in Public Healthcare Delivery Centers, even though “Human Resource Management (HRM)” has grown significantly in importance in the healthcare industry. The current study aimed to evaluate the climate for “Human Resource Development (HRD)” at public health centers, which include “Primary Health Centers (PHCs), Community Health Centers (CHCs), and District Hospitals (DHs)” in two districts of India. According to the study's findings, "Participation" and "Succession Planning" were given the least weight. The study also discovered that "Rewards and Welfare" were regarded as having the highest priority. From the perspective of MOs, it may be said that the general HRD climate has to be improved. These advancements were feasible if there is a sincere emphasis on the development of individuals and if the health system has a committed HRD Department that views various HR subsystems like appraisal, counseling, rewards and welfare as interdependent rather than autonomous.

Balgaonkar, V., & Dolas, P. V. (2014) looked for better ways to enhance performance as a result of the opening of the Indian economy in the early 1990s and the accompanying modifications in the environment. It has affected how organizations view “Human Resource Development (HRD)” initiatives. Today, a more comprehensive approach to HRD was more important because the focus has been on development. As a result, a framework for “human resource development (HRD)” has been developed, which consists of planned activities aimed at fostering greater knowledge, abilities, competencies, and behavior. The goal of study's objectives included determining how employees felt about “Human Resource Development (HRD)” practices, determining whether the HRD system has improved as a result of any relevant accreditations, and assessing the impact of HRD practices on employees' work environments that foster development and quality orientation. In this situation, HRD attempts to increase employee motivation as much as possible to support organizational objectives. For all organizations, including those in the textile industry, studying the HRD climate was crucial. Based on employee demographics,

the study investigated how employees perceive the HRD climate. The study's findings regarding the HRD climate would directly influence the organization's vision, accreditations, and business plans. Analyzing how HRD methods affect employee development may also be necessary.

Shuck, B. et al. (2014) found that insufficient attention has been paid in the literature to the link between employee engagement and intent to leave and how they perceive support for participating in “Human Resource Development (HRD)” practices. The study used the social exchange theory as a conceptual framework to understand potential relationships between Human Resource Development climate (HRD) practices and engagement of employee and turnover intentions. A report based on Internet to survey battery with a four-stage preparation process served as the main method of data collection. Simultaneous, mediated, and linear regression analysis was used to examine the relevant variables. The results showed that HRD and cognitive, emotional, and behavioral engagement were negatively correlated with the intention to depart. According to mediated regression models, engagement appeared to partially buffer the relationship between HRD practices and intent to leave. The result demonstrated the value of encouraging employee involvement in HRD practices to raise employee engagement and lower turnover intentions.

Murthy, L. V. S. N. (2017) examined that any organization's HRD climate is essential for developing its human resources. Employee engagement aims to inspire workers to put forth their best and maximum effort in order to achieve the organizational goals and success. In the present study, an effort was made to determine the relationship between the concepts of Human Resource Development climate and employee engagement, which differ. However, a favorable relationship between these two has been established, so the study was instructive and fascinating for academics and research scholars. The role and impact of the environment for human resource development on employee engagement are being investigated for the first time in this study. As a result, the study significantly added to the limited body of research on employee engagement and the HRD environment in India, particularly in the defense manufacturing sectors.

Tizikara, M. K. & Mugizi, W. (2017) looked at the effects of “Employee Job Satisfaction (EJS) and Human Resource Development (HRD).” The study specifically examined the impact of employee performance assessment, training, and promotion aspects in human resource development on EJS. A self-administered questionnaire that was validated and found to be dependable using Factor Analysis and Cronbach Alpha was used to collect the data. According to the descriptive findings, the staff gave their EJS and HRD implementation a mediocre rating regarding employee performance evaluation, training, and promotions. The results of multiple regression showed that HRD significantly favorably influenced EJS. As a result, it was determined that employee performance evaluation, training, and promotions are crucial requirements for staff EJS at a public university. In order to improve “employee job satisfaction (EJS),” stakeholders, including managers in the human resource departments of public universities, were advised to implement employee performance appraisal, training, and promotions.

Baghel, S. (2018) stated that Human resource development is how an organization helps its employees grow professionally and personally. Maximizing productivity was a primary goal of human resources. Human resource managers oversee an organization's employees and establish policies and procedures and ensure their needs are met. The study sets out to examine and contrast the HRD Practices in the BSNL Telecom Industry in India from the perspectives of both managerial and non-managerial staff. Building up a company's human resources is an investment in its future and expansion. The commitment of upper management and staff to "Human Resource Development" (HRD) policies and practices was crucial to achieving such expansion.

Sharma, N. et al. (2019) investigated and found that people and management were the two main focuses of higher education. The caliber of the faculty and the research was a major factor in how well-respected higher education institutions are. It highlighted how important a solid financial foundation was in order to provide pupils with a top-notch education. The higher education sector plays a significant role in the current environment, characterized by a high volume of information flow, dynamism, progress, development, and a persistently difficult environment. The

current study examined the relationship between the climate for "Human Resource Development (HRD)" and human capital management. This model created by using factor analysis in the present research study showed a relationship between HRD climate and human capital management, and if it were to be used in higher education institutions while being tailored to their requirements and needs, it would help achieve the objectives and vision that 'Federation of Indian Chambers of Commerce and Industry' has set for 2030 of achieving all-round excellence in the higher education sector in India.

Dhaubhadel, I. (2021) investigated how the "Human Resource Development (HRD)" environment affected employee performance and explored the mediation role of Psychological-Capital (PsyCap) in the association between Human Resource Development (HRD) climate and employee's performance in Nepal's development industry. Convenience sampling was used in quantitative research, where questionnaires were delivered in print and online. To evaluate the data, correlation and regression were utilized. The results demonstrated a favorable and substantial association between the HRD atmosphere and employee performance, with PsyCap as a complete mediating factor. The findings are explored concerning previous research, along with their theoretical and practical ramifications.

Gopinath, R. (2021) investigated the link between the three subcategories of HRD climate factors and the motivational role in the Indian manufacturing sector. Permanent workers of the manufacturing firm were surveyed using a questionnaire to collect information. Using correlation and regression to analyze the data, the study discovered a favorable association between HRD climates and the role of motivation. Therefore, those organizations have a positive HRD atmosphere and employee motivation. There was a discussion of implications for research and practice.

2.2.2 Review of Literature relating to Human Resource Development Climate.

Rouiller, J. Z. & Goldstein, I. L. (1993) described how the idea of organizational transfer climate was developed and investigated, and it was explored whether it impacts how much training program behaviors are transferred to real-world work circumstances by trainees. The study was done at a big franchise that owns and runs

over a hundred fast-food outlets in a big city. Analysis revealed that manager trainees were assessed as better performers of the behaviors they had learned in training when they were placed in units with a more favorable organizational transfer climate. It was also discovered, as was expected, that manager trainees who received more training performed better while working. The study concluded the organizational transfer environment of the workplace has an impact on the extent to which taught behavior would be applied to the real job, in addition to the amount of training that trainees get. According to this study, organizational transfer climate should be looked at as a mechanism that might facilitate the effective integration of new skills into the workplace.

Holton III, E. F. et al. (1997) found that although learning transfer is generally considered challenging, no proven and widely recognized tool was used to evaluate the components thought to influence learning transmission. The study developed a transfer climate instrument with an eight-factor framework. However, they could not validate the structure due to insufficient sample size. A significantly different component structure was discovered in this study's effort to confirm the anticipated characteristics using factor analysis, pointing to a new direction for transfer climate instrument research in the future. The finding of the study indicated that, contrary to what Rouiller and Goldstein predicted, trainees perceive climate following organizational referents. As a result, an instrument for measuring transfer climate that included additional components was examined. The resultant nine-factor solution provided additional dimensions and showed that organizational referents influenced how to transfer climate was viewed.

Krishna, P. M. & Rao, P. S. (1997) discussed conceptual issues, significance, and methodology and provided a brief overview of this leading public sector organization, and the authors analyzed data provided by managers (at various levels) of the company's Hyderabad branch. Many pertinent comments that represent various organizational and HRD climates were included in the questionnaire that was given to them. In their presentation of their evaluation of the study's findings, they recommend that the company's senior management make modifications to the company's personnel rules to ensure a more successful organizational and HRD

climate. The top management was advised to continue enhancing the company's people policies, encourage senior and junior employees to take a greater interest, and inform them of the many advantages of an effective HRD climate through numerous training and counseling sessions. The management should first make sure that they have an appropriate organizational environment and HRD atmosphere.

Venkateswaran, K. P. S. (1997) assessed the key elements that promoted the growth of an HRD climate and concluded that the two main goals of HRD were the early identification of human resource potential and skill growth. Only when there is a favorable setting for HRD can this be accomplished. Implementing HRD processes would be made possible by objective performance evaluation and meeting needs. The acknowledgment of human resources and HRD would eventually inspire true concern for their growth. Their competitiveness and dynamic character would continue to accelerate learning. Performance would improve as a result of closer relationships between people and the organization as a result of loyalty, commitment, and business image.

Rogg, K. L. et al. (2001) explored how organizational climate affects small enterprises operating in the same industry's relationships between human resource practices and customer satisfaction. The obtained data revealed that the alleged mediated relationship was real. Although the direct impact on customer satisfaction was negligible and extremely near zero, HR processes' indirect effects were significant and quite high. The conclusions offered proof in support of a social context model of how human resource practices affect organizational outcomes. The implications of the study, as well as its shortcomings, were underlined.

Mishra, P. & Bhardwaj, G. (2002) established how three tiers of managers in a big private sector organization felt about the HRD atmosphere. The sample population was given the HRD Climate Survey in order to satisfy the goals of the study. According to the results, the company under examination had a positive overall HRD atmosphere. Additionally, there were notable discrepancies across the three management levels regarding the general and various aspects of the HRD atmosphere. Discussion of the implications of the study's findings.

Rodrigues, L. L. (2004) identified the correlations between “the Human Resource Development Climate (HRDC)” characteristics in engineering colleges in India's Karnataka State research had been conducted. The qualitative data was transformed into quantitative type using a 5-point Likert scale. The tool has been validated using factor analysis. The two hypotheses, which examine the associations relevant to HRDC, have been evaluated using a t-test and chi-square test in addition to averages, mean, and standard deviation. The findings of the empirical investigation have revealed the absence of HRD processes, which has led to recommendations for HRDC improvement.

Neal, A. et al. (2005) investigated if the competitive environment and organizational climate had an impact on the efficacy of "Human Resource Management (HRM)" methods. According to internal and external fit theories, differentiation techniques were used by businesses with a healthy organizational climate, and there was a higher correlation between HRM and future production. On the other hand, the association between Human Resource Management and productivity was predicted stronger for businesses with a bad business climate under resource allocation theories of motivation since individuals working in these businesses should have the sparest capacity. The outcomes validated the rationale for resource allocation.

Rodrigues, L. L. & Chincholkar, A. M. (2005) compared the "Human Resource Development Climate (HRDC)" of an engineering institute with that of the public sector industry in India using seven parameters that accurately depict HRDC. It also offered recommendations for how to enhance HRDC in the institute. A proportionate representative random sampling method was used to choose a sample size from the public sector and the institute. In addition to the mean and standard deviation, a t-test has been performed to examine the hypothesis that looked into the difference that has been relevant to HRDC. The data have been used to generate recommendations for improving the engineering institute's HRD processes.

Collins, C. J. & Smith, K. G. (2006) developed and evaluated a theory of how human resource practices affect the organizational social climate circumstances that promote knowledge sharing and synthesis, as well as the resulting firm performance. According to a field study of technology businesses, the organizational social

climates of trust, cooperation, and shared codes and languages were favorably correlated with commitment-based human resource strategies. These indicators of a company's social climate were then linked to that company's capacity for knowledge sharing and synthesis, a connection that predicted revenue from new goods and services as well as firm growth. The study aimed to develop and evaluate a more thorough model of how commitment-based HR practices impact organizational social climate on knowledge production and firm performance.

Mufeed, S. A. (2006) discovered that one of the most crucial factors for reaching the aim of health for all and pride for employees was the development of suitable people in the health industry, and it has been widely acknowledged in both developed and developing countries. Significant behavioral and attitude changes among health professionals are required, as well as a favorable "Human Resource Development (HRD)" climate. The present study's objective was to provide a clearer understanding of how the HRD idea was applied in businesses, notably hospitals. There has not been much research on this topic thus far. The study described the current HRD climate in hospitals, focusing on Srinagar's "Shari Kashmir Institute of Medical Science (SKIMS)." Additionally, the current study should highlight the necessity and significance of important aspects of the HRD climate in hospitals, such as the general atmosphere, the OCTAPACE culture, and the promotion of HRD procedures.

Srimannarayana, M. (2007) assessed the "Human Resources Development (HRD)" climate present in Dubai organizations. It was at a standard level. In comparison, the HRD atmosphere in the banking industry was found to be more favorable than those of other industries. Insurance and shipping companies come after this. Comparing organizations in the tourist, food, and trading sectors to those in the banking, insurance, and shipping sectors, a low degree of HRD climate was seen in these latter two. A good deal of lip sympathy without any commitment towards and attainment for human resource development keeps the organizational climate at an average level. Appropriate human resource policies and procedures and practices could be put in place for the implementation of employee development and of these values. When implemented, an invigorating Human Development climate may be exist, and

the organization can use this HR Development climate to grow its people in a competitive environment.

Purang, P. (2008) assessed the HRD climate in terms of several variables, “including participation, succession planning, training, performance evaluation, and job enrichment,” as well as its relationship to managers' organizational commitment. According to the study, the 10 aspects of HRD Climate and organizational commitment were hypothesized to have a favorable association. The ten components of HRD Climate were analyzed by correlation to determine relationships and through stepwise regression to determine predictor effects. According to the study, managers' performance could be further improved by a positive assessment of the climate, which would increase commitment. The study demonstrated that the emphasis that should be placed on the HRD Climate present in the organization in order to increase managers' organizational commitment needs to be changed. The focus should be on “Career Planning, Appraisal Mechanisms, Job Enrichment, and Organization Development” among the numerous components of the HRD climate.

Srimannarayana, M. (2008) evaluated the degree of the “Human Resources Development (HRD)” climate currently present in Indian organizations. The study was based on data from “India's manufacturing, service, and IT sectors.” It was discovered that the HRD climate in Indian organizations was only mild. In contrast, the manufacturing sector had a better HRD climate than the service sector. The analysis led us to conclude that the HRD climate in Indian organizations was generally moderate. Category-wise, it was found that the “Openness, Confrontation, Trust, Autonomy, Proaction, Authenticity and Collaboration (OCTAPAC)” culture predominated over HRD processes and the general HRD environment. A comparison showed that manufacturing sector organizations could offer a better HRD climate than organizations in the service and IT sectors.

Akinyemi, B. (2011) evaluated the characteristics of the developing environment of two top insurance and telecommunications firms with headquarters in Rwanda. It also tried to comprehend the distinctions between the Insurance and Telecommunications industries in terms of the current Developmental Climate along the three HRDC dimensions. A standardized, self-administered 38-item

questionnaire called the "Human Resource Development Climate (HRDC)" was created by Rao and Abraham to collect primary data for both actions (1986). The general climate, HRD mechanisms, and the "Openness, Confrontation, Trust, Autonomy, Proaction, Authenticity and Collaboration (OCTAPAC)" culture inside the two private organizations were all assessed using the questionnaire. According to the data, both organizations' HRDCs were generally friendly. Results, therefore, indicate that the telecoms firm's environment for development was more favorable than that of the insurance industry.

Chaudhary, R. et al. (2011) investigated how the HRD climate affects employee engagement in a few Indian commercial enterprises. The link between employee engagement and the elements affecting HRD Climate was attempted to be carefully examined. The study demonstrated the necessity for a practical technique to raise employee engagement levels in firms. The significance of the "Human Resource Development (HRD)" climate cannot be understated in light of the pressing need for firms to raise employee engagement levels. Regression and correlation analysis were used to study the data. The study's findings revealed that the HRD mechanism component was the most significant predictor of employee engagement after the general climate dimension. Because there is a shortage of academic research on employee engagement and HRD Climate in an Indian setting, the study significantly examined HRD Climate and employee engagement.

Benjamin, A. (2012) investigated the relationships between "Organizational Citizenship Behavior (OCB), Voluntary Turnover Intentions (VTI), and Human Resource Development Climate (HRDC)" in the banking industry. Adults who Nigerian commercial banks employed were given questionnaires to determine their perceptions; the results were then considered as an individual data source. The findings show a substantial connection between OCB, VTI, and HRDC. However, there is no discernible connection between OCB and VTI. The study's results and implications for businesses and Nigerian banks were discussed.

Benjamin, A. & David, I. (2012) assessed how workers felt about their emotional, normative, and continuing commitment in light of the Nigerian banking sector's current reform and change atmosphere. Data for the study was gathered using a self-

administered questionnaire. The “Statistical Package for Social Scientists (SPSS)” was used to do the necessary statistical analysis of the data obtained to determine the, standard deviation, mean, the variance, and Pearson product-moment correlation coefficient of the variables. The statistical study revealed a positive correlation between organizational commitment and the climate for human resource development, which was evaluated at the 0.01 level of significance. The study's findings showed that the degree of emotional commitment is strongly influenced by the HRD environment. Managers, academics may apply the results, and HR professionals, in particular, to create an atmosphere that is supportive of high employee commitment and is favorable or congenial for growth, resulting in improved performance and productivity for both individuals and organizations.

Khan, N. A. & Tarab, S. (2012a) emphasized the importance of human resources due to rapidly changing technologies and intense competition. The best qualified human resources are sought after by firms nowadays in order to hire and keep them for the expansion and improvement of their business. Today's organizations and top management are aware of the strength of human abilities and understand that in order to survive, they must hold on to the best and most talented individuals among them. The significance of roles that employees perform and occupy in their various businesses was brought into sharp relief by this notion, and it highlighted the requirement for any organization to consistently improve the coordinated skill sets of its employees. In order to examine the HRD climate in India's private sector telecommunications industry and to investigate the link between that climate and employee development, the authors have done the current study. Reliance Communications Ltd. employees from three distinct cities in Uttar Pradesh participated in a questionnaire survey. Statistical techniques have been used to examine the present construct's hypotheses, including mean, standard deviation, and correlation. According to the study, there was a connection between an organization's culture and its employees' capacity for growth.

Chaudhary, R. et al. (2013) examined the psychometric characteristics of the results from Rao and Abraham's “Human Resource Development (HRD)” climate survey instrument was the goal of the current study (1986). Instead of the scale's designers'

suggested three-dimensional structures, exploratory factor analysis yielded six interpretable factors. The “Confirmatory Factor Analysis (CFA)” results supported the six-factor model's superiority over competing models. It was discovered that each of the six criteria was internally consistent. The scale developed by Rao and Abraham, with its strong psychometric qualities, showed potential for HRD research, according to the results. The HRD study in India may proceed more quickly after the instrument's psychometric qualities have been established. Importantly, the study addressed the issue that various scholars have stated about the absence of research and practice on organizational climate and to somewhat rekindle interest in climate studies.

Wani, T. (2013) found that the FMCG industry was expanding and changing at this time. Given that it was a manufacturing sector, it was very reliant on the skills and drive of its workforce. The climate and culture of these organizations, “Human Resource Development (HRD),” was thus important to analyze. A friendly HRD climate was crucial for developing skills and inspiring people to deliver excellent work. The Thane Plant of Cadbury India Ltd. in Maharashtra and its “Openness, Confrontation, Trust, Autonomy, Proaction, Authenticity, and Collaboration (OCTAPAC)” culture were evaluated in this study. It was also trying to comprehend how the culture of the company, in this case, Cadbury, changed after Kraft Foods surpassed it in 2010. A standardized, self-administered 38-item “Human Resource Development Climate (HRDC)” questionnaire created by Rao and Abraham (1985) was utilized to gather primary data from respondents, including management and employees. A recent study examined the general climate, HRD mechanisms, and OCTAPAC culture within the plant using a questionnaire. The finding showed that there was a friendly HRDC in the organization. Most HRD characteristics were above their respective average values.

Bilal, S. & Zia-ur-Rehman, M. (2017) investigated how emotional capital influences the roles of “Human Resource Development Climate (HRDC)” and mindfulness in public leadership behavior, as well as the relationship between these factors and “Human Resource Development (HRD)” climate, mindfulness, and public leadership behavior. The technique of random sampling was applied.

Correlation and regression tests were employed to analyze the data that had been gathered. The study's conclusions paint a clear picture of “Public Leadership Behavior (PLB)” in Pakistan's public universities. The findings of the study demonstrated the beneficial relationships between HRDC, mindfulness, and PLB, which the contribution of emotional capital would further strengthen. The study also offered helpful insights and recommendations for the next scholars.

2.2.3 Literature Review relating to Telecom Sector in general and BSNL in particular.

Glynn, S. (1992) concluded that a combination of regulatory elements, “including competition, threats and incentives, practical, in-depth regulation, and flows of people and information across enterprises,” can explain the success of Japan's telecoms service sector. The impact of each component was amplified by all of them combined. In order to optimize the contribution of the telecommunications sector to Japan's economy and society, the government was currently making use of the mix it resulted from a combination of historical accident and design.

Athreya, M. B. (1996) stated that the telecoms industry in India was going through a lot of upheavals. Moreover, there have been divergent views on the strategy and rate of change inside India. Three stages of change were examined in this study. Before 1990, there was first a policy vacuum. A change in basic assumptions in governmental economic strategy prompted the second change in telecommunications policy. Third, there were issues with putting the new policy into practice. The report also discussed how the Indian telecom business would develop. The new policy has been the subject of differing opinions inside India. The transformation was happening too quickly, according to those who work for the state-owned monopoly in the telecommunications industry and those who share their ideological viewpoints. While the regulatory change was moving slowly, Indian industry and residential consumers believe it has been long overdue. It has been drawing interest from world leaders in the area of telecommunication equipment and services as well as government of foreign countries interested in promoting their telecommunications and try to exports and investment in India. It was true not just of domestic businesses but also of major global players in the industry.

Chadha, K. (1999) focused on variations to Indian telecom policy, aimed to determine whether the liberalized, market-oriented policy that was implemented in 1994 has, as its supporters claimed, improved performance in terms of service provision compared to the pre-decontrol period and accomplished the public interest objectives of universal service. It also looked at which goals and objectives of the policy have been realized thus far and how it has affected various sectors of the economy. However, to put it another way, the questions of policy outcomes were what the study was primarily focused on. The project provided several research avenues and targeted indicators that make it possible to operationalize and gauge concepts like universal service and performance in service delivery. The project employed a variety of techniques, from focus groups to in-depth interviews and documentary analysis, in order to examine the Indian telecom system. It used a qualitative approach to methodology.

Dokeniya, A. (1999) obtained private investment for network expansion was a significant issue with the new telecom growth strategy. The study made the case that the development of a regulatory legal mechanism that offered "credible commitment," i.e., provided both a set of rules and regulations that ensure possible private investors a practical and sensible return on investment and a governing mechanism that insures them is necessary for the success of the private investment. The study's claim was based on institutional economists' perceptions as well as data gathered from a case study of India's telecom liberalization process. The difficulties encountered during the liberalization of the Indian telecom industry were a direct result of the absence of such a regulatory framework. India began a phase of macroeconomic liberalization in 1991, and in 1994 it approved the "New Telecom Policy (NTP)," which allowed foreign investment in the fundamental telecom industry. However, several disputes and controversies occurred throughout the implementation of NTP, which led to considerable litigation, the conflict between the commercial operators and the Department of Telecommunications, and a decline in investor trust. These implementation issues have evolved into an issue of institutional change concerning a fundamental change in the institutional regime from institutions based on "transparency, accountability, knowledge, and isolation from the political

process” to ones that have a high degree of discretionary power on the part of state actors.

Subramanian, R. (2008) explored the changes in Indian telecom policies, starting with the colonial era and ending in the present. The policies have undergone significant changes. Policies implemented during the British administration in India were solely responsible and driven by the colonizer's need to maintain control over the indigenous population of the country. After India gained its independence, the country's policies were determined by the desire for self-sufficient growth and Fabian socialism, which created other issues that hampered the country's progress in telecommunications. India gradually opened up to market economies in the final decades of the 20th century due to the necessity of economic survival. The telecom industry's expansion was accelerated as a result. The fundamental question of whether India's telecom sector, particularly the cellular telecom sector, has achieved the government's declared developmental policy objectives, despite the sector's remarkable expansion over the past ten years remains open. The purpose of this study was to objectively be examined the development of telecommunications policies and procedures in India, to evaluate the underlying principles of the policies, their successes and failures over time, present trends, and the prospects for telecommunications network in India going forward.

Mittal, S. K. & Momaya, K. (2009) found that the telecommunications industry has grown in India in the new millennium at a never-before-seen rate. The telecom service business has transformed as a result of this expansion, and the telecom operators have reaped significant benefits. Subscribers feel like they are benefiting more than ever before as operators launch new, creative services constantly. Few people appear to be aware of the negative aspects of trade imbalances, ownership of technology, and general competitiveness issues. “Although the country has an ambitious vision, strong managerial and technological capabilities in industrial houses, PSUs to SMEs, and a large pool of young talent, its trade and technological competitiveness appear to be at or near the bottom.” The study aimed to understand the problems with the Indian telecom industry's lack of technological competitiveness and to ascertain if Indian telecom product development firms could

catch up despite their late entry. “The government, operating companies, industry associations, product development companies, academic institutions, and research organizations” that make up the entire Indian telecom sector ecosystem were also the sources of the reasons for the low technological competitiveness of Indian telecom product development companies. In addition to researching what has transpired in a comparable international context, an effort has been made to pinpoint the problem's core cause by using the Huawei (China) case as an example.

Sinha, S. (2009) found that reorganizing the current state-controlled monopolistic operator before or concurrently with reopening the industry to competition is a crucial component that India's reform process lacks. Due to this, the state-owned operator is at a significant competitive disadvantage. With Air India/Indian Airlines, this has happened with unfavorable results. According to the thesis statement of this study, "Bharat Sanchar Nigam Limited/Mahanagar Telephone Nigam Limited" could be moving in the same path. The corporate governance system, which sets the connection between the government and the firm, must be completely reoriented as the first step in reorganizing state-owned companies. The state-owned companies are no longer strategically beneficial to the government for economic progress or for delivering "universal service" due to the expansion of private operators in these areas. Suppose privatization is not practicable or desired, at least not in the short term. In that case, the corporate governance system should be created with growth and efficiency as the main goals, much like in the case of private companies.

Amulya, M. & Anand, D. (2011) stated that India's telecom industry is the second largest in the world, after only China and surpassing the United States. The global telecom market was unaffected by the monetary crisis. While the market was profitable, rivals grew their businesses and went global. Even as the telecom market expands quickly, the Indian telecom powerhouse BSNL, which formerly held the title of the nation's largest telecom player, was suffering a decline in its market share and income. BSNL, despite having many advantages that private competitors cannot even imagine, is encountering many issues now that private firms have entered the Indian telecom market. These issues must be resolved in order to rouse the sleeping giant and restore its dominance over the industry. The study provided a quick

overview of the Indian telecom industry and examined the pertinent data concerning BSNL's current position. In order to maintain market pressure and restore former grandeur, the study also offered a long-term solution.

Parija, S. & Mohanty, K. (2011) found that organizations expand following the strength of their resources and consumer demand. In order to ensure better productivity and utilization of human resources, it was crucial to develop the tools, instruments, and mechanisms that would enable better workforce performance by requiring their competencies, inspiring them, assessing their performance, and creating a supportive environment. These techniques might include reward management, quality of work life, prospective evaluation, training and development, performance management, and so forth. The training and development system inside a business is the most important HRD method for boosting staff competency and, consequently, employee productivity. Therefore, the company must establish a vigorous training and development system that identifies training needs scientifically, deliver the appropriate instruction as needed, and provide adequate opportunities for applying newly learned skills in the telecom industry. Given the current climate of opportunity and growth, a focus on training and development is unavoidable. The objective of the study was to ascertain the driving forces for training and growth at BSNL Odisha. The study concluded that training and development mechanisms are implemented in a way suitable for a company, but there is still room for improvement.

Singh, R. N. & Mohanty, R. P. (2011a) investigated how cultural values influence the links between workers' "Organizational Commitment (OC)" and "Participation Satisfaction (PS)." According to a study of "Bharat Sanchar Nigam Limited (BSNL)," a government-owned public sector company that provided telecom services across India, PS was strongly linked to OC and has been restrained by the unique cultural values of its personnel. According to the moderation form, PS and affective commitment have a positive but insignificant relationship for workers who avoid uncertainty frequently, and PS and normative commitment have a positive but meaningful relationship for workers who have been highly individualistic or collectivist, low in masculinity or femininity, and low in power distance. The

connection between PS and continuation commitment has not been shown to be moderated.

Singh, R. N. & Mohanty, R. P. (2011b) investigated the connection between workers' "Organizational Commitment (OC)" and "Performance Appraisal Satisfaction (PAS)." A cross-cultural study of "Bharat Sanchar Nigam Limited (BSNL)," a public sector enterprise of the Indian government that offers telecommunication services throughout India, demonstrated a definite relationship between PAS and OC. Employees' distinct cultural values influence the link between PAS and OC. The moderation method revealed a positive relationship between PAS and affective commitment for workers who have prominent levels of uncertainty avoidance and low levels of power distance and normative commitment for workers who have prominent levels of individualism-collectivism, low levels of masculinity-femininity, and low levels of power distance, and vice versa. The relationship between PAS and continuous commitment has not been found to be moderate. It explored what it means to reengineer organizational behavior, human resource management systems, and research projects.

Babu, Y. G. S. C. (2012) found that the Indian telecom industry has grown excessively popular. Telecom service providers (TSPs) are under pressure from the market to provide the greatest services at the lowest prices in several settings. Growing numbers and stagnant income do not bode well for the TSPs' substantial prior investments. The broadband and "Enterprise Telecom Services (ETS)" are demonstrating constant growth and revenues in contrast to this saturation in the mobile vertical. In order to examine BSNL's issues in this fiercely competitive sector of the telecom industry, the study was done on a sample region of the Bangalore Telecom District. On a sample basis, opinions from highly prospective clients and BSNL partners were gathered regarding the company's performance compared to their top service provider.

Additionally, opinions from BSNL teams were too widely dispersed to understand how they perceived BSNL's performance in this crucial and demanding ETS segment. After examining the key areas of concern from the perspectives of Customers, Partners, and BSNL teams, the study looks at the existence of innovation

structures in BSNL to see if it has the necessary frameworks to record and systematize the learning to innovate psractices in this dynamic area of Telecom Services. Based on the study, managers and policymakers are given the right advice.

Chakrabarti, S. (2012) examined the impact of the consumer innovativeness construct among customers of a slowly spreading service like BSNL 3G mobile services, and this study has aimed to fill a knowledge vacuum in the Indian setting. The overarching goals of the research were to compare and contrast innovative and non-innovative consumers with regards to (a) the ownership and management details of select consumer electronics products, (b) the source of information for the latest technological products and services, (c) the evaluation of satisfaction associated with BSNL 3G mobile services. The findings of this study helped advertisers better reach their intended demographic across various channels. Items on the scale have been factored in, and their factor loadings have been quantified using principal component analysis. The convergent validity of the domain-specific innovativeness scale has also been shown using confirmatory factor analysis in the study.

Joy, A. M. T. (2012) viewed the 203 million connections. The Indian telecom network ranks second among Asia's growing countries and is the third biggest in the world. It is now the market with the quickest rate of growth. The telecommunications industry continues to see tremendous development during the year and has established itself as one of the major contributors to India's resurgent economic growth. Private investment began to flow when the telecom industry was opened to the private sector, and within a decade, the entire paradigm of India's communication environment shifted. Perhaps BSNL and its mentor central government could not foresee the change's rapidity and radicality, which caught BSNL off guard. Both the evolving customer demographics and innovative technologies lagged behind BSNL. Mobile service providers have aggressively seized the urban and rural markets, luring customers with alluring tariff packages aimed at various social strata. Many customers have abandoned their land line connections because they believe having a brand-name mobile device with features like a camera and a radio would enhance their personality.

Nandamuri, P., & Gowthami, C. (2012) found that the market for cellular services in India is expanding rapidly. The introduction of “Mobile Number Portability (MNP)” and the participation of many international telecom brands poured fuel on the already-simmering competition. Consumer acquisition and retention have evolved into a zero-sum game that no single provider can ever hope to dominate. The study aimed to investigate the features that influence customers' preferences across a variety of mobile service providers “including BSNL, Airtel, Reliance, Tata Indicom, Idea, Vodafone, and Docomo.” Self-designed questionnaires provide the primary source of information for gauging preference levels and the service features of interest. The data were analyzed using the Chi-Square test in SPSS-19. The result showed that only four brands are significantly preferred because of network quality and low tariffs, while other brands face the risk of customer migration despite appealing service features.

Srinivasa, P. D. & Gangadhara, R. R. S. (2012) discussed the telecom infrastructure is seen as a key component in achieving India's socio-economic goals since telecom services are widely acknowledged as a significant instrument for the socioeconomic development of a country. As a result, the Department of Telecom is developing regulations to support the telecommunication services' rapid expansion. Most telecom services in India are provided on fixed line networks by BSNL, a fully owned government of India company. Land line telephone service, BSNL's primary source of revenue, has been declining as consumers switch to mobile phones. The land line industry in India has not benefited from the value addition offered by cordless communications networks, unlike the rest of the globe. It has harmed BSNL's financial performance. The post would look at some of the issues that BSNL customers have encountered, as well as how they feel about the services the firm provides. In order to find the underlying cause of things, a structured questionnaire was developed and administered to BSNL's clientele. Customers tend to have a negative impression of BSNL's offerings.

Varatharaj, V. et al. (2012) discussed the customer attitudes about goods, services, or brands that are gauged by customer satisfaction. Though it has always been an innovative idea to keep customers satisfied, the word was made more common by the

overall quality movement in the 1980s. When a company's products and services match or surpass a client's expectations, it is said to have achieved customer satisfaction. The primary goal of this study was to comprehend how satisfied and how customers perceive BSNL Broadband in Chennai. In Tamil Nadu, BSNL broadband offers the most economical pricing compared to all the other service providers, making it accessible to all working- and middle-class people. The results of the study may be used by BSNL to determine how satisfied customers are with their broadband connections and to improve the services they provide in order to gain market share and improve their reputation. The study also tried to comprehend client issues, company competitiveness, and brand recognition, which aids the business in determining the best course of action. To arrive at relevant conclusions, the primary data was examined using a variety of statistical methods after being acquired using the questionnaire survey method.

Ahmed, B. et al. (2013) stated that the unprecedented expansion in the wireless mobile communication markets is driven by the explosion of information and the technological revolution. The communication society was enhanced significantly by mobile communication systems. Several sophisticated and standardized wired and wireless communication systems were available for various smart grid applications. Due to the recent growth and development of wireless communication, it has always been possible to provide standardized technology for large areas, metropolitan areas, local areas, and personal area networks. Furthermore, wireless technologies are better suited for remote-end applications and can provide substantial advantages over wired technology. Some of the potential and problems associated with wireless communication technology have been briefly explored. The study provided a concise summary of some of BSNL's difficulties and the advantages of mobile wireless communication. “Applications for wireless LAN, WiMAX, ZigBee, 3G/4G cellular, and digital microwave” that might be used in the smart grid were explored in the study.

Sahoo, A. K. & Mishra, U. S. (2013) discussed the telecom services sector is now experiencing some key issues, and the rate of innovative technology development in this sector is particularly rapid. The telecom sector was chosen for study, analysis,

and research because it has a large volume of commercial activity, is subject to rapid change, has a variety of product variants, and places a lot of emphasis on innovative technology development. In particular, “BSNL” has been chosen as a focus area because, along with its sister concern public sectors “Mahanagar Telecom Nigam Limited (MTNL) and Telecom Corporation of India Limited,” it holds a second significant market share in the Indian market. The goal of this study was to be determined how to make many certified technologies, both new and old, available. Some significant problems and difficulties with supply chain management systems are covered in the literature study addressed in this study. The study tried to relate the theories and fundamentals of a supply chain management system that might be applied in practice in the telecom service sector, particularly at BSNL, in this context. With particular emphasis on BSNL, a public sector of the Indian government, the study compares the manufacturing and telecom service industries. According to the comparison, “Supply chain management (SCM)” was highly integrated into every service industry, whether in the commercial or public sector.

Sharma, I. & Singh, S. (2013) examined the work attitudes of female employees at Punjab Telecom Circle's "Bharat Sanchar Nigam Limited (BSNL)" in Chandigarh. Based on the questions they were given. The study demonstrated the degree of satisfaction among female employees with their work environment and job satisfaction. Their degree of satisfaction has been evaluated using SPSS and the Karl Pearson test. Except for the metro areas, the BSNL took over offering telecom services and network management nationwide. In India, the corporation has been offering a variety of telecom services.

Suthar, B. K. et al. (2013) evaluated the viability of a rural marketing strategy in the context of “Bharat Sanchar Nigam Limited's Vadodara Telecom District.” Evaluation of the rural marketing mix as "4As" may lead to particular recommendations for its better performance since the shrinkage, and the aging workforce of such a large state-owned public sector organization was in fierce competition with its competitors, specifically in the field of cellular services. Prepaid mobile service customers of “Bharat Sanchar Nigam Limited in the Vadodara Telecom District” were given the survey questionnaire. The convenience sampling approach was

applied. The survey asks about costs, accessibility, awareness, acceptability, and marketing mix. Concerning “Bharat Sanchar Nigam Limited, one of the Cellular Service Providers (CSPs) in Gujarat's Vadodara Telecom District,” the data gathered showed a good association between many aspects of the rural marketing mix. The study discussed rural marketing mix strategies that consider local culture in order to fit the needs of a specific company at a specific time and place.

Agbaje, Y. T. (2014) evaluated the impact of customer relationship management on customer loyalty in the Nigerian telecommunications industry. A systematic questionnaire was used to generate the primary data. The acquired data were examined using descriptive statistics and the variance estimation technique. According to research, the industry can greatly benefit from competitive advantages and client retention. These results came about as a result of an improved comprehension of and response to client requirements and problems. The participants in this business used promotional efforts and prompt service delivery to facilitate these. The promise of CRM as a successful method of customer retention was quite alluring. Better customer communication, greater efficiency, and higher efficacy were several advantages that telecommunications companies implementing the CRM effort would experience.

Alamelu, R. et al. (2014) stated that the telecommunications industry community has begun to be emphasized human resource strength due to the rapid advancement of technology and intense competition. Companies are now looking for the most qualified human resources to hire and keep in order to support their organization's growth and get a competitive edge. It helped to concentrate attention on the significance of the roles and job descriptions that people perform and engage in inside their businesses, and it pushed management to create a positive HR environment to enhance employees' core skills. In one of the top public sectors, BSNL, the supportive management environment and HRD systems are assessed in this study. The study also sought to understand how BSNL was positioned within the OCTAPACE culture concerning demographic factors and the workers' perceptions of the HRD climate. The study evaluated the OCTAPACE culture and overall atmosphere in BSNL. Regarding the general supportive environment, perceptions

from employees of different ages, levels of experience, and educational backgrounds were remarkably consistent. The result of the study, even so, made clear that there is still much room for improvement in other areas of the HRD climate and the OCTAPACE culture, which requires greater attention from the top management of public telecom companies in order to reward and appreciate customers and to be competitive on an equal level with much more crucially by giving feedback for handling private records.

Baruah, P. & Baruah, R. (2014) found that “Globalization, privatization, and liberalization” sped up comprehensive changes across many industries, particularly in emerging nations. India and other developing nations came to understand the value of communication in the latter half of the 20th century. The Indian Telecommunication Sector is now one of the telecom industries with the quickest growth rates, and it has overtaken China as the second-largest network in the world. By implementing the necessary rules, the Indian government has effectively pushed the telecom industry to expand into new areas around the nation. As a result, it has been determined that this industry is on the rise and, given its potential, has been doing so for some time. Keeping these in mind, the current study evaluated the history and development of the Indian telecom industry, as well as its growth and advancements in the current environment and the sector's future potential in India.

Gopinath, R. & NS, S. (2014a) looked specifically at BSNL, Trichy SSA to see how recruitment and selection affect job satisfaction. Human resource management's duties were recruitment and selection, focusing on how people interact at work and inside organizations. Recruitment and selection were the processes of choosing candidates who might be hired promptly, in adequate numbers, and with the required skills and qualifications. The selection criteria varies from firm to company, job to job, and country to nation. In addition to screening applications and resumes, other steps include conducting interviews, analyzing and reviewing work samples, checking references, and running background checks. Employers utilize these practices to increase the likelihood that newly hired employees have the abilities and skills to succeed in their roles. To assess the degree of Recruitment and Selection related to Job Satisfaction among BSNL employees using the "Job Descriptive Index

(JDI)" Scale. Work, supervision, pay, promotions, and a coworker were all factors in the JDI scale. Job satisfaction is generally understood as a pleasurable, pleasant mental condition brought on by assessing one's professional experiences or job performance. Therefore, it was critical to have a solid grasp of a person's overall value system and personality in order to comprehend and articulate his level of job satisfaction. The study has some significant ramifications for further research as well.

Gopinath, R. & NS, S. (2014b) looked specifically at BSNL, Madurai SSA, to see how recruitment and selection affected job satisfaction. Human resource management's duties were recruitment and selection, focusing on how people interact at work and within organizations. The selection process differed from business to business, job to job, and country to country. Among other steps, screening of applications and resumes, evaluation and examination of work samples, interviews, reference checks, and background checks were conducted. Employers use these methods to raise the possibility that new hires have the skills and abilities necessary to succeed in their roles. The study assessed the degree of Recruitment and Selection related to Job Satisfaction among BSNL employees using the "Job Descriptive Index (JDI)" Scale. Work, supervision, pay, promotions, and a coworker were all factors on the JDI scale. Job satisfaction is generally understood as a pleasurable, pleasant mental condition brought on by assessing one's professional experiences or job performance. Therefore, it was critical to have a solid grasp of a person's overall personality and value system in order to comprehend and articulate his level of job satisfaction. The discovery has some significant ramifications for future research as well.

Gopinath, R. & NS, S. (2014c) looked specifically at BSNL's Thanjavur "Secondary Switching Area (SSA)" to examine the effects of promotion, transfer, appraisal, and reward based on job satisfaction with reference to BSNL, Thanjavur SSA. The current study investigated how promotion and transfer, appraisal, and reward affect job satisfaction of employee. The functions of human resource development techniques, primarily concerned with people at work and their relationships inside the company, include promotion and transfer, appraisal, and reward. Employees have

the chance to enhance their skills and abilities through promotions and transfers, which can help with career development and progress. The "Job Descriptive Index (JDI)" Scale is used among BSNL employees to study the relationship between Job Satisfaction and the Level of Promotion and Transfer, Appraisal, and Reward. Work, supervision, pay, promotions, and a coworker were all factors on the JDI scale. Job Contentment Employees would positively impact their individual BSNL and maybe boost the BSNL's effectiveness. Therefore, it was critical to have a solid grasp of a person's whole value system and personality in order to comprehend and articulate his level of job satisfaction. The discovery has some significant ramifications for future studies as well.

Singh, R. N. & Mohanty, R. P. (2014) investigated how cultural values shape the connection between workers' "Communication Satisfaction" and their dedication to the company. Employees' own cultural beliefs attenuate the positive correlation between CS and OC, according to a poll by "Bharat Sanchar Nigam Limited (BSNL)," a "Public Sector Undertaking (PSU)" of the Government of India that provides telecommunication services across India. For employees high in "Individualism/Collectivism (IC)," the form of moderation reveals a significant positive effect and influence on the relationship between CS and "Normative Commitment (NC)," and for employees lower in "Masculinity/Femininity (MF)," and "Power Distance (PD)," a significant positive effect on the relationship between CS and "Normative Commitment (OC)." Employees' "Uncertainty Avoidance" (UA) does not significantly moderate the link between "CS and OC."

Suthar, B. K. & Pradhan, S. (2014) investigated consumer awareness levels and the mix of sales promotions concerning "Bharat Sanchar Nigam Limited (BSNL)," Vadodara Telecom District. Due to the possibility of giving marketers a competitive edge, a brand promotion mix may be used to analyze the marketing operations of such a prominent state-owned public sector entity, which is experiencing intense competition from rivals, particularly in cellular services. The technique of convenience sampling was employed. The consumers' awareness level and opinions on the company's use of "direct marketing, public relations, personal selling, advertising, and sales promotion" were only a few of the questions in the

questionnaire. The obtained data shows a favorable correlation between the various promotion mix aspects and consumer awareness of the various cellular mobile services offered by “Bharat Sanchar Nigam Limited (BSNL) as one of the Cellular Service Providers (CSPs) in the Vadodara Telecom District of Gujarat.” The findings of the study shed light on the importance of timing and location in choosing the best promotional strategies for a certain firm. More samples could be collected for future studies if the scope of the study were broadened.

Suthar, B. K. et al. (2014a) discussed the elements that influence an employee's motivation and work satisfaction can be found with the aid of initiative-taking or routine job analysis procedures. “Bharat Sanchar Nigam Limited” has struggled to oversee its human resources and provide pleasing results during the past three years. In the context of “Bharat Sanchar Nigam Limited, Vadodara Telecom District, Gujarat,” the study examined the relationship between employee job analysis and organizational performance. Bharat Sanchar Nigam Limited personnel were given the survey questionnaire. The study adopted a quantitative research methodology to ascertain the extent to which job analysis impacts organizational performance, and the analysis was performed using scale reliability for “questionnaire scaling validity, descriptive statistics, item measurement, correlation, regression analysis, and other suitable tests.” According to the data the study gathered, there was a favorable correlation between organizational success and job analysis. The study demonstrated that job analysis was a useful technique for improving business results through the involvement of workers. Extending the scope of the study would allow for more extensive research with larger sample sizes.

Suthar, B. K. et al. (2014b) investigated how the work environment aspects that impact the customer orientation of workers concerning “Bharat Sanchar Nigam Limited as a Cellular Service Provider in a Competitive Environment.” The study was a correlational analysis. The data was collected and analyzed by scale reliability for scaling questionnaire validity. The data analyzed with the help of statistical methods like factor analysis and regression analysis, descriptive statistics, and item measurement in order to look at the relationship between variables and predict which predictors may result in frontline employees. According to the data gathered, there

was a favorable correlation between organizational identity, self-efficacy, service atmosphere and frontline staff. In order to improve frontline staff' customer orientation, managers should concentrate on several characteristics identified by this study. The study can be expanded with bigger samples and new study regions.

Tiwari, U. (2014) discussed the term “organizational climate” refers to the collective collection of factors that employees identify when describing the policies, procedures, and conditions of their workplace. The company becomes more innovative and growth-focused when employees are initiative-taking and energetic. A strong corporate culture has been viewed as a motivating factor that could increase productivity. Increased employee assurance and dedication, lessened stress and more ethical conduct are all benefits. The morale of an organization's workers was directly correlated with their productivity on the job. The study aimed to investigate the HRD atmosphere and culture of “Bharat Sanchar Nigam Limited (BSNL),” along with its bearing on worker productivity. According to the research, “Bharat Sanchar Nigam Limited (BSNL)” has a positive HRD culture and climate, which positively affects employee performance.

Baruah, P. & Baruah, R. R. (2015) compared to other development areas, the Indian telecom industry was one of the fastest expanding, and in recent years, both public and private entities have made significant investments in it. The study's main objective was to evaluate the performance of the public and private telecommunications industries concerning wireless services in the Assam Telecom Circle. In the Circle, as mentioned above, the study attempted to examine and comprehend the key parallels and discrepancies between the public and private cellular service providers in terms of their ability to penetrate the market effectively, the size of their subscriber bases, the amount of money they generate, etc. Data on the telecom sector at the federal and state levels have been gathered periodically. Applied Analytical Research assisted in the critical review by utilizing already-available data and facts. The findings indicated that while there were a few basic elements that applied to both the public and private telecom sectors, there were notable performance discrepancies between both industries in the Assam Circle. The main conclusions from this study stated that the Private Sector outperformed the

Public Sector in terms of a few factors that were taken into consideration, which may provide a potential direction for the Public Sector's efficacy in this Circle.

Jain, A. (2015) evaluated the importance of employee training and development has grown as jobs have gotten more complicated and are more influenced by technological advancements. Every organization in the modern, fiercely competitive world must work to change, develop, and retain its talent pool. The efficiency of training and development had an impact on organizational effectiveness. Training needs analysis, design, implementation, and evaluation are increasingly being acknowledged as components of competitive advantage for all organizations. The purpose of the study was to assess how well BSNL's training and development programs perform (Navi Mumbai). The study set out to answer the question, "How well are training programs designed and organized, and do they suit the needs of individuals and the business as a whole?" Surveys and in-person interviews constituted the primary means through which information was gathered. Secondary data was comprised of information gleaned from HR reports. The Chi-square statistic has been used to evaluate goodness-of-fit tests and independence analyses. Research shows that while BSNL's training programs are well-thought-out and good, the organization's approach to training assessment is inefficient.

Parija, S. & Mohanty, K. (2015) stated that the organization's competitive advantage largely depends on its intellectual and social capital. The organization's human resource is where both of these are concentrated. The most valuable resource for any organization is a competent workforce. It was essential for the Organization to be able to utilize, grow, and nurture both social and intellectual capital. Noted the companies must foster an environment where workers feel safe expressing their ideas and opinions, where they can collaborate without fear of retaliation, and where their contributions to the growth of the company are valued and appreciated. To achieve this goal, a healthy HRD Climate was crucial. The purpose of the study was to be evaluated the HRD environment of BSNL, a government-run telecom business. To investigate the HRD Environment, researchers used the 38-item questionnaire created by "T.V. Rao and J. Abraham." According to the results, the HRD Mechanisms were less effective than the General Climate and OCTAPAC Culture.

Lakshmi, K. (2016) found that the importance of human resource management in business is increasing since people and their expertise are the primary factors determining a company's productivity. Whether or not workers have been at ease and content, and whether or not their needs and wants were being satisfied at work, was referred to as employee satisfaction. Today, it was crucial to have skilled personnel on staff in order to survive in such a cutthroat industry. Employee happiness gauges how content employees are with their employment and workplace. Maintaining strong employee morale may be extremely beneficial for any business since content employees are more inclined to generate more. The employee satisfaction study assists the company in maintaining standards and increasing productivity by motivating the workforce. The study was conducted to determine the employee satisfaction level at BSNL Hyderabad. It was focused on "identifying the factors that increase employee satisfaction and the significance of working conditions, pay and promotion, job security, fairness, and relationships with co-workers and supervisors on job satisfaction." The study revealed that 90% of employees are satisfied with their understanding of their roles and the company's objectives.

Parthi, K., & Gupta, R. (2016) examined how gender disparities in psychological capital, work satisfaction, and organizational environment affect New Delhi BSNL (telecom) employees. It was chosen at random from BSNL Telecom for this purpose. The statistical method of the t-ratio was used to assess the findings. The findings showed a strong difference between the genders in the psychological capital subdimensions of optimism and resilience. Employee optimism was higher among women, and employee resilience was higher among men. The study also acknowledged that men and women might perceive their work environments differently. Organizations must recognize these differences and create an environment at work that fosters the innovative thinking and fresh perspectives required to address the challenges that face today's organizations. The organizational climate's incentive, interpersonal interactions, and altruistic behavior categories showed gender variations. The results show that male employees were more satisfied with their occupations than female employees, which was crucial for an employee's success.

Periasamy, C. & Rama, N. (2016) established an E-Government model using the findings of a bi-analysis conducted in a conventional database setting through SWOT analysis and cluster analysis. A model-based questionnaire survey was conducted across the state to learn more about the BSNL locations in Tamil Nadu and their respective IT, telecommunications, and automation infrastructure. In order to ascertain the current condition of issues that have been plaguing the BSNL headquarters in Tamil Nadu, India, a special questionnaire was designed. The study covered every step of the research process, from creating research questions to doing SWOT and cluster analyses on data to creating the best recommendation model for the BSNL public sector. The hierarchical clustering approach based on SWOT analysis was considered one of the best of its contemporaries.

Additionally, develop a 96% success rate and a 4% weakness rate, and promote this as a chance for others to use ICT in the BSNL company. The model allowed for a seamless exchange of data, instructions, requests, and reports between the public and the government (BSNL administration), improving both the efficiency and effectiveness of internal operations as well as facilitating easy access for visitors. Also advises users to utilize ICT resources as much as possible in the public sector.

Prajapat, R. et al. (2016)) stated that the “Bharat Sanchar Nigam Limited (BSNL),” although being a government entity with maximal infrastructural facilities, has not been able to attain commercial success in the telecommunications market. It made recommendations for BSNL after attempting to identify the underlying reasons for this issue. It has compared BSNL to international and domestic competitors with comparable offerings. “Nippon Telegraph and Telephone Corporation (NTT)” was recognized as a major firm in the global telecommunications market because of its continued development against domestic and international competitors such as “Softbank Telecom, KDDI, EMOBILE, AT&T, Deutsche Telekom, China Mobile. BSNL has benefited from our in-depth examination of NTT's path.”

Purani, G. M. (2016) found that the marketing activities of a prominent state-owned public sector organization can be studied concerning product fair play of the company, but since product achievement has the power to enable marketers to gain a

competitive advantage. It was especially true in the area of cellular services, where the rationalizing and aging personnel of the organization are facing tough competition from rivals. The study investigated the connection between fair product play and persuasive combination concerning Bharat Sanchar Nigam Limited, Vadodara. Users of BSNL's prepaid mobile services were given the survey questionnaire. The result showed a favorable correlation between various preferment combinations and product fair play characteristics of BSNL, one of the “Cellular Service Providers (CSPs)” in Vadodara.

Rao, U. K. & Shekhar, D. U. (2016a) examined customer loyalty and its effect on BSNL mobile subscribers' customer retention. Customer loyalty results from regularly satisfying physical attribute-based satisfaction, pleasant emotional experiences, and the perceived worth of an experience, which includes goods or services. A company's action to prevent client churn is known as customer retention. Successful customer retention starts with the first time a business interacts with a client and continues throughout the relationship. Due to fierce competition in the Indian telecoms industry, BSNL's income and market share suffered severe losses in recent years. In this regard, it was crucial to examine how BSNL emphasizes client retention and loyalty.

Siddiqui, O. (2016) discussed the performance appraisal system already in place, employee knowledge of it, and “BSNL LKO's” efficacy. According to the employees' assessed replies, the performance appraisal system at BSNL is not transparent, even though the appraisers are often objective. The most recent performances have given more weight. Although there are set criteria for evaluating performance, these are unclear because the subject was debatable. The majority of employees favor the implementation of a 360-degree feedback system. It was occasionally challenging to connect with BSNL staff because of time restrictions and their busy schedules. Even though they answered the question, the respondents were reluctant to fill out the questionnaire, and their response was not very satisfying. Given the scale of BSNL, a more thorough investigation might have been conducted with a larger sample size. Employees took longer than expected to complete the feedback form, which increased the time needed to gather and analyze data for

conclusions and recommendations. Due to the information's extreme confidentiality, some details could not be disclosed.

Sodani, R., & Vyas, C. (2016) stated that all mobile service providers in India have been working hard to gain an advantage over rivals in this market since Airtel launched 4G network services there in 2012. Reliance Jio's recent market debut was seen as a major changer. The study discussed the market leadership and pioneer's advantage movements of several 4G network operators. They discussed additional business issues, such as merger and acquisition, stakeholder benefits, etc. The study also discussed competitiveness, availability of handsets, call drop issues, infrastructure (especially mobile towers), and spectrum allotment. The number of circles, tariff, client base, financial performance, and specific difficulties faced by each 4G service provider were compared. Also stated has been the part the Telecom Regulatory Authority of India played.

Arya, R. & Tandon, J. K. (2017) determined of the study was to increase the number of data subscribers by improving network performance and speed. Intense rivalry, managing rising consumer expectations, and issues expanding and maintaining the telecom infrastructure/network are just a few of the obstacles that telecom operators have had to deal with. The study examined “the Induction, Customer Acquisitions, Adoption, Competition, Challenges, Marketing Strategies, Growth of ADSL2 Broadband and FTTH Services of M/s Bharat Sanchar Nigam Limited” in Rajasthan and analyzed the factors that contributed the expansion, its future opportunities, the obstacles that were an obstacle to its growth, and eventually some important suggestions and recommendations to conquer some these difficulties. Microsoft Excel and the compounded average growth rate were the analytical tools utilized to determine the expansion of BSNL's broadband services in Rajasthan. According to the study, “the Compounded Average Growth Rate (CAGR) of average connections, Amount Billed For (ABF) and Revenue recovered for Asynchronous Digital lines (ADSL2) based Broadband and Fiber to the Home (FTTH)” of BSNL Rajasthan" were 8.08% and 12.19%, and 12.39% for the entire Rajasthan including both, and Jhunjhunu Secondary Switching Areas (SSA) recorded the highest CAGR of average connections, "Amount Billed For (ABF)."

Palanisingh, V. et al. (2017) stated that telecommunications are crucial infrastructure for the growth of a nation's economy and industries. It is important in every facet of the business. The ability to communicate is necessary for any commercial operations. Globalization has made the entire world a unified market, making 24-hour communication facilities crucial for businesses and customers alike. The market size determines a company's target audience. A company's marketing mix reaches consumers through communication channels. “B2B, B2C, and C2C communication” are crucial for selling products and services. A few well-known Indian telecom companies are “Air Tel, Idea, Vodafone, BSNL, Aircel, and R-Jio.” The expansion of telecommunication in India has been examined in the study in respect of FDI equity inflow for “telecom, growth in telecom subscribers, internet subscribers, wireless density, wireless and wire-line revenue, market share of service providers, and current growth.”

Tripathi, P. & Singh, D. S. (2017) found that modern technologies necessitate new working practices, more efficient skill development, and fresh perspectives on developing services and business processes. For recent administrators, Electronic Governance (E-Governance) was a current problem. The technology behind e-government makes government services accessible online. It aids managers and higher-ups in performing their duties successfully. At several levels, ongoing work has been done to enhance the provision of public services and streamline the application process. Concerning BSNL India, the study critically examined the operational effectiveness of E-governance toward the HRD practices in the telecom industry in this study.

Anant, S. & Raghuvanshi, A. (2018) examined the BSNL used to rule the Indian telecom sector, but nowadays, it cannot afford to pay its employees' salaries. Several factors, including outdated technology, high staff costs, poor management, intense competition, and weak marketing tactics, have contributed to the serious financial difficulties that BSNL, a state-owned PSU. Compared to its rivals, the study discussed the current state of BSNL. The research determines the value of innovation and the significance of mergers and acquisitions in the Indian telecom industry. Accordingly, the report offers BSNL a strategic resuscitation strategy to improve its

performance and financial status. The study's findings suggested that the BSNL may resurrect itself by purchasing MTNL, combining ongoing innovation, and implementing innovative marketing techniques.

Gupta, A. (2018) examined the institutional variables accountable for the declining performance of BSNL was conducted. Since no organization publishes information on personnel qualifications or infrastructure sharing, it was obtained under the "Right to Information Act (RTI)" from the BSNL office in the Rajasthani district of Alwar (India). The data have been analyzed, and the results have been presented mostly using descriptive statistical analysis. In addition to the standard issues that the coexistence of private companies causes for any public sector organization, BSNL has to deal with additional institutional issues. Technical staff qualification is one of them. With many non-technical employees filling roles that demand technical expertise, BSNL is a rare example of a technical-driven enterprise. There was no "Phone Mechanic (PE)" with a technical degree or diploma, for example. Likewise, 33.3% of "Junior Engineers (JE)" had no formal technical training. The issue with such technically incompetent engineers, especially in higher positions, is that the other technically sound staff find it challenging and difficult to understand or convey the issues.

Buddhapriya, S. (2018) examined how Airtel, Vodafone, and BSNL, India's three largest telecom businesses, handle HR-related issues. The key issues this sector was dealing with included a lack of qualified personnel, managing employee engagement and attrition, coping with layoffs, and achieving gender parity. The human resources departments of businesses are developing strategies to deal with people-related challenges effectively. Private businesses are discovered to be more equipped than public sector businesses to oversee difficulties relating to people. The report offered some suggestions for successfully addressing industry-specific HR issues.

Deepa, V. (2019) determined customer happiness with BSNL landlines in Chengalpattu district in the study "Study on Customer Satisfaction of BSNL Special Reference to Chengalpattu District." Every business has a target consumer and fulfilling that customer would be their ideal outcome. Everything originated and ended with the client's wants in this competitive business world. The study asked

questions about the various BSNL benefits and selection criteria, customer knowledge of innovative programs and offers, and reasons for BSNL landline disconnections. The retention of current consumers, the development of brand loyalty, and the foundation provided for bringing in new ones make customer happiness the most crucial component. According to the study, BSNL must concentrate on frequent online failures, extra noises or line interruptions, a lack of responsiveness to complaints, and quick fixes to maintenance issues before taking corrective action.

Geetha, M. (2019) discussed the term "telecom" or "telecommunication" refers to the technology-mediated exchange of information. One of the world's most dynamic and quickly expanding industries is telecom in India. The largest public sector telecom company and a pioneer in the telecom sector were B.S.N.L. India's three largest private telecom companies: Reliance Communications, Idea Cellular Ltd., and Bharati Airtel. The study aimed to compare the financial performance of Indian telecom companies in the public and private sectors over the last few years in this highly competitive environment. The study demonstrated the BSNL's ineffectiveness and subpar performance. They were unable to turn a profit in just one fiscal year. All of BSNL's income has been stolen by the company's high operating costs. Compared to BSNL, the financial performance of private telecom companies is good every year.

Keshari, M. (2019) viewed that this way of offering high-quality services was directly tied to earnings, cost savings, and market share. The corpus of knowledge currently accessible on customer satisfaction focuses on service quality. The degree of satisfaction was influenced by various psychological and physiological variables connected to satisfaction behaviors like return and recommend rate. These days, all businesses understand the value of customer-centered concepts. The study's major goal was to investigate specific factors affecting customer service satisfaction. Utilizing a BSNL landline is the research. Client satisfaction is observed to be above average in all respects. The majority of respondents are not particularly content with the features of the BSNL instruments, although the majority of consumers are happy with the fundamental service offered.

Kumar, P. L. & Das, D. V. T. (2019) discussed the employee engagement might be a mildly new phenomenon that keeps gaining importance and being implemented in organizations. However, experts and management are also aware of the importance of intercommunication as a factor that needs to be addressed immediately and as a tool for fostering employee engagement. Effective employee communication creates a culture where workers appear to believe in the organization's goals and put forth a lot of effort throughout the workday in most organizations. However, the connection between internal communication and employee engagement has received less attention from scientific researchers up to this point. The study investigated whether or not "there is a link between internal communication and employee engagement." The objective of the study was to pinpoint the key variables that influence employee engagement in the Hyderabad Telecom District's "Bharat Sanchar Nigam Limited (BSNL)." The focus of the study was on how intercommunication affected the three key components of employee engagement—commitment, the significance of their job, and discretionary effort.

Kumari, G. S. (2019) discussed its rapid expansion, constant technological change, and fierce competition, and the Indian telecom industry has inspired the community to emphasize the importance of Human Resource. Today, business organizations are looking for the most qualified personnel to hire and retain for its growth. In the present study, an effort made by the researcher to examine HR practices in the Indian telecom industry's public and private sectors as well as to research the connection between HR practices and employee career advancement. In Hyderabad, BSNL and Airtel were subjected to an interview process. The study shows that BSNL personnel were younger, highly qualified with less experience, and concentrated on both technical and HR skills, whereas Airtel personnel were older, low-qualified with more experience, and underwent more technical skills. The staff of both companies were extremely satisfied with their professional development.

Kundu, S. C. et al. (2019) stated that the diverse workforce representation in public sector organizations is not just morally upright, socially responsible, or ethical; it also demonstrates a virtue-based, business-oriented mindset. The study aimed to investigate the relationship between employees' perceptions of workforce diversity

and firm performance in a public sector organization in India called "Bharat Sanchar Nigam Limited (BSNL)." The data analysis revealed a positive and significant relationship between diverse employees' perceptions of workforce diversity and perceived firm performance. The results of a thorough investigation into how employees' perceptions of workforce diversity affect perceived firm performance show that organizational support for women and people with disabilities, as well as the promotion of diversity and access to developmental opportunities, all positively impact perceived firm performance.

Bai, H. M. (2020) investigated the CRM procedures used by BSNL. In order to improve customer relations and the biggest subscriber base, technological prowess, and infrastructure assets, BSNL is seriously considering breaking free from the bureaucratic mold and the organization's structural and operational limitations. In this regard, the revival strategy should fully respect the CRM concept and practices. The objective of the current study was to investigate the CRM problems facing BSNL. Value-added services, problems with pricing, customer care, prompt resolution of customer complaints, as well as analyses of how well-informed BSNL subscribers are about the facilities are typical factors that contribute to customer satisfaction. Educating BSNL users on the features of their prepaid and postpaid connections. Using a descriptive research approach, the study is conducted. It contains a variety of surveys and fact-finding queries. It emphasized either BSNL's difficulties or its merits. The degree of customer happiness or discontent with BSNL was determined by surveying all customer types with a questionnaire. Lastly, the specific information on the advantages gained was also evaluated. Finally, it aimed to provide ideas for educating consumers about BSNL's CRM processes.

Meel, D. (2020a) examined the service quality in the telecom industry because the continuation of the wireline telecom industry depends on customer-focused service quality as a key weapon in competition in the current competitive broadband market. The research implemented the performance objects of quality of services, and a survey tool was used to collect the required data from the sample, even though there are numerous paradigms to scale service quality. To understand the customer concerns about service quality concerning Airtel and BSNL, the researcher chose the

Kota region of Rajasthan for this study. Based on the investigation, the tiered cataloging of service quality was demonstrated, providing telecom service providers with a perfect framework for identifying the service quality traits that enhance their performance in an astonishingly competitive market.

Meel, D. (2020b) stated that the product lines and individual products make up a company's product mix, typically described as the total composite of products offered by a specific organization of BSNL. A product line is a group of products that have been part of the product mix and are closely related to one another because they provide the same purposes, target the same client categories, use the same distribution channels, or have similar pricing points. The research was discussed, namely concerning BSNL and Airtel. Product mix consistency describes how closely related functionally the company's goods are. Increasing the width, depth, or uniformity of the product mix may not always be an improvement. Decisions on the product mix should be based on the company's resources and market demands. Making decisions about the product mix is aided by the Boston Consulting Group matrix. Based on the various products' market share and growth rate, it arranges the product mix in a matrix. A star product has both a high market share and a rapid pace of market expansion.

Sharma, N. & Banerjee, P. (2020) examined the Over-the-top (OTT) business has boomed in recent years, drastically altering the shape and size of international trade and the telecommunications industry. By distributing music, video, and other material over the internet instead of through the networks of traditional operators, over-the-top (OTT) service providers are becoming an increasingly important part of the global business landscape. The breadth and depth of "Over-the-Top" (OTT) apps have been completely transformed in India as a result of the country's exponentially growing market and a series of regulatory actions. There has been a positive impact on India's economic growth prospects thanks to the market-enabling elements that have contributed to the expansion of over-the-top (OTT) businesses in the nation. Several business models are examined in the study.

Gracia, S. et al. (2021) discussed the five key user experience metrics in this Study's analysis of India's top four 4G mobile network providers: "video, games,

voice apps, download speed, and upload speed.” Results from Data Envelopment Analysis showed that Jio and BSNL were in close second place to Airtel and Vodafone-Idea in relative efficiency for these criteria. Further investigation utilizing the Slack Based Measure identifies the areas and degree of improvement necessary for BSNL and Jio to operate on par with Airtel and Vodafone-Idea. There is no room for improvement regarding BSNL and Jio's performance on specific factors, such as the Voice app. On the other hand, BSNL and Jio have inconsistent upload and download speeds. Even though both Video and Games are reasonable performers, there is still room for improvement. As a result, this analysis offered a precise and ideal benchmark for each variable whose user experience has been assessed.

Mehrotra, A. & Menon, S. (2021) stated that Indian telecommunications had dramatically changed during the past quarter-century. From BSNL's original public-sector telephone service to today's extensive offerings “like 3G, 4G, and 5G broadband, Netflix, Amazon Prime, online payment banks, 247 recharge options, voicemail, ringtones, and hassle-free bill payment,” the telecommunications industry has come a long way since its humble beginnings. The Internet is only an integral part of the expanded offerings. In the private sector, many large firms emerged and then perished, leaving others to battle to stay afloat via a combination of factors, including competition, mergers, and acquisitions. For a limited period before its official launch, telecom giant Reliance Jio attracted customers with a free-of-charge pre-launch offer that included unlimited data and voice calls. The telecommunications industry was thrown into a loop because of this, with customers now having more freedom of choice and service providers in the phone and data sectors facing novel difficulties in meeting client demands. They favor low call rates as well as several other value-added services, including market and commodities information, weather predictions, and the option to conduct business in their native tongues. A generous portion of new mobile customers were estimated to come from underprivileged regions with sub-optimal telecommunication infrastructure and poor connectivity. The objective of the study was to investigate whether or not the telecommunications sector is ready to adapt to the shifting priorities of its customers.

Shrivastava, A. (2021) developed according to the Supreme Court of India's ruling in the case of BSNL Vs. Nortel, judiciary have the option to decline the parties to arbitration under Sec.11 of the 1996 (Amended) Arbitration and Conciliation Act if it is determined that the claims made by the party that appliedr are ex-facie "time-barred." The ruling has also emphasized that the scope of judicial involvement in these situations is restricted, necessitating a court's referral of the case to the arbitral tribunal if it cannot determine a claim's eligibility ex-facie due to the passage of time. The implications of this decision in the study highlighted how it affects the Indian arbitration system, mentioning earlier precedents that were not considered, and analyzed how it affects the extent of judicial interference in requests for referring parties to arbitration when claims brought forth by the applicant party are contested on the grounds that they are "time-barred."

Kumar, R. & Bose, P. (2022) endeavored to dissect the causes of a company's performance decrease. Case readers are given information to predict how "the Chairman-cum-Managing Director (CMD) of Mahanagar Telephone Nigam Limited (MTNL) and Bharat Sanchar Nigam Limited (BSNL)" could try to turn around the two companies. The reader was also compelled to research the Indian telecom business in order to understand the nature of competition and what measures would be most effective for success in this environment. From a theoretical standpoint, the case highlights the shift from value-chain to value-network in the Telecom business. The case study writers gathered the information and data from secondary resources such as up-to-date news stories, the CRISIL database, annual statements, press releases, and government regulatory body websites. Public sector enterprises in India, and the telecom industry, in particular, have been highlighted as having problems due to a lack of leadership, impending government financial commitments, and a general reluctance to take any action, as shown by the study.

2.2.4 Review of Literature with regard to Human Resource performance issues

Ahuja, S. (2002) investigated how much human resource development affects the corporate sector in particular, as well as the economy as a whole, and the study's main goal was to examine the economic environment. The study concluded that, overall, there was no strong correlation between economic development and human

resource management after thoroughly examining the worldwide scenario arena. The generation of wealth, which would propel the economy on a rapid growth trajectory, was not always correlated with a prominent position on the Human Development Index. Furthermore, a thorough examination of corporate performance, as evidenced by case studies, revealed that HRD and employee happiness do assist businesses in leveraging their patterns of production and generating new advantages through consistent value addition. Numerous professional companies in India have adopted HR techniques and made investments in the development of human resources as a result of the success stories of corporations across the world that human resource management has enabled. Businesses were embracing more creative HR practices that could empower their competent staff members and encourage them to improve the manufacturing process.

Gelade, G. A. & Ivery, M. (2003) looked at the connections between organizational performance, work environment, and "Human Resource Management (HRM)" in a retail bank's branch network. It expands on prior research on the links between group-level climate, performance, and HRM, and it looks at how climate and HRM work together as antecedents of business unit performance. Workplace culture, human resource management techniques, and company performance have proven to be significantly correlated. The findings indicated that the relationships between climate and performance could not be completely explained by the fact that both variables depend on HRM elements, and the data were consistent with a model of mediation in which the effects of HRM practices on firm performance were mediated by work climate.

Kaya, N. et al. (2010) intended how organizational culture and "Human Resource Management (HRM)" practices affect work satisfaction in Turkish banks. The first part of the study looks at the relative effects of eight HRM practices on job satisfaction, including: “ (i) behavior and attitudes (in recruitment and selection); (ii) teamwork; (iii) extensive training; (iv) written policies; (v) training in multiple functions; (vi) incentives; (vii) performance appraisal; and (viii) feedback on performance.” Second, six organizational climate-related elements are investigated from the perspective of their impact on work satisfaction. The second set of criteria

includes “(I)organizational boundaries (ii) management competency and consistency (iii), workload pressure (iv), cohesiveness (v), support for innovation (vi), and organizational ethics.” Data from interviews with 346 workers from 19 banks revealed that the organizational atmosphere greatly impacts job satisfaction in addition to the positive benefits of HRM activities. The impact of these two groupings of criteria on job satisfaction, the methods by which they do so, and the implications for practitioners were discussed in the study.

Veeravalli, D. S. (2010) viewed that job orientation and job contents should promote job growth, job motivation, job enrichment, and individual and personal motivation. The ultimate and foremost goal of any job design is to give employees a fulfilling work environment. Workplace happiness is a mentality. It produces a favorable emotional orientation (or sensation) toward a work. Job design and job modification are indications based on levels of job satisfaction. Therefore, members' perceptions of a trade union's motivating elements, stress levels, and leader behavior traits offered a clearer picture of the influence the latter has had on the former's work content. The Indian telecom behemoth “Bharat Sanchar Nigam Limited (BSNL)” has been the subject of research in this study.

Shacklock, A. et al. (2011) concluded the characteristics pertinent to the ethical environment in “Human Resource (HR)” management in the public sector. In addition, the study analyzes many forms of ethical climate profiles and assesses the extent to which these kinds of ethical climates may represent a moral continuum. The ethical climate is one technique for describing the ethical qualities of employment situations. The study of principal components found climatic dimensions and drove scale development. Cluster analysis showed several ethical environment types among the sample. Law and rules, care, independence, instrumentality, and efficiency were five ethical climate characteristics that were established, and these five dimensions were scaled. Also recognized were five distinct types of ethical climatic environments. An intricate pattern of variances in cluster profiles emerged from an analysis of the contrasts between these five ethical environments. The study's findings are consistent with the idea that various organizational kinds would exhibit various ethical climate dimensions. The idea that ethical contexts exist along a

straightforward, unidimensional moral continuum cannot be supported by analysis of disparities between distinct climatic situations.

Puttapalli, A. K. & Vuram, I. R. (2012) claimed that the performance evaluation system was the most crucial tool for every business. Government i.e public organizations usually use annual confidential reports to evaluate their personnel. On the other hand, Private organizations evaluate performance using a grading system and evaluation techniques. Performance reviews are useful for planning reasons and identifying issues and roadblocks impacting employees' performance since they raise employee motivation levels. The purpose of the performance evaluation system was to identify areas for performance improvement as well as how effectively a person is doing their duties. "Mutual trust, specific objectives, uniformity, training, job-relatedness, documentation, feedback, participation, and post-appraisal evaluations" were key elements that must be considered for a successful appraisal system. The performance evaluation does not play a significant role at BSNL because it is a government corporation, yet it is an essential business component. The study aimed to assess the efficiency of the performance evaluation procedures used by BSNL and to note how the employees felt about their current performance evaluation system.

Tang, T. W. & Tang, Y. Y. (2012) explored the impact of high-performance "Human Resource (HR)" practices on service-oriented "Organizational Citizenship Behavior (OCB)" through two climates of justice climate and service climate by integrating social exchange and information processing theories. The study used data from Taiwanese hotels and showed how high-performance HR practices could foster two environments advantageous to service delivery and eventually motivate staff to engage in service-oriented behavior. The study found that social climates of justice and service functioned as a buffer between the effects of high-performance Human Resource practices on service oriented OCB. The present study showed that high-performance Human Resource practices have an impact on employees' perceptions of how hotels treat them and the anticipated behaviors from them, which can then have a beneficial impact on collective OCB that has been service oriented.

Širca, N. T. et al. (2013) examined how the HRM environment affects employees' views, and the study aims to advance knowledge of the HRM climate concept. The

HRM environment is the intermediary that connects applied HRM procedures to individual responses. Based on the literature review, a model was created that connects perceptions of the HRM environment to work satisfaction, job engagement, and perceived organizational success. A structural equation modeling method known as partial least squares was used to assess the HRM-attitudes connection model. Both the collaboration and structure dimensions of the HRM climate have a direct and indirect effects on perceived organizational performance, even though the 'collaboration' dimension of OCTAPACE Culture has a much stronger impact on employees' job satisfaction and perceived organizational performance than the "structure" dimension.

Chaudhary, R. et al. (2014) investigated how organizational-level analyses of work engagement relate to the quality and robustness of the human resource development climate. The study looked at climate strength's linear, curved, and interactive impacts on overall work engagement. The relationships between the research variables were examined using hierarchical regression analysis. Work involvement was shown to be substantially correlated with climate quality. After accounting for climate quality, however, climate strength did not exhibit any discernible linear impacts on job engagement.

Furthermore, the relationship between climate quality, work engagement, and climate strength did not exhibit curvilinear effects. It was fascinating to see that, for one climate component, the connection between climate quality and work engagement was strongly attenuated by climate strength. In addition to creating the tailored interventions intended to improve each employee's perceptions of the development climate, an organization's workforce engagement has been likely to be significantly impacted favorably by providing scopes and opportunities for collaboration with those having more positive perceptions of the HR development climate in the organization.

Manroop, L. et al. (2014) stated that the company's HR system could foster the growth of an ethical culture within its walls is an area where much remains unknown. According to the "Resource-based vision (RBV)" of the company, HR systems directly impact performance via the cultivation of resources that are intrinsic

to the company's DNA. But the study of literature has not given much thought to how this happens. The study used the theoretical insights of the resource-based perspective of the company to examine how HR systems might promote the growth and maintenance of five distinct ethical climates. The study contributed to our growing knowledge by expanding our conceptual understanding of the potential strategic value of ethical climates to businesses and the role that HR systems may play in shaping that value. To add to its theoretical value, it investigated how the resource-based vision of the corporation might be integrated with different ethical climates.

Rusu, G., & Avasilcai, S. (2014) found that the level of motivation inside an organization plays a significant effect on the level of performance that is achieved. Managers' capacity to foster an encouraging work environment in industrial enterprises depends on the quality of the organizational climate they establish. The primary objective of the study was to highlight the most important aspects of the organizational environment that, according to Herzberg's dual factors theory, improve employees' intrinsic and extrinsic motivation. In light of these findings, the author conducted an inquiry utilizing quantitative research methods in the form of a pilot questionnaire administered to both employees and managers at Romanian manufacturing companies from a non-probabilistic sample. The finding demonstrated how organizational climate has an impact on the degree of employee motivation by studying the correlations between organizational climate aspects and motivation. Considered the results, suggestions for improving the organizational atmosphere and motivating staff also be made.

Arulrajah, A. A. (2015) evaluated the literature on managing ethical culture and climate through "human resource management (HRM)" by addressing key concerns and goals in doing so, as well as by assessing the current status of HRM in the same context. The study highlighted many ethical concerns that continue to plague businesses and highlights the lack of studies examining how ethical culture and environment may be addressed inside firms through effective HRM. The results of this review showed how functional aspects of HRM contribute to establishing and maintaining an ethical culture and environment at all levels of organizations. In this

review, the implications for practice and future study are also covered concerning fostering an ethical workplace culture based on HRM.

Manroop, L. (2015) examined how “Human Resource (HR)” systems may enhance comparative benefit by facilitating the development and maintenance of five different ethical climate types and, alternatively, how HR sub-systems may undermine competitive advantage by impeding the maintenance and development of these climate types. The firm's resource-based view provided theoretical insights used in this study. The study contributed to the literature by highlighting an organization's ethical culture's resource-worthiness and showing how HR systems may alter that value. Additionally, it created the theoretical foundation for sustained competitive advantage and provided a platform for additional empirical investigations.

Chahal, H. et al. (2016) determined how high-performance "Human Resource (HR)" practices “including extensive training, performance management, performance appraisal, performance-based compensation, empowerment, and competency development” affect employees' ability to perform their jobs effectively in the telecommunications industry. Additionally, it has been investigated how organizational learning functions as a mediator between high-performance HR practices and corporate success. Data collected from workers in Jammu and Kashmir's telecommunications sector has adopted the census approach (North India). "Confirmatory Factor Analysis (CFA)" has been used to demonstrate validity and reliability. "Structural equation modeling (SEM)" has been utilized for testing hypotheses. The findings show that HR practices have a favorable impact on business success. A mediating factor between high-performance HR strategies and company performance is organizational learning. The effects on management have also been covered.

Majid, J. (2016) found that Employee “performance appraisal (PA)” has become one of the most important HRD procedures in organizations, allowing for effective management of employee satisfaction and overall development. PA has often been planned annually or semiannually and utilized for various purposes, including employee prizes, pay increases, feedback on the job, career advancement, and

individual growth. Organizations can deliberately leverage PA as a competitive advantage to raise staff productivity by using a risk and reward system and improving employee satisfaction levels at work. According to its customer base, the telecommunications industry in India has been among the fastest expanding in terms of industry growth. The focus of the current study has been on the performance appraisal methods that appraisees in this industry choose. In order to identify the most effective PA techniques from a managerial point of view in service-driven organizations, the research paper's central goal was to ascertain which performance appraisal methods receive higher ratings from manager appraisees and the potential causes for the same.

Yadav, N. S. (2016) discovered that effective and efficient human resource development techniques were the art of locating, developing, and retaining a skilled workforce to aid businesses in achieving their objectives. Organizations are created and maintained with the aid of HRM. The present issues and future implications of technological advancements, the workplace, and their effects on HRD practices in Indian business are the main topics of this research-based study. The study used regression analysis to assess the relationship.

Van Esch, E. et al. (2018) investigated the link between high-performance "Human Resource (HR)" practices and company performance, drawing on resource- and competency-based views. It was discovered that there was a favorable correlation between high-performance HR practices and company success, partially mediated by workers' abilities. Additionally, the study discovered that fostering innovation inside a company strengthens this association. These results' ramifications and potential directions are examined. The present study showed that employee competencies mediated the link between high-performance human resource practices and firm performance and that a supportive environment for creativity and innovation was important and crucial in setting up the conditions for high performance Human Resource practices and the development of employee competencies that benefited the organization's performance.

Singh, R. N. & Mohanty, R. P. (2020) recognized how employees' cultural values affect teamwork satisfaction and organizational commitment, and the study was

conducted as an empirical investigation. The literature has demonstrated that levels of commitment and satisfaction vary across cultural groups and are influenced by behavioral attitudes. It has not been sufficiently investigated how culture affects the relationship between the two constructs, teamwork satisfaction and organizational commitment. Six fundamental steps make up the research methodology. The various hypotheses have been confirmed in a sizable Indian telecom company with standardized human resource practices. It is known that cultural values influence the relationship between organizational commitment and teamwork satisfaction. Through efficient HRD interventions, the results are focused on enhancing organizational performance.

Patel, C. (2021) looked at how Bharat Sanchar Nigam Limited evaluated performance. An organization's culture may be improved with the aid of performance appraisal. The success of an organization depends on its capacity to objectively assess the performance of its members and utilize that information to maximize them as a valued resource. Any organization's success depends on performance evaluation. It increases a company's production in addition to motivating staff. The study investigated whether or not the company's workers are satisfied with its performance appraisal system. Utilizing a questionnaire technique, data from the employee was gathered, reviewed, and interpreted. The study objective was to draw attention to the company's Performance Appraisal System's good and negative features.

Priyanka, V. & Rajesh, M. (2022) discussed that employees and managers are responsible for ensuring that their work is being done in accordance with company rules and procedures. When implemented properly, HR policies and procedures can boost morale, productivity, and the company's overall image. In addition to ensuring that HR can do its duties effectively, a disciplined work environment is fostered when employees show respect for the policies and procedures established by the company. Policies and procedures are important in many professions, including technical, clerical, managerial, administrative, and others. Organizations often require new hires to participate in training and development programs. In these classes, participants learn about HR regulations and procedures. Compliance is essential if the human resource were to reap the benefits of following the established

rules and processes. The study was focused on the definition, significance, and types of human resources policies and procedures, as well as the contexts in which they are used.

2.3 Research Gap

The researcher made several past discoveries in earlier examinations that other writers had made. Moreover, it was possible that some gaps were not filled in the past. The researcher talked about the gap, which is sometimes known as a research gap. The literature, as mentioned in earlier evaluations, highlights the numerous studies conducted about the climate for the development of human resources. The study on human resource development has been conducted in several locations worldwide. In India, research on HRD and employee difficulties has been conducted on a variety of enterprises to determine the worth of human resources relative to other resources. There were very few studies about the HRD climate in Indian telecom businesses. Very few studies on the climate for human resource development were discovered, which is surprising given the state of Assam. In Assam, studies on the HRD climate in telecom companies are hard to come by. As a result, the research filled in any gaps linked to them and provided a baseline to identify potential changes over time, whether or not they were for expansion. So, in this aspect, comprehensive research is necessary. The gap is very wide and needs work. The present study is an attempt to fill that gap. The current study is focused on “Human Resource Development Climate and Recent Challenges of BSNL: A Case Study of Assam Telecom Circle.”

2.4 Conclusion

Although efforts have been made to modernize HRD subsystems like “performance appraisal, potential appraisal, career planning, reward system, training, and development” within the organization, it is still a lengthy process because Bharat Sanchar Nigam Limited (BSNL) had very traditional and old Personnel mechanisms with the greatest and largest bureaucratic structure. A favorable Human Resource Development climate promotes higher performance from employees, a highly engaged workforce, job satisfaction, and appropriate career advancement chances.

According to the report, employees had a favorable view of the HRD climate. The company might think about rewarding its workers on time. Additionally, welfare programs should try to improve the work-life balance of their participants, enabling them to devote more mental energy to their jobs. The company may think about making a planned investment of resources to help grow staff members. In order to improve communication, access to senior management, and the pace at which tasks are completed, changes are being made to the massive pyramidal structure. To have creative and effective work, executive autonomy must be expanded to all levels.

It is more than necessary and inevitable to support employees' performance with effective HRD mechanisms in the current environment, where there is an unwavering need for organizations to have competitive techniques that are highly efficient, and employee-driven. It allowed performance indicators, lapses, and performance augmenters to be clearly identified and any gaps promptly filled, improving organizational effectiveness. Employee development can be facilitated through HR mechanisms "like appropriate hiring, ideal and potential appraisal, career planning and development, grievance handling and counseling, learning and development, open communication, respectable rewards, and organizational development interventions" because employees are the strategic resources that assume unique skill sets and are not replaced frequently. As a result, there is a favorable environment for human resource development at BSNL, ideally in line with the broader OCTAPACE ethos, which encourages businesses and the individuals who work for them to be initiative-taking, competitive, and creative in their efforts to serve customers.

CHAPTER 3

PROFILE OF THE BHARAT SANCHAR NIGAM LIMITED (BSNL)

3.1 Introduction:

The telecommunication services has been considered one of the most capital-intensive industries throughout the world. The effective and developed telecommunication infrastructure is considered one of the important underlying conditions for economic growth in modern society (Mbarika: 2003). A modern and developed telecommunication system of any country is the main driving force for the economic development of that country (Uysal, 2010). The communication can be so much difficult without a good telecommunication infrastructure which leads to poor communication, poor delivery of services. According to (Brown, 2021), “the telecommunication sector is made up of companies that make communication possible on a global scale, whether it is through the phone or the internet, through airwaves or cables, through wire or wireless”. These companies are the main reason for creating the communication infrastructure which allows data in words, voice, video, audio can be sent anywhere in the world with in fraction of second’s time.

In 30 years back, the telecommunication sector was considered the monopoly of big national operators. But during the early 2000s, this industry saw a rapid deregulation and innovation. In most of the countries around the world, the monopoly of the government sector organization coming down and they face huge competition from the new private competitors. The traditional telecommunication system has been completely changed as the development of mobile services outpaces the fixed land line and internet has outpaces all the traditional communication system. Telecommunications used to require physical lines to connect households and businesses. In today's environment, technology has become mobile oriented. Wireless digital technologies are quickly taking over as the primary means of communication. The industry's organization has also changed away from a few large corporations and toward a more decentralized system with reduced regulation and entry obstacles. Large public companies provide the service, while smaller

companies sell as well as service the features that allow this connection, such as routers, switches, and infrastructure.

3.2 Origin and Development of Telecommunication in India

Pre Independence-Era

The first mechanical telecom device, the telegraph, was created in the 1830s, kicking off the telecommunications industry. It lowered transmission time from days to hours, in the same way that the contemporary digital phone has reduced the time necessary to communicate significant amounts of data from hours to seconds. With each new invention, the industry expanded: the telephone, the computer, the radio, television, and mobile device. These technological advancements altered how people lived and conducted business.

In 1851, the British began providing communications services in India by employing active landline telephones near Kolkata then head office of the British Colonial Government and Dimond Harbor a trade post of East India Company which is 21 miles away. During the experimental time, Dr. William O'Shaughnessy, who created the telegraph or telephones in India, worked for the Public Works Department. The first electrical telegraph was started in India in 1854. When telegraph service became available to the general public in 1854, a distinct department was established regularly. Because India was a British colony, telegraphs & telephones were introduced simultaneously with the United Kingdom. From 1854 until 1857, the telegraph department in Bombay, Madras, and Pegu, a supervisor of telegraphs, and three deputy superintendents led Burma. Inspectors and operational and maintenance personnel were stationed at Indore, Agra, Kanpur, and Banaras. A director-in-chief headquartered in London oversaw the Indo-European Telephone Department, subsequently known as international communications. In 1880, there were 2 telephone companies: The Anglo-Indian Telephone Company Ltd, also referred to as the Oriental Telephone Company Ltd, addressed the Indian government about establishing phone exchanges in the country. The license was refused since the introduction of the telephone was a government monopoly, or the work would be started right away by the government.

By 1881, the government had overturned its previous decision and allowed the Oriental Telephone Company Limited of England to establish a telegraph exchange in Kolkata, Chennai, Mumbai, and Ahmadabad. The telephone service was established in 1881. The telephone arrived in India only and in 1882, Major E. Baring, members of the Governor-General of India's cabinet, announced the activation of the "Central Exchange" telephones in Kolkata on January 28, 1882, with 93 clients. The telegraph, and subsequently the telephone, were invented in India in 1882 by the British, who saw them as command-and-control instruments required to keep the country's law and order. The British merged the telegraph and postal networks in 1883 to better their command and control in India. Runner stationed at the telegraph office sent telegrams to rural post offices, linking British officials to even the most distant parts of India. The Telecommunication Exchange was created in Bombay in 1887.

On February 15, 1888, the foreign communications were merged with the Director-General of the Indian Telegraph Department. The administration report of the two components, Indian Telegraph & Indo-European, was decided to be split to show how each unit affected the country's budget. Concurrently, two different services emerged: the Post Office and the Telegraph Department. The next major administrative change happened in 1914, on the brink of World War One. The Postal & Telegraph Departments were combined under the supervision of a single Director-General. The department was completely restructured in April 1925. The Indian Posts and Telegraphs accounts were recreated to determine the department's true budgetary status. The purpose was to figure out how much the department cost the taxpayer and brought in for the Exchequer, or how much each of the department's four major divisions, telegram, postal, telephones, and wireless, contributed to this conclusion. The fees charged to the general public for numerous services were also reviewed to see whether they were appropriate and exorbitant. The worldwide financial and economic crisis of 1930 affected the Posts and Telephone lines, as well as other public & private organizations. During 1931, many economic measures were taken in response to the recommendation of the Retrenchment Committee's Posts & Telegraphs sub-committee, which was led by Sir. Jahangir Cowasjee Naturally, such

retrenchment actions would have a detrimental impact on the payments or interests of the Department's personnel. P&T was based on the principles of well-being rather than profit. "It is the government's proclaimed policy that the department should be administered so that there should be neither a large advantage nor a substantial loss on its activity under normal conditions," according to the department's annual report for 1931.

Post Independence Era

After India gain Independence in 1947, the government of India continued the legacy of the British Colonial Government. During that time India had almost 84000 telephone lines for its 35-crore people. After 33 years of independence during 1980, the telephone lines in India became 25 lakhs against the population of approximately 70 crores. Three percent of India's population in six lakhs villages were enjoying the telephone services. After the year 1990, a remarkable transformation in telecommunication services took place. During the year 1999, India had more than 25 cores installed network in around 300 cities, 4869 towns and 310897 villages throughout the country which made India the 9th largest telecommunication market in the world. The data of telecommunication service in India give an idea that there have been drastically changes the telecommunication scenario from 27316 to 310897 villages in ten years from 1988 to 1998.

Following the country's independence from the United Kingdom in 1947, national governments maintained the colonial traditions by establishing solely state-owned post or telegraph services. After independence, Jawaharlal Nehru's socialist beliefs committed India to state-run, state-owned monopolies in a wide range of industries, including Indian telecommunications. Foreign telecommunications businesses were nationalized, and the Ministry of Communication established the Post, Telephone & Telegraph (PTT) Company. Following the approval of the Federal Financial Integrating Scheme on April 1, 1950, management of the nation's whole network of telegraphs & telephone network, including those formerly operating in the former royal state, became a significant job. There were 196 telecom exchanges absorbed from royal states in 1950. This technology, which varied

inefficiency, may be incorporated into the main telephone system. The total fixed capacity of these 196 exchanges was 13,362 lines, with 11,296 active contracts. Immediately following their purchase, an attempt was made to increase their technological efficacy by replacing absolute or faulty equipment & lending well & experienced workers. Individual transactions were merged into a bigger pool. Accusing the staff was the most difficult duty and their eventual acceptance into the various cadres of services in the post or telephone was a watershed moment. The telecom accounts had been separated by April 1972. At the same time, the division began preparing the yearly balance statement.

Telecommunications is one of the important industries in India with the biggest long-term growth potential. The Indian telecommunications sector is one of the country's fastest-growing businesses. Indian telecommunications are dominated by two types of service providers: fixed-line and mobile Common Service Points (CSPs). The fixed service provider's network includes basic service, domestic cell, line service, or long-distance call service. Ninety percent of the country's FSPS is provided by the two major basic operators, Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited (MTNL), while private firms provide the remaining 5 percent, most of which are based in urban areas. Basic personal care in the comfort and privacy Businesses, commercial organizations, educational institutions, and corporations all use telephone operators regularly. There are two types of cellular services. For example, they are referred to as Code Division Multiple Access (CDMA) and Global System for Mobile Communication (GSM). GSM market leaders include Airtel, Vodafone, Idea Cellular, Aircel, & others. In semi-urban and rural locations, BSNL's "Cell One" GSM service enjoys a huge portion of the market. Reliance Communications & Tata Indicom are the two most prominent players in the CDMA sector.

Perfect competition exists in both domains of cellular services, according to demand supplier chains. Broadly speaking, the telecom industry may be separated into four subgroups. These are respective identities:

- (a) Companies such as Alcatel, Cisco, & Ericsson in the field of network infrastructure.
- (b) Nokia, Motorola, and Samsung are trademarks of Telecom Equipment Manufacturers.
- (c) Telecom service providers, include Bharati-Airtel, Idea, Reliance, and Vodafone.
- (d) Tech-Mahindra, IBM India, Aricent, Wipro, and Sasken are telecom solution providers.

In the country's telecom market, the government of India has categorized each state as a circle. A, B, and C are the three different categories of circle. "C" zones are determined depending on potential subscribers. "Metros" include Mumbai, Delhi, Chennai, & Kolkata. The states of Maharashtra, Karnataka, Andhra Pradesh, Gujarat, & Tamil Nadu are all included in Circle A. Circle B includes Kerala, Haryana, Punjab, Uttar Pradesh (East and West), Rajasthan, Madhya Pradesh, and West Bengal. Himachal Pradesh, Bihar, Odisha, Assam, and the Northeast are all included in Circle C. The merger of Mumbai (Bombay) & Delhi Telephones resulted in the formation of the new Mahanagar Telephone Nigam Ltd. (MTNL).

3.2.1 Important landmark dates in the History of evolution of Indian Telecommunication:

Table: 3.1 Landmark Date of Evolution of Indian Telecommunication

1881	First operational Land Lines were laid down by the British Colonial Government near Kolkata
1881	Telephone Services introduce in India
183	Merger of Postel Services with IT services.
1902	The first wireless Telegraph station was established between Saugor Island and Sandheads.
1907	The first central Battery of Telephones was introduced at Kanpur
1914	The Telegraph Department and Postal Department were combined under

	the direction of one Director General.
1913-14	First automatic exchange was established at Shimla
1923	Indian Radio telegraph Company (IRT) was constructed.
1925	Indian Post and Telegraph accounts reconstituted to check the fiscal profile of the department.
July, 1927	Lord Irwin inaugurated the Radiotelegraph system with the help of King of England between United Kingdom and India at two important stations Khadki and Daund.
1932	Indian Radio and Cable Communication Company came into existence after merger of ETC and IRT.
1933	Radio Telephone was instituted and inaugurated between India and England.
1947	After India got Independence from British Colonial Government, all the foreign telecommunication company became state owned to form the Post Telephone and Telegraph (PTT)
April, 1950	A total of 196 Telephone Exchanges absorbed from Princely State and installed facilities of these exchanges with 13362 lines and 11296 connections.
1960	The first subscriber trunk dialing route had commissioned between Lucknow and Kanpur.
1975	The first PCM was commissioned between Bombay and Andheri telephone exchange.
1980	First domestic satellite earth station was established at Secunderabad.
1984	Manufacturing of subscriber terminal equipment had been open to private sector enterprises.
1985	Department of Telecommunication (DoT) was came into force to regulate the telecommunication system in the country.
1986	Establishment and conversion of DoT in two wholly government own companies. Videsh Sanchar Nigam Limited (VSNL) and Mahanagar Telephone Nigam Limited (MTNL) for service in Metropolitan cities

	(Delhi and Mumbai)
1989	Telecom Commission of India was formed.
1991	Telecom materials manufacturing permission given to private manufacturer like Ericson, AT&T, Fujitsu etc.
1993	Private telecommunication network allowed in industrial areas.
1994	New Telecom Policy of India was announced.
1994	License for cellular mobile network issued to four metro cities in India. And tender for cellular mobile network bids for 19 cities except the metro cities.
1997	The Central Government Establish Telecom Regulatory Authority of India (TRAI). TRAI Act was passed in the Indian Parliament.
1998	Several VASs through private operator became operational.
1999	The government announce the National Telecom Policy.
2000	The Government of India made amendment of the TRAI Act.
2000	Planned Corporatization of DoT. And the Bharat Sanchar Nigam Limited (BSNL) formed as fully government owned public sector undertaking.

Sourec: www.bsnl.co.in

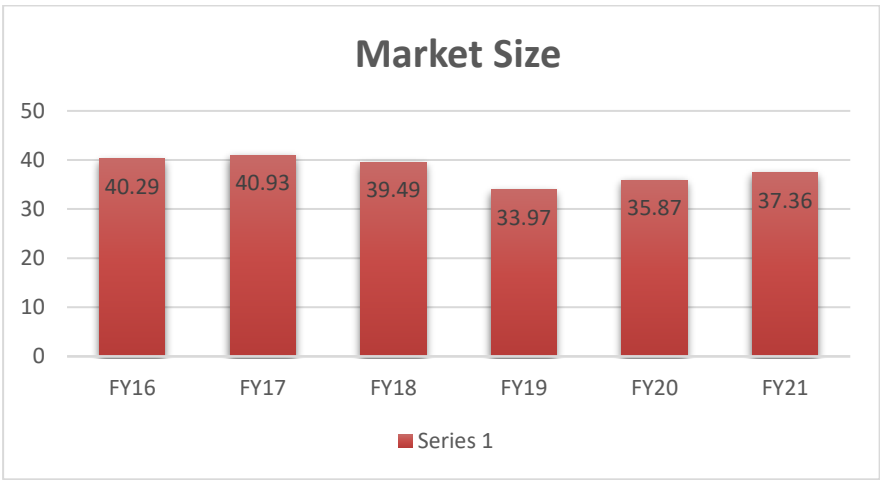
3.2.2 The Telecom Sector in India

Telecommunications infrastructure, due to the country's fifth-largest network, can meet international standards. One percent of Indian GDP comes from the Indian telecom business, according to estimates. According to India Brand Equity Foundation (IBEF) (2021), currently, India's telecommunications market is the world's second-largest with a subscriber base of 1.16 billion and has registered strong growth in the last two decades. The Indian telecommunication sector economy is growing rapidly and will contribute substantially to India's GDP according to a report prepared by GSM Association (GSMA) in collaboration with American consultancy firm Boston Consulting Group (BCG). In 2019, India overtakes the United States to become the second largest market in terms of number of app downloads. The liberal and reform policies of the Government in India have been instrumental along with heavy consumer demand in the rapid and continuous growth

in the Indian telecommunication sector. The Government of India has enabled easy market access to telecom equipment and a fair and proactive environment and regulatory framework, that has ensured availability of telecommunication services to consumer at very affordable prices. The deregulation of Foreign Direct Investment norms in the country has made the sector one of the fastest growing and one of the largest employment opportunity generator in the country.

As of September 2024, India is presently the second-largest telecommunications market in the world, with 1.16 billion customers, and has grown significantly over the past decade. GSM Association (GSMA) and Boston Consulting Group produced research that found that India's mobile industry is fast increasing and would contribute significantly to the country's GDP (BCG). In 2019, India has surpassed the United State as the globe's second mobile app installation market. The fast growth of India's telecommunications industry has been encouraged by the government's liberal & reformist policies and high demand from consumers. Access to telecommunications equipment is unlimited because of a government-approved regulatory system that is fair to consumers. It has become one of the fastest-growing and top-five job-creating industries in China, thanks to the lifting of FDI restrictions.

Table 3.1: Market Size of the BSNL from FY 2016-2021



Sources: <https://www.ibef.org/industry/telecommunications>
Figure 3.1: Telecom sector gross revenue (US\$ Billion)

There was a 16.54 percent increase in overall cellular data use in India in the first quarter of FY2022. In the third quarter of FY21, 3G or 4G data consumption accounted for 1.78 percent and 97.74 percent of total cellular data usage, respectively. 2G data utilization was only 0.48 percent in the same period. Over the next 5 years, India will gain an additional five hundred million internet users because of increased mobile penetration and lower data prices. 5G-centric technology like Artificial Intelligence (AI), Internet of Things (IoT), robots, and cloud computing would require twenty-two million highly qualified professionals in India by 2025.

3.2.3 Department of Telecommunications (DOT)

The DOT was established in 1985 to offer domestic or long-distance cell phone services. Telecom services have been widely acknowledged as a significant instrument for a nation's socio-economic development, and telecom infrastructure in India is seen as a critical aspect in achieving socioeconomic goals in India. As a consequence, the DOT has been establishing development strategies and programs to expedite the expansion of telecommunications services. In addition, the Department is in charge of radio frequency management in collaboration with international agencies. It also implements wireless regulatory regulations in the country by monitoring all wireless transmissions. With its presence spanning the length and width of the nation, the DOT has long been India's leading telecom service provider.

In 1986, the Department restructured the Telecoms rings, with the SSAs functioning as the primary bodies. It was deployed in stages. To make policy choices, a second telecoms Board, known as the Telecommunication Commission, was also formed. In 1989, the Telephone Commission was founded. The Indian government formed the Telecom Commission, which has the necessary managerial, administrative, & financial capacity to deal with all facets of telecoms. The Commission is chaired by the DOT Secretary, and its full-time members are Member (Service), Member (Technology), & Member (Finance). Secretary (IT), Secretary (Planning Commission), Secretary (Finance), Secretary (Industries), Secretary (DOE), & Secretary are part-time members (IP & P). However, the majority of those there were DOT officials. Policy modifications were implemented in 1999. The DOT

has a Public Grievances branch at Sanchar Bhavan in New Delhi that manages all forms of telecommunications service complaints and refers them to the relevant service provider for resolution.

3.2.4 Importance of the Telecommunications Sector

This industry is an intriguing study because of the interaction of three factors: regulation, liberalization, and technology. There are constant technological advancements and a changing regulatory environment. While Indian telecommunications businesses have become more buoyant and confident, they have begun to venture beyond the country and invest overseas, telecoms manufacturing in India has yet to attract continuous investment.

Mobile phones are popular because they are personal, portable, and digital, allowing users to stay connected at all times. There is an increase in innovation, particularly in the creation of mobile applications. The low cost of devices in India, as well as the innovative budget telecoms network, has reduced the barrier to entry for customers. 9 Mobile connections are less expensive than fixed-line telephones in terms of supply.

The telecommunications industry is becoming increasingly vital in the Indian economy. It boosts economic growth and GDP, earns income for the government, and creates jobs. In short, the communication industry has a multiplier effect on the economy.

3.2.5 Telecom Sector in India – Challenges & Way Forward

With over a billion subscribers, India's telecommunications sector is the world's second-biggest. It is the backbone of the digital tsunami that has propelled the country forward in recent years. The latest COVID-19 pandemic waves highlighted its significance. One sad issue that has plagued such an important industry is that it is widely seen as little more than a money maker. However, recent Cabinet measures enacted in September have raised optimism for the sector's revival.

The Significance of the Sector

- The telecommunications market is divided into three sections: wireline, wireless & internet services.
- The wireless market counted for 98.2 % of the subscriber base in June 2019.
- India is also the world's second-largest country in terms of net subscriptions and data usage.
- The telecom sector's gross revenue in 2018-19 was USD 33.97 billion.
- It is estimated that the telecom industry accounts for around 90% of the government's non-tax revenue.
- As a result, sustaining the financial health of this business is crucial to protecting India's income & the whole nation.

The Sector's Importance in Light of the Pandemic

- Despite the lockdown, the telecom industry has helped keep the economic engine operating.
- Through telemedicine & online learning, the industry supported not just the economy but also crucial social areas like education and health.
- The service sector accounts for more than 54% of India's GDP. The lockdowns impacted a substantial portion of it, particularly the hotel and transport industries. Whatever remained in this industry did so mostly due to the country's communications infrastructure. According to estimates, the sector facilitated almost 35% of GDP during the COVID time.
- The telecom industry's contributions to the country's GDP improved 5-6 times during the post-pandemic time, notably during the lockdown.

The Government's Initiatives to Promote this Sector

- Government policy assistance, such as raising the FDI quota to 100 percent from 74 percent, boosting spending on telecom services and infrastructure, and

launching the National Digital Communication Policy in 2018, has resulted in the expansion of this industry.

- The DoT's "Tarang Sanchar" web portal gives data on mobile networks & EMF emission compliance.
- Optical cable coverage has doubled countrywide, from seven lakh kilometers to 1.4 million kilometers. By 2024, the National Broadband Mission hopes to have built a fifty lakh-kilometer optical fiber network.
- Following the National e-Government Plans, the Department of Information Technologies will establish more than one million internet-enabled common service centers.
- Digital India also contributed to the expansion of this sector.

The Recent Reforms Brought in by the Government

- a) In September 2021, the Chamber adopted a set of structural & procedural reforms to address the telecom sector's challenges. These measures are aimed to solve the industry's long-term difficulties as well as its short-term liquidity demands.
- b) Here are the structural reforms:
 - **Rationalization of AGR:** By excluding non-telecom revenue from its definition on a potential basis
 - **Rationalization of interest rates:** Beginning in October, SBI's MCLR (Marginal Cost of Funds Based Lending Rate) plus 2 percent will be applied to overdue payment of the License Fee/Spectrum Usage Charge, rather than MCLR plus 4 percent. The interest rate is also going to be evaluated annually rather than monthly. It has also been cancelled the penalty and interest on the penalties.
 - **Rationalization of Bank Guarantees:** The bank guarantee requirement has been decreased by 80%, resulting in the need for only 20% for telecom operators. Multiple bank guarantees are no longer required in various Licensed Service Areas across the country. In other words, one bank warranty will be enough.

- Bank guarantees are no longer necessary to secure installment payments for auctions occurring in the future.
 - For future auctions, the spectrum term has been expanded to 30 years (from 20 years).
 - Surrender of the spectrum obtained in future auctions will be permitted after ten years.
 - There will be no SUC for spectrum obtained in future auctions.
 - To promote spectrum sharing, and additional SUC of 0.5 percent has been withdrawn.
 - The sector today allows 100 percent FDI via the automated procedure. All protections will be in place.
- c) The following are the procedural reforms:
- The auction calendar has been set by the center. Spectrum auctions will be held in the fourth quarter of each fiscal year.
 - Elimination of the onerous necessity for wireless device permits under the 1953 Customs Notification. This has given way to self-declaration.
 - Know Your Customer reforms app-based self-KYC is now allowed. The E-KYC fee has been reduced to 1 INR. The revisions have eliminated the need for a new KYC when switching from prepaid to post-paid or vice versa.
 - Paper Customer Acquisition Forms (CAF) have been phased out in favor of digital data storage. CAF warehouse audits will no longer be necessary.
 - The telecom tower SACFA (Standing Advisory Committee on Frequency Allocation) construction procedure is being streamlined. A self-declaration platform would provide data to the telecom sector. Other government websites, such as Civil Aviation, will be linked to the DoT Portal.
- d) Steps have been taken to accommodate telecom service providers' liquidity needs:

- A moratorium/deferment of up to four years in yearly payments of dues deriving from the AGR judgment. The Net Present Value of the payable amounts, on the other hand, is safeguarded. The present worth of a potential flow of payment discounted at the relevant interest rate is referred to as the Net Present Value (NPV).
- Prior spectrum auction purchases will be exempt from payment for four years (excluding the 2021 auction). At the interest rates specified in the auctions, the NPV is guaranteed.
- The choice to pay the interest money due to postponed payment using equity.

3.2.6 Issues Confronting the Indian Telecom Sector

The operators in the Indian telecom market have been subjected to fierce rivalry and pricing wars between themselves. This is because, in the fast-consolidating Indian telecom sector, winning businesses are eager to outperform their rivals to capture the revenue pie being surrendered by smaller competitors. With constantly dropping revenues of less than 1.8 lakh crore, the industry finds it more difficult to manage its accumulated debt of about five lakh crores. Taxes & levies for spectrum and operational licenses can amount to up to 30% of telecom service providers' earnings. The tax component accounts for almost half of this. This has increased to 18% under the newly imposed Goods and Services Tax system (GST), making telecom services more costly. The telecom regulator has proposed that licensing costs & spectrum usage charges be reduced immediately. The sector will continue to struggle financially unless these challenges are addressed. India's telecom prices are among the lowest in the world, with an average revenue per user of \$2.5, compared to \$49.84 in Canada, \$38.09 in the United States, and \$8.36 in China. Due to the existing level of competition, India's telecom service providers are unable to raise their pricing. Service providers are also experiencing substantial competition from over-the-top (OTT) operators such as WhatsApp and Viber, who do not pay any taxes or fees to the government.

The telecom industry's financial health must be protected. A regulatory framework that promotes innovation and investment while addressing the sector's

financial troubles is required. To deliver access, mobile providers require spectrum, a limited resource. In comparison to other nations, India has a limited quantity of commercially accessible spectrum. Because the government auctions it at excessive costs, it becomes impossible for cell carriers to deliver services at fair speeds and inexpensive pricing (Kumar 2017).

The Government has initiated fast-tracked reforms in the telecommunication sector and continues to be active in providing necessary room for growth for telecom service provider companies. Some of the important initiatives taken by the union government are as follows:

- In August 2021, the Department of Telecommunications (DoT) started discussions with banks to address financial stress in the telecommunication sector, particularly Vodafone Idea Ltd. (VIL) that urgently needs fund infusion to stay afloat.
- In August 2021, the Department of Telecommunications (DoT) authority stated that it has started working on a package, which includes reducing the revenue share and license fee to 6% of adjusted gross revenue (AGR) of the operators from the current 8%. This can be done by reducing the 5% universal service obligation levy by two percentage points and providing relief of about Rs. 3,000 crores annually to the telecom operators.
- In July 2021, Bharat Broadband Network Limited (BBNL), on behalf of the Department of Telecommunication (DoT), invited international tender for the development and growth of BharatNet through the Public-private Partnership model in 9 separate packages across 16 different states for a concession period of 30 years. Under the project, the government will provide a maximum grant amount of Rs. 19,041 crore (US\$ 2.56 billion) as viability gap funding.
- The sum of Rs. 12,195 crore (US\$ 1.65 billion) production-linked incentive (PLI) scheme for telecom is expected to bring in investment of around Rs. 3,000 crore (US\$ 400.08 million) and generate a huge employment opportunity directly or indirectly.

- In April 2021, the DoT pointed out that organization such as Ericsson and Nokia are now eager to expand their business operations in India, and multinational companies like Samsung, Cisco, Ciena and Foxconn have expressed keen interest in setting up their manufacturing units in the country for telecom and networking products.
- In March 2021, TEPC (Telecom Equipment Export Promotion Council) organized 'India Telecom 2021' a platform for convergence of business and technological exchange.
- The Union Cabinet of India approved Rs. 12,195 crore (US\$ 1.65 billion) production-linked incentive (PLI) scheme for telecommunication products and networking products under the Department of Telecommunication (DoT)
- In 2021-22, the government has allocated to Department of Telecommunication an amount of Rs. 58,737.00 crore (US\$ 8 billion). 56% of amount for revenue expenditure and 44% for capital expenditure.
- Under Union Budget 2021-22, the Government of India allocated Rs. 14,200 crore (US\$ 1.9 billion) for telecom infrastructure in the country that entails completion of optical fibre cable-based network for Defence services, rolling out broadband in 2.2 lakh gram panchayats and improving mobile services in the North Eastern part of the country.
- On January 15, 2021, India and Japan signed an Memorandum of Understanding to enhance cooperation and collaboration in the field of Information and Communications Technologies. The MoU was signed by the Union Minister for Communications, Electronics and IT, Ravi Shankar Prasad, and his Japan's counterpart Minister for Internal Affairs and Communications, Takeda Ryota.
- On January 6, 2021, the Department of Telecommunications (DoT) issued notice and invited application for auction of Spectrum in various MHz like 700 MHz, 800 MHz, 900 MHz, 1,800 MHz, 2,100 MHz, 2,300 MHz and 2,500 MHz bands. Last date for participation in the auction was February 5, 2021 and auction to commence from March 1, 2021.

- In December 2020, the Union Cabinet, Mr. Narendra Modi, Prime Minister of India, approved the proposal by Department of Telecommunications for setting Public Wi-Fi Networks by Public Data Office Aggregators (PDOAs) to initiate public Wi-Fi services through Public Data Offices (PDOs).

In December 2020, the Union Cabinet, approved the provision of submarine optical fiber cable connectivity in between Mainland (Kochi) and Lakshadweep Islands (KLI Project)

3.3 Bharat Sanchar Nigam Limited (BSNL)

On September 15, 2000, BSNL was formed by the merging of two Indian telecom firms. When it was created on October 1, 2000, it took over the old Central Government department of Telecom Services (DTS) and Telecom Operations' business of providing telecommunications services and network management (DTO). Only Delhi & Mumbai are exempt from the company's countrywide telecommunications services. It is an owned subsidiary of the Indian government with a total paid-up amount of Rs. 12,500 crores (Rs. 5,000 crores equity & Rs. 7,500 crores preference share capital). In the fiscal year 2020-21, there was a net gain of Rs.18, 595 crores.

The government of India renamed the Department of Telecommunications Bharat Sanchar Nigam Limited on October 1, 2000. (BSNL). BSNL, India's largest public-sector project, and the country's largest telecommunications business have changed throughout the years. A total of around forty-five million phone lines serves 5,000 communities, and there are more than 35 million cell phone connections. BSNL, India's largest telecommunications provider, offers a wide range of products and services, including landline, mobile (GSM & CDMA), Internet, and long-distance (except Delhi & Mumbai). BSNL's network will be expanded as part of the company's Twelfth Five-Year Plan (2007-2012). By March 2012, the goal is to have a mobile phone density of 19.9 per one hundred people. BSNL and Bharti Airtel are now battling to be the nation's third-largest GSM provider, according to most sources. BSNL is also the country's largest Internet services operator, accounting for 21percent of all Internet users in India.

3.3.1 Vision:

- Be the leading telecommunication service provider in the country with global presence.
- Create and develop a customer focused oriented organization with excellence in customer care, marketing and sales.
- Leverage technological development to provide affordable and innovative telecom. Services/products across different customer segments.

3.3.2 Mission:

- Become the leading telecom service provider in the country with global presence.
- Becoming the most preferred, trusted and admired telecom brand in the country.
- Providing reliable and smooth telecommunication services that are economical and value for money.
- Generating value for all the stakeholders like shareholders, vendors & business associates along with employees of the organization.
- To become Excellent in customer service -friendly, reliability, time bound, convenience for users and courteous service.
- To offer differentiated products/services tailored to different service segments.
- Developing a true marketing and sales culture in the organization that is responsive to customer needs and aspiration.
- Maximum possible return on existing assets with sustainable focus on profits.

3.3.3 Objectives:

- Increase the sales revenue with focus on subscriber retention & acquisition by way of improving sales and marketing, quality of service and delivery to the customers.
- To Accelerate the expansion pace of mobile and data services with up-gradation of new technology.
- Adopt various policies and processes to be able to take transparent,

quick and efficient decision making.

- Develop a well-managed marketing team with positive attitude towards customer care.
- Increasing BSNL visibility throughout the country-in urban, sub-urban and rural areas.
- To improve customer care by lowering fault rate, enhancing Customer service Centers (CSCs) and introduction of convergent billing.
- To develop a conducive working environment with a focus on performance to enhance customer delight regarding BSNL services.
- Strengthen company's finances by optimum utilization of its assets through sharing / monetization of existing infrastructure like land, building and sharing of passive infrastructure like towers, technology etc.
- Expansion of the reach of fiber networking near to the customer premises and offices particularly in apartment complexes through FTTH in order to meet the increasing bandwidth requirement for data & video applications.
- Expansion of the existing infrastructure of BSNL so that it can contribute towards nation building by facilitating the execution of government initiatives viz. National Optical Fiber Network (NOFN), Network for Spectrum (NFS), and dwelling on Smart City concept.
- Improve the productivity of employees by training and skill development and redeployment of legacy manpower.
- To explore and search opportunities in global telecommunication market.
- To provide preferred service to the Government for secure and reliable services thereby safeguarding National security.

3.3.4 BSNL Services:

BSNL provides complete and a variety of telecom services that includes:

1. Land line services
2. Mobile Services including 2G, 3G & 4G (in limited areas) services
3. Internet, Broadband, Fiber to the Home (FTTH) services
4. Wi-Fi services
5. Data Center services
6. Enterprise Data services such as VPN, Leased circuits, MPLS etc
7. National and International Long Distance services.

BSNL is a latest technology-oriented integrated telecommunication services provider that offers a full range of telecom services:

- Services for wire lines
- Internet and broadband services, such as Fiber to the Home (FTTH)
- Wi-Fi access
- GSM Mobile Services, which include 2G, 3G, 4G, and Value-Added Services (VAS)
- Long-distance national services
- Long-Distance International Services
- Services for data centers
- Enterprise data services like leased circuits and MPLS VPN etc.

As a result, the BSNL telecom network is a part of the contemporary global system, enabling access to nations all over the world for the transmission of data in the form of voice, video, & data. The organization has extensive expertise in switch and transmission of network planning, installation, network integration, and maintenance. BSNL offers a world class Telecom Training Institute for its employees that is ISO 9000 accredited.

3.3.5 The Following are the Details of the Services Supplied by BSNL as of 30.11.2023:

BSNL's network has been updated by adopting innovative technologies, including a 100 percent digital modern technologies switch network. BSNL has a subscriber base of 1208.35 lakh.

- a) Wire-line Services:** The huge landline switching network consists of 27,329 exchanges with a capability of 228.62 lakh connections serving 76.48 lakh users.
- b) Wireless Services:** BSNL has contained all cities, as well as a significant length of National Highways, Rail Routes, and State Highways. BSNL's cellular services also provide incidental coverage to rural regions that are enroute to National and key State Highways. There are 1131.86 lakh mobile lines out of a total capacity of 1142.50 lakh. BSNL has 84,544 BTSs that use 2G technologies, 62,408 Node-Bs that use 3G technology, and 8,637 e-Node-Bs that use 4G technology. The 3G mobile network has been installed in 6,272 cities and municipalities.
- c) Broadband Services:** In January 2005, BSNL started its broadband services utilizing ADSL2+ technology. As of 30.11.2021, 23.06 lakh connections were active, with a total capacity of 100.18 lakh broadband ports deployed. BSNL has provided broadband services to 665 DHQ, 5,996 BHQ, 4,524 Cities, and 1,71,476 Villages.

BSNL offers Wi-Fi broadband connections. As of 30.11.2021, BSNL had 6.09 lakh, unique Wi-Fi users. BSNL also offers a variety of Value-Added Services (VAS) to its landline & mobile clients. VAS is often a third-party service supplied on a franchise model on a revenue-share basis.

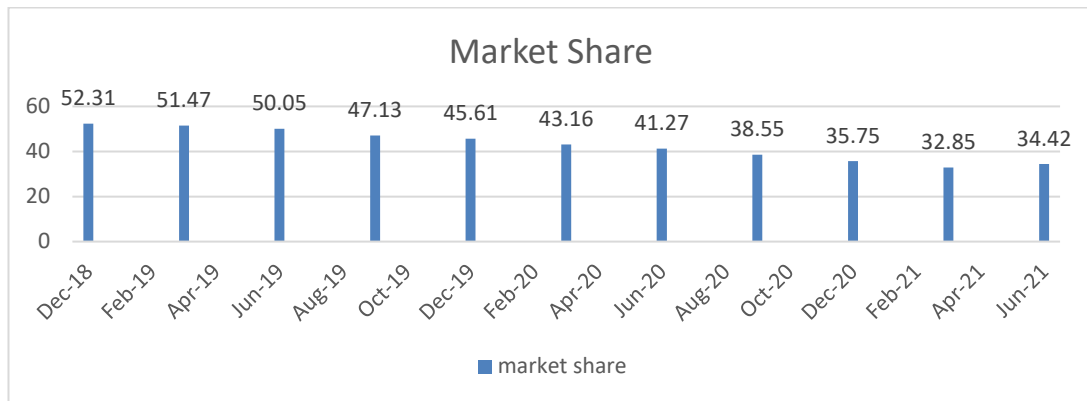


Figure 3.2: Market share of Bharat Sanchar Nigam Limited from December 2018 to June 2021

Sources: <https://www.statista.com/statistics/916238/india-market-share-of-bharatsanchar-nigam-limited-in-wireline-subscriber-base/>

3.3.6 SWOT Analysis of BSNL

BSNL is an Indian state-owned telecoms corporation based in New Delhi, according to NDTV or The Hindu (2015). Telecommunications service and connection management were transferred to it on October 1, 2000, after it was founded on September 15, 2000, from the old Central Government departments of DTS and Telecom Operations (DTO). BSNL is India's largest fixed-telephony provider, as well as the country's major broadband service provider (with a share of the market greater than 60%). However, the company's sales and market share have declined dramatically in recent years as a result of fierce competition in the Indian telecoms industry.

BSNL is India's largest and most experienced communications provider, according to the company's official website (CSP). It has twelve million customers as of June 2018. Only Mahanagar Telephone Nigam Limited administers the service in Mumbai and Delhi, two of India's most important metropolises (MTNL). It also claims that during the last 24 years, the business has evolved to become India's top & one of Asia's most important telecom operating organizations. Significant changes in telecom operational technologies have occurred in recent years as a result of

exchange modernization and computerization, resulting in a transition from labor-intensive land-line business to capital-intensive fresh technological advances like 3G, Wi-Max, and Digital Certification, VOIP, MPLS, Broadband, IPTV, Wi-Fi, or Wi-Max. Other mobile carriers & basic service providers face stiff competition from BSNL. This has put extra pressure on profitability as rates have been decreased, and on customer retention & acquisition, which will intensify as more new operators enter in the coming years. These changes need a whole new strategy for workforce planning.



Figure 3.3: SWOT Analysis of BSNL

3.3.7 Human Resources Development in BSNL

BSNL was founded on September 15, 2000, as a result of a merger between two Indian telecom companies. Telecoms systems and network management were transferred to it on October 1, 2000, from the previous Central Government

department of Telecommunications Services (DTS) & Telecom Operations. Telecom services are provided by this public sector corporation, which is one of India's biggest and best. With its Quality Telephone Network (QTN), BSNL is attempting to expand the network, offer innovative telecommunication services with ICT applications in rural areas, and increase customer confidence. This network is made up of 43.74 million basic telephones, 8.83 million WLL capacities, 72.60 million GSM lines (68,162 GSM BTSs, 12,071 CDMA Towers), 37,885 fixed exchange, 197 Satellite Station and 6,86,644 RKM of OFC.

The BSNL is making serious exertions and well-planned measures to bridge the digital divide between rural and urban areas in the ICT industry. To be honest, no other telecom company in the country can compete with its extensive network, which offers service in every corner of the nation except for Mumbai & New Delhi and spans the whole country. Telecom services offered by BSNL span from wireline, GSM mobile, Broadband Internet, CDMA phone, and Web-based services like MPLS-VPN, VSAT, and VoIP to FTTH, IN Services, Carrier service, FTTH, etc.

BSNL is India's unequaled leader in all services within its licensing zone. The organization provides a variety of price options that are easy and tailored to each customer. As of July 31, 2011, BSNL has 90.09 million mobile users & 5.06 million WLL clients. All BSNL 2G connections are now 3G capable. In terms of basic services, BSNL has 24.58 million wireline mobile users and accounts for 71.93 percent of the entire wireline subscriber base.

Converging IP services like voice, video, and data are all delivered through the same Backbone & Broadband Access Network by BSNL, making it one of the most advanced systems in the world. The number of broadband consumers has risen to 8.09 million. BSNL's income for the year 2010-11 was around Rs. 29,700 crores. As of March 31, 2011, the number of employees at BSNL was distributed as shown in the following diagram:

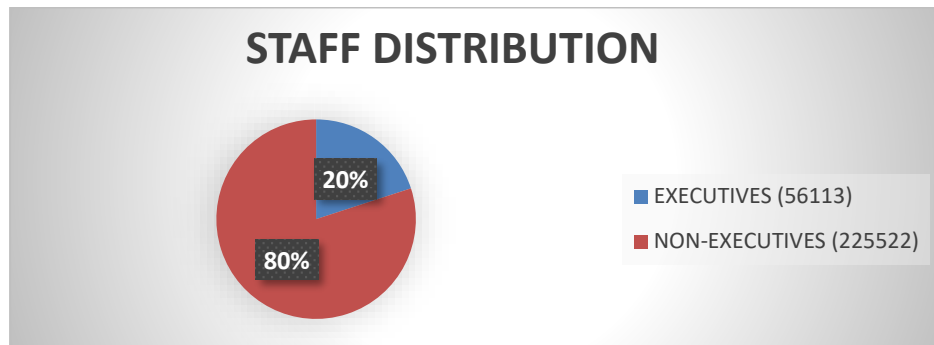


Figure 3.4: Staff Distribution

Sources: Gopinath, R. (2020). A Study on Human Resource Development Practices in BSNL With Special Reference to Job Satisfaction in Three Different SSAs.

Human resources are regarded by BSNL as the most important asset; thus, the company must constantly enhance employee talents, broaden their knowledge, and help them achieve their goals. BSNL encourages its employees to constantly improve their knowledge & skills through frequent training programs.

- Bharat Sanchar Nigam Limited employs around 2,90,000 highly skilled & experienced workers.
- BSNL feels that our most valuable asset is our workforce, which is among the finest trained in the telecom industry.
- BSNL feel that our future success is dependent on our employees' ability to give excellent customer service and maintain contact with them.
- To tackle technical difficulties, personnel are taught in BSNL's training centers around the country in technology upgrades, modernization, and computerization, among other things.
- These Centers have the necessary infrastructure in places, such as lecture halls, contemporary audio-visual aids, libraries, and dorms.
- These centers provide a variety of curricula such as technology-based training, attitudinal transformation training, basic educational & skill development programs, etc.

A worker may be content with his work environment and create more to demonstrate his ability to his superiors. An incredibly pleased worker, on either hand, may not be able to create more & get away with it since he is friendly with the boss.

3.4 Assam Telecom Circle

Over the past two decades, India's telecom industry has grown at an astronomical rate. Indian telecommunications have undergone their most radical and structural reorganization since deregulation occurred in 2001. This industry is well-managed because of the division of the country into various zones. They are called 'Circles', located along state lines. The Assam circle is centered on the state of Assam's borders. All of Assam's Licensed Service Area encompasses this radius. As the need grows, the telecom business in Assam Circle is expanding at a rapid rate. There has been significant subscriber growth in both rural & urban regions in the previous decade, particularly in the cellular category.

3.4.1 Assam Telecom Sector: Public and Private Sectors

After liberalization, India's telecom sector went from being a government monopoly to a competitive ecosystem in which several private businesses could enter & begin providing services to consumers. India's wireless telecommunications system is the world's second-biggest, and it was opened to the private sector in the 1990s. Government & private telecom providers are represented in the Assam Telecom Circle. This sector's growth and development have benefited from the combined efforts of the government and private entities. These businesses provide local & long-distance cell phone services, and there is robust rivalry among the Assam Circle's businesses. Because of the competition, prices have been lowering, and the calling rates in the circles are cheap. According to Kumar and Uma (2013), increased network coverage combined with fierce competition has led to lower pricing, which has functioned as a stimulant for subscriber growth.

3.4.2 Major companies in Assam Telecom Circle

Currently, in 2014, the Assam circle contains three categories of telecom companies:

- a) Public Sector Undertaking/State-Owned Company
 - Bharat Sanchar Nigam Limited, (BSNL).
- b) Private Indian-owned business
 - Idea Cellular Limited.
 - Reliance Telecom Limited.
- c) Private firms in which foreign investors own a dominant share.
 - Bharti Airtel Limited.
 - Vodafone Spacetel Limited.
 - Dishnet Wireless Limited (AIRCEL).

3.4.3 Status of Telecommunication in Assam

Assam is split into twenty-seven districts, each with fifty-three subdivisions, 219 CDBs, & 2202 Gram Panchayats. According to the 2001 Census, Assam has a total population of 2,53,55,528 people, of which 2,19,76,940 (86.68 percent) are rural and 33,78,588 are urban (13.32 percent). According to the 2001 Census, Assam has 26312 villages, 25124 of which are inhabited and 1188 of which are unoccupied. The average household size in Assam is between 5 and 6 persons. The ten five-year plan includes expanding communication networks in rural areas (2002-07). As a result, rural phone coverage grew from 9.01 million in March 2002 to 494.06 million in August 2009. In India, rural tele density climbed from 1.21 percent in March 2002 to 17.12 % in August 2009. Rural tele density, on the other hand, is lower at the national level than urban tele density, which was 98.70 percent in August 2009 (DoT,2009).

After the separation of the previous North-Eastern Circle, the Assam Telecom Circle was formed in January 1987. In recent years, the state's telecommunications infrastructure has been steadily developing. In Assam, the

corresponding tele density estimate is about 14.9% (rural) & 75% (urban) (urban). Assam has a tele density of 1.84 percent, compared to a national tele density of 3.8 percent. As of March 31, 2003, there were 567 telephone exchanges in the state, including 153 in urban areas & 414 in rural regions. By March 2003, Assam had 4.79 lakh registered operational telephone lines. Until March 2003, Assam has around fourteen internet stations (nodes) with 9238 connections. There was a total of Rs 274.44 crore in revenue collected in 2002-2003. (DoT, 2009). Access to internet and phone services may have a significant impact on rural areas' overall development and prosperity. Building infrastructure in rural and isolated locations is one way to improve communications in the Northeast. Northeast Summit on IT and Telecom proposed that 8652 villages without Village Public Telephone (VPT) be considered recipients of a phone line on landline wireless terminals, while 279 villages that are remote & can be provided with a telephone on conventional technologies would receive VPTs via Digital Satellite Phone Terminals ((DSPTs) in 2007.

The preceding data on telephone density in Assam illustrates the pace of growth in the number of persons with telephones at home. With such a rate of expansion and many government initiatives & policies, particularly for the northeast area, communication in the state has become more possible.

3.4.4 Wireless Tele Density of Assam

With a 45.36 percent wireless tele density in May 2013, Assam has 1,45,48,912 wireless subscribers. OFC rings link twenty of the 27 DHQs, while the linear OFC connects the remaining six. Satellite-linked DHQs and towns are compatible with 2G mobile networks in Assam. All of Assam's 25496 villages are covered by the 2G network, which includes 22611. Currently, cellphone connection is unavailable in 2885 villages. Karbi Anglong & Bring Dima Hasao's USOF-funded effort to link DHQs & Block HQs has been hampered. The district of Karbi Anglong & Dima Hasao makes up around 40% of the planned BTSs. These districts in Assam have proved difficult to deploy new BTSs.

In Assam, 3G services rollout is primarily limited to district headquarters. Tata Teleservices' activity in Assam, J&K, or the Northeast is no longer sustainable

due to the high reserve cost for spectrum. Bharti Airtel launched a 3G service in the Assam telecoms circle in 2012-13, claiming to deliver fast & reliable web access through cellular phone, social media, streaming video, video calling, Mobile TV, and high-definition gaming. Trailers for several Assamese films are rapidly becoming available on mobile phones. The cost of 3G local, STD, & roaming video calls has been reduced to five paise per second by Airtel.

They include Aircel (Bharti Hexacom), Airtel (Bharti), BSNL, and Reliance Telecom Ltd. If users are in Assam and the Northeast, users may already use Reliance 3G Services from Reliance Communications. To begin with, Reliance offered Guwahati, Jorhat, and Shillong (Assam) high-speed wireless broadband and live mobile television service (Northeast). New 3G services have been offered in Assam & Shilling by Reliance for Rs.199 per month (Bafna, 2011). Over eight hundred mobile towers have been installed in the state of Assam by Reliance Jio Info COMM Ltd. Optical fiber network (OFC) construction began in 2013 to provide 4G networks service in two telecom services located in Assam or the Northeast. To meet the development objective of establishing 3G and 4G services, the region's customers will be allowed to find a job.

In the North-Eastern Regions State or other parts of the country, there is a considerable gap in the current telecom infrastructure and the deployment of critical telecom services. Insufficient capacity for high-speed broadband data transmission stems from a lack of connectivity from the transmission channel (OFC, Microwave, and Satellite).

3.5 Understanding the Impact of COVID-19 on the Telecom Sector

Despite being in its second year, the coronavirus epidemic has retained its grip on the telecom sector, and the problems it presents continue to put even the world's biggest telecom players to the test. The subsequent succession of 'black swan' incidents, such as statewide lockdowns and mandatory social isolation, have exacerbated the misery by throwing doubt on telecoms' current procedures and protocols.

3.5.1 COVID'19 Pandemic Challenges

The long-drawn epidemic has taken its toll on telecom sales & distribution networks, especially because consumer footfall at direct franchisees has long been a key income generator. In many countries, the telecom business is still recovering from social distancing policies that resulted in an abrupt split between retail POS and customers. Despite tremendous development in digital channel use, the digital divide has been a bottleneck in many places such as Africa & the Middle East.

As pandemic limitations loom over telecom operators, the requirement for them to establish a robust digital ecosystem to address weaknesses in their present system grows. To be robust in the face of future inevitable events such as the Covid-19 pandemic, telecom companies must increase their investment in digital transformational solutions for S&D.

There is still a lack of cooperation in overall sales & distribution (particularly across direct or indirect channels) although many telecommunications firms are trying to digitalize to recover from COVID-19.

3.5.2 The 5 Major Telecom Industry Challenges After the Covid-19 Crisis

With many employees confined and face-to-face assistance unavailable, many firms are scrambling to meet customer demands, respond quickly, and provide remote assistance. Let us examine the top five difficulties in the telecoms industry in the aftermath of the Covid-19 incident.

The Need for Quick and Personalized Customer Service

Every day, the vast majority of telecommunications providers get millions of consumer requests, a record-breaking number. As the number of requests rises, it becomes increasingly difficult to visit actual businesses due to the increasing number of workers who work from home.

In times of crisis, immediate responsiveness, individualization, and multichannel communications are all crucial. If consumers do not adhere to these principles, they may experience long wait times, irritating back-and-forth with many executives, and unsatisfactory automated replies.

All of these elements may sour a consumer's relationship with their firm. And they do not want a dissatisfied consumer. Maintaining long-term connections with their clients necessitates empathy and the availability of quick responses.

Complex Operational Processes

Face-to-face assistance is no longer an option when there are millions of clients and a diverse choice of products and services to pick from. Even simple tasks like service setup, invoicing, order fulfilment, and payment are becoming increasingly complicated.

Telecom businesses must pay more money to manage increasingly complicated operations since they need more resources and technologies. In addition, buyers want everything to be done in a matter of seconds. In the face of a pandemic and a worldwide quarantine, they are not prepared to accept any delay in the operating processes. Resolve is more important now than ever.

Remote Working

With the spread of Covid-19, keeping hundreds of people in contact centers is dangerous to their health & unlawful in several countries. Or the bulk of companies are migrating to remote working. To provide customer service, the telecommunications sector relies significantly on massive call centers. Under these conditions, even with employees working from home, it is extremely hard to continue operating & delivering services. If their company relies on complicated on-premises technology, this becomes more difficult.

The only option left is to rely on cloud-based, basic technologies. They need it to be easy to deploy and ready to go as quickly as possible if they do not already have it.

Network Security

As modern technologies emerge, telecom operators' primary worry has shifted to network security. Modern technologies bring with them new threats to network & application security. This is especially true for distant teams or clients that need assistance from home. Several operational and technological modifications are

necessary to meet customer expectations of system security. Telecoms must have precautions such as trustworthy and secure authentication features.

Leverage over-the-top players

The mobile phone revolution and the phenomenal growth of messaging apps have given rise to several over-the-top (OTT) firms like WhatsApp and Facebook Messenger. Texting, audio & video calling, and other services have all benefited from these apps. The rising popularity of messaging apps, on the other hand, is diverting traffic away from what the bulk of telecom companies has to offer. They have damaged telecom firms' call or message (SMS) revenue for years. They forced carriers to stop charging roaming costs.

As a big issue for the telecom sector up to the past month, the key goal is to quickly implement industry best practices to continue providing the best possible consumer service. It is no longer a choice to incorporate social media sites like Facebook and WhatsApp into their customer service strategy; it is a need.

3.5.3 Opportunities for Telecom Operators

Regardless of the interruptions caused by the pandemic, telecommunications have profited from industry development patterns and greater usage of digital platforms in general. The unanticipated spike in digital connection and a global move toward digitalization offer telecom operators new and unbanked prospects. Revenue for telecommunication players has increased, owing mostly to increased internet and mobile usage, as well as improved digital interactions.

Digital connections and distribution channels have become increasingly important as demand for digital service, engagement, or traffic has increased dramatically. Communications companies must restructure and simplify their distribution networks to deliver retailing enablement across all customer contact points while boosting revenue in a rapidly changing business landscape.

During the epidemic, several telecom operators moved their focus from defense to expansion by using new income streams like digital payments or mobile

money. These development tendencies are supported further by the GSMA 2020 report's mobile economy growth estimates from 2020 to 2025.

3.6 Voluntary Retirement Scheme (VRS)

Voluntary Retirement Scheme is abbreviated as VRS. Participating organizations provide workers in the public and commercial sectors with the opportunity to retire early before the traditional retirement age. Organizational restructuring without layoffs or forced retirements is typically the major goal of a VRS plan, along with streamlining the staff, reducing overhead expenses, and optimizing resources.

Some important characteristics and parts of a standard VRS system are as follows:

- **Voluntary Nature:** Participation in the program is entirely optional. Workers are not forced into voluntary retirement; rather, they make the decision according to the benefits and circumstances provided by the company.
- **Financial Incentives:** Depending on the employee's length of service and the company's policy, financial incentives such as severance pay, improved pension benefits, lump sum payments, or other monetary rewards may be granted to those who choose to retire voluntarily.
- **Eligibility Criteria:** In order to be able to participate, employees must match the eligibility criteria that the plan typically lays forth, which may include minimum service years, age requirements, or other terms and conditions.
- **Cost-saving Measure:** As a means of cutting costs, several organizations have begun to use VRS programs. They can optimize labor, increase operational efficiency, decrease wage and pension expenses, and decrease the number of employees through voluntary retirements.
- **Organizational Objectives:** Downsizing, reorganization, technical progress, or responding to shifting market conditions are all examples of overarching organizational goals that VRS schemes may help achieve.
- **Negotiation and Consultation:** To make sure everything is fair and transparent; management and employee representatives (such as unions or

organizations) generally negotiate and discuss before implementing a VRS program.

- **Legal and Regulatory Compliance:** Voluntary retirement system (VRS) plans must adhere to all local, state, and federal rules and regulations as well as any employment, retirement, or severance payout contracts.

Organizations and workers alike may find VRS plans to be a win-win situation. Employees who choose to retire voluntarily might take advantage of financial perks and go on to other possibilities or retire early while their employers accomplish their strategic goals. While implementing VRS schemes, enterprises must prioritize justice, openness, and compliance with regulatory obligations.

3.6.1 BSNL VOLUNTARY RETIREMENT SCHEME (VRS-2019)

Initially majority communication need of the citizens were being met by Government of India through its Department of Telecommunications (DoT) in the country till late 1990s. Later in financial liberation era, the government allowed private telecom operators in the country. In 2000, the Department of Telecommunication (DoT) transformed as 100% Government of India owned Public Sector Undertaking as Bharat Sanchar Nigam Limited (BSNL) on October 1 of that year. At present in India the telecom services are providing by both Private and State-run organizations like MTNL (Mumbai and Delhi) and BSNL in rest of the country.

However, owing to the subsequent tough market conditions, the telecom sector became stressful and BSNL also remained no exception. The revenues started declining and expenditure started growing up with the advent of the tough market conditions. However, BSNL still manages and deserves credit for keeping the market share of telecom services in upward direction despite the extreme adverse market condition in recent years. BSNL remained self-sufficient and debt free which is in contrast to other private telecom service providers who have been debt ridden owing to the loan taken from the bank and financial institutions.

BSNL Financial Performance report 2013 to 2018 (Before VRS-2019):

Table 3.2: Financial performance reports from 2013-14 to 2018-19: (In Lakhs)

Sl.No.	Financial year	Revenue Inflow	Expenditure	Profit/Loss	Staff Expenses
1	2018-19	19,32,067	34,22,491	-14,90,424	14,49,200
2	2017-18	25,07,064	33,80,880	- 8,73,816	13,48,400
3	2016-17	31,53,344	36,32,665	-4,79,321	13,83,100
4	2015-16	32,91,870	36,74,272	-3,82,402	13,78,300
5	2014-15	28,64,520	37,29,210	-8,64,690	13,59,500
6	2013-14	27,99,635	34,92,960	-6,93,325	13,21,300

Source: BSNL Annual Report.

The table.5 shows the financial performance of the BSNL from 2013-14 to 2020-21, where the staff expenses were drastically reduced to more than 50% after implementation of VRS 2019.

3.6.2 BSNL REVIVAL PLAN 2019:

Keeping in view the downfall performance of Bharat Sanchar Nigam Limited (BSNL) for the past six years as shown in the above table, The Government of India announced revival plan to take control and stabilize the state-owned organization. The main components of the BSNL revival plan are given bellow:

- Voluntary Retirement Scheme (VRS-2019) for employees of age 50 years and above.
- Full cost of the Spectrum.
- Allotment of 4 G Spectrum & Full cost of the Spectrum
- Government support for Sovereign Guarantee Bonds
- BSNL Asset Monetization Scheme
- The merger of BSNL & MTNL

Voluntary Retirement Scheme (VRS-2019) to employees:

The government of India announced on 23rd October 2019 the revival package for the state-owned telecom operators BSNL & MTNL, in which the employees who completed the age of 50 years are eligible for opting voluntary

retirement scheme (VRS). Under this revival package, an amount of Rs.17,169 crore was allotted to meet the expenses towards employee's pension, gratuity, and Commutations as 92,500 employees of BSNL and MTNL opted for VRS nearly 8500 crores will be saved annually towards salaries. From BSNL alone, 78,235 employees opted for VRS. Those employees attained the age of 50 years and opted VRS will receive 100% to 125% of the salary for the remaining service up to a maximum of 42 months.

Allotment of 4 G Spectrum & Full cost of the Spectrum:

Allotment of the 4G spectrum & bearing full cost of the spectrum recommendations remains on paper only. So far except for BSNL & MTNL, all the private mobile Telecom service providers in the country already introduced 4 G services during the year 2017. Even though the 4G spectrum valued at Rs.23,814 crores would be allotted to BSNL, the company was never allowed to make use of the same, due to roadblocks created by the different government agencies for the procurement of the 4G equipment.

Raising Sovereign Guarantee bonds by MTNL:

Raising Sovereign Guarantee bonds by MTNL with tenure of 10 years or more, for a number of Rs. 17,571 Cr (Rs.10, 910 Cr in FY 2022-23 and Rs. 6,661 Cr in FY 2023-24) with the waiver of guarantee fee, to repay the high-cost debt and restructure it with the new sustainable loan. The principal /interest will be repaid by MTNL through the proceeds of rental /sale of land /building assets. Given the unsustainable debt of MTNL, for a further detailed examination to resolve matters such as asset monetization, AGR dues, debt resolution and further course of action for the merger of MTNL with BSNL, a Committee of Secretaries (CoS) comprising of Secretary DoE, Secretary DoT, Secretary DIPAM and Secretary DPE will be constituted to recommend the forwarding. The Finance Minister and Minister of Communications will be empowered to decide the way forward. The Government will provide budgetary support of Rs. 1,600 Cr for restructuring and operational integration of the Telecom PSUs as a one-time grant.

BSNL Assets monetization:

The union government agreed to Rs.38, 000 crores worth of BSNL assets monetization for a period of 4 years from 2019 to 2023. This will enable to raise resources for employee retiring debt, servicing of bonds, network up-gradation, and expansion, and also to meet the operational expenses of BSNL. To simplify the process, BSNL top authority also wants to allocate its land and capital resources to other government departments agencies and department. But so far partially asset monetization completed not as recommended.

Merger between BSNL & MTNL:

Under the BSNL revival plan, another decision of Government of India is the merger of MTNL with BSNL. MTNL was created by the government by an enactment in the Parliament and its stocks are listed, while BSNL was incorporate under the Company's Act and is not a listed Company. Until or unless the resolution of all the issued take place, MTNL will be continuing as a subsidiary of the BSNL. As of date, the operations of all the services are being carried out by the BSNL only; HR issues have not yet merged due to some pending pay and promotion issues for executives which were not yet settled.

Table:3.3 BSNL Revival Plan 2019

Revival Plan Component	Support of Government of India	Expected outcome
Voluntary Retirement Scheme (VRS-2019)	The ex-gratia component of the scheme comes at Rs.17, 169 crores with the cost of pension, gratuity, and commutation to be borne by the Government	Reduction of Staff aged >50 years
4G Spectrum (at 2016 price)	The full cost of the spectrum (excluding goods and services tax) of Rs.14, 115 crores. GST component of Rs.3, 674 crores funded through a budgetary allocation from the government	Able to compete in Market

Sovereign Guarantee Bonds	Sovereign guarantee bonds of Rs.8500 crore	To meet operations and maintenance costs
BSNL Asset Monetization Scheme	Rs.38,000 crore-asset monetization scheme over a period of four years	To raise resources for retiring debt, servicing of bonds, network up-gradation, expansion, and meeting the operational expenses
The merger of BSNL & MTNL	MTNL will be merged into BSNL (subsidiary to BSNL till merger)	Resultant BSNL has a 100% presence in India.

Source: www.bsnl.com

1.6.3 Eligibility Criteria for VRS

All regular and permanent employees (both absorbed employees from DoT and Direct recruit by the BSNL) including those on deputation to other organization or posted outside BSNL on deputation basis on the date of notification of the option for voluntary retirement under the scheme, who has attained the age of 50 years or above as on the notified effective date of voluntary retirement scheme shall be eligible to seek voluntary retirement under the scheme.

Employees belonging to the following categories shall not be eligible to seek voluntary retirement under this scheme.

- Government employees or employees of other organizations working in BSNL on deputation or loan basis.
- Employees whose service are permanently transferred to other Department/ State Government/ Autonomous Bodies/ Public Sector Undertakings or other entities.
- Employees permanently absorbed in other organization before the scheme came into force.
- Casual Workers and Contractual workers.

- Employees retired/ retiring on superannuation/ resigned from service/ voluntary retired under existing rules before active date of VRS notified under the scheme.

Table: 3.4: BSNL All India employee final VRS Data

	Total Employees	Group A	Group B	Group C	Group D	I/W
Total Employees	153786	7211	37785	86757	21390	643
VRS Eligible Employees	104471	5661	11971	71007	15302	530
VRS Taken Employees	78569	4295	9010	54994	9936	334
VRS Not Taken Employees	25902	1366	2961	16013	5366	196
Remaining employees in BSNL	75217	2916	28775	31763	11454	309
Remaining 59+ age Employees	6947	304	597	5267	720	59
Remaining 58+ age Employees	1456	49	96	1095	196	20
Remaining 57+ age Employees	1534	39	112	1121	249	13
Remaining 56+ age Employees	1543	52	107	1071	305	8
Remaining 55+ age Employees	2031	55	142	1409	415	10
Remaining 54+ age Employees	2343	85	158	1475	611	14

Remaining 53+ age Employees	2471	117	249	1423	666	16
Remaining 52+ age Employees	2448	190	356	1211	678	13
Remaining 51+ age Employees	2437	221	490	989	719	18
Remaining 50+ age Employees	2402	234	592	852	706	18
Remaining 50year 1day Age on dtd 31-01-2020 Employees	300	20	62	110	101	7
Total remaining 50+ Age to 60 Year Age Employees	25912	1366	2961	16023	5366	196
Total remaining 58+ year Age to 60 Year Age Employees	8403	353	693	6362	916	79
VRS Withdrawn Count	5237					

Source: BSNL executive Association web site www.sneachq.in.

	Group A			Group B			Group C			Group D			I/W			Grand Total		
Birth Year	Eligible	Opted	%	Eligible	Opted	%	Eligible	Opted	%	Eligible	Opted	%	Eligible	Opted	%	Eligible	Opted	%
1960	884	580	65.6	1576	979	62.1	11612	6345	54.6	1610	890	55.3	96	37	38.5	15768	8831	56.0
1961	773	724	93.7	1627	1531	94.1	11303	10208	90.3	1565	1369	87.5	106	86	81.1	15374	13918	90.5
1962	653	614	94.0	1668	1556	93.3	12067	10946	90.7	1804	1555	86.2	69	56	81.2	16261	14727	90.6
1963	505	453	89.7	1380	1273	92.2	9899	8828	89.2	1723	1418	82.3	49	41	83.7	13556	12013	88.6
1964	412	357	86.7	1099	957	87.1	8681	7272	83.8	1762	1347	76.4	60	50	83.3	12014	9983	83.1
1965	429	344	80.2	787	629	79.9	6532	5057	77.4	1779	1168	65.7	41	27	65.9	9568	7225	75.5
1966	477	360	75.5	764	515	67.4	4488	3065	68.3	1614	948	58.7	31	15	48.4	7374	4903	66.5
1967	544	354	65.1	888	532	59.9	2950	1739	58.9	1246	568	45.6	27	14	51.9	5655	3207	56.7
1968	520	299	57.5	1033	543	52.6	1955	966	49.4	1115	396	35.5	23	5	21.7	4646	2209	47.5
1969	437	203	46.5	1057	465	44.0	1380	528	38.3	962	256	26.6	21	3	14.3	3857	1455	37.7
1970	27	7	25.9	92	30	32.6	150	40	26.7	122	21	17.2	7	0	0.0	398	98	24.6
Grand Total	5661	4295	75.9	11971	9010	75.3	71007	54994	77.4	15302	9936	64.9	530	334	63.0	104471	78569	75.2

Table 3.5: NET VRS AGE / GRADE WISE DATA

Source: Internal Data from BSNL portals www.intranet.bsnl.co.in;

3.6.4 Implementation Status of BSNL Revival Plan-2019

Table 3.6: Implementation Status of Revival Plan - 2019

S.No.	Revival Plan-2019 Component	Present Status
1	Voluntary Retirement Scheme (VRS-2019)	Completed.
2	4G Spectrum (at 2016 price)	Services Launched
3	Sovereign Guarantee Bonds	Completed
4	BSNL Asset Monetization Scheme	Initiated
5	The merger of BSNL & MTNL	Till date instead of the merger, MTNL continues as a subsidiary of BSNL, to date operations of services are only carried out by BSNL.

3.6.5 The state wise VRS Data of BSNL

VRS of BSNL is one of the Scheme of the Revival Package 2019. The VRS scheme has been implemented by the Ministry of Telecommunication, Government of India. The following table shows the VRS data of BSNL employees who were eligible and who has taken the voluntary retirement under the scheme. The table shows the employee data in group wise and state wise. In Assam, 1934 number of employees comprising from all the employee group (Group A, B, C and D) were eligible for retirement under the VRS Scheme. Out of the 1934 employees, 1370 number of employees taken VRS.

Table 3.7: All India VRS State wise data

Row Labels	Group A			Group B			Group C			Group D			I/W			Grand Total			
	Staff	Eligible	Opted	Staff	Eligible	Opted	Staff	Eligible	Opted	Staff	Eligible	Opted	Staff	Eligible	Opted	Staff	Eligible	Opted	%
ALTTC	25	21	9	62	15	8	26	22	19	20	18	17				133	76	53	69.7
Andaman & Nicobar Telecom	18	8	3	90	21	12	75	35	30	42	10	5				225	74	50	67.6
Andhra Pradesh Telecom Circle	245	199	142	2,012	584	453	5,754	4979	4005	852	678	431				8,863	6440	5031	78.1
Assam Telecom Circle	130	99	75	637	240	175	1,511	1037	749	883	558	371				3,161	1934	1370	70.8
Bihar Telecom Circle	107	77	44	778	164	92	1,970	1430	963	1,249	1020	606				4,104	2691	1705	63.4
BRBRAITT	21	15	12	60	17	12	17	14	11	40	34	28				138	80	63	78.8
Broadband Networks	38	29	21	220	16	12	42	4	1	9	4	3				309	53	37	69.8
Calcutta Metro District	144	117	92	1,088	424	294	2,231	1577	979	943	677	393				4,406	2795	1758	62.9
Chennai Metro District	264	232	198	902	352	293	3,246	2796	2019	571	359	161				4,983	3739	2671	71.4
Chhattisgarh Telecom Circle	53	37	27	439	106	82	618	493	385	186	128	95				1,296	764	589	77.1
Corporate Office	318	238	151	623	247	152	234	170	117	101	72	36				1,276	727	456	62.7
Eastern Telecom Project (ETP)	37	27	19	131	35	18	158	118	65	209	123	56				535	303	158	52.1
Eastern telecom Region (ETR)	105	81	51	404	109	71	679	427	278	407	327	206				1,595	944	606	64.2
Gujarat Telecom Circle	349	304	272	1,856	471	388	6,365	5432	4488	2,061	1714	1319				10,631	7921	6467	81.6
Haryana Telecom Circle	101	71	47	915	236	184	1,855	1374	1167	412	332	223				3,283	2013	1621	80.5
Himachal Pradesh Telecom Circle	95	63	37	580	200	99	1,414	852	695	380	121	65				2,469	1236	896	72.5
Inspections	106	93	64	321	95	65	44	37	24	33	23	12				504	248	165	66.5
ITPC Pune	116	75	61	486	84	62	25	7	6	4	3	1				631	169	130	76.9
Jammu & Kashmir Telecom Circle	79	65	34	449	89	41	830	621	350	219	169	76				1,577	944	501	53.1
Jharkhand Telecom Circle	50	28	15	479	100	51	927	747	473	437	365	258				1,893	1240	797	64.3
Karnataka Telecom Circle	468	394	302	2,089	914	771	6,876	5898	4768	878	523	322				10,311	7729	6163	79.7
Kerala Telecom Circle	550	469	378	2,657	913	647	5,830	4961	3417	421	328	154				9,458	6671	4596	68.9
Madhya Pradesh Telecom Circle	249	193	148	1,416	528	400	3,415	2877	2218	1,002	751	547				6,082	4349	3313	76.2
Maharashtra Telecom Circle	576	449	367	3,013	1174	984	8,680	7541	6523	1,403	1021	670				13,672	10185	8544	83.9
NATFM	4	4	4	12	5	5	1	1	1	0		0				17	10	10	100.0
NCNGN	44	27	22	141	19	13	24	5	3	4	1	0				213	52	38	73.1
NETF	18	14	12	82	33	21	95	62	39	96	42	19				291	151	91	60.3
Network For Spectrum Circle	4	2	1	10	6	2	2	2	1	6	6	5				22	16	9	56.3
North East - I Telecom Circle	66	51	31	319	67	39	608	330	191	373	152	73				1,366	600	334	55.7
North East - II Telecom Circle	54	38	31	233	73	49	601	314	230	278	110	80				1,166	535	390	72.9
NTP	81	51	30	178	54	32	194	150	106	211	197	143				664	452	311	68.8
NTR	180	139	97	771	197	113	914	677	497	410	350	236				2,275	1363	943	69.2
Odisha Telecom Circle	184	144	97	823	276	181	1,421	1216	986	306	200	139				2,734	1836	1403	76.4
Punjab Telecom Circle	238	183	118	1,865	561	411	3,087	2257	1799	595	439	254				5,785	3440	2582	75.1
Rajasthan Telecom Circle	254	181	143	1,825	504	406	3,803	3101	2675	988	758	539				6,870	4544	3763	82.8
STP	79	49	32	304	100	64	160	117	94	16	14	9				559	280	199	71.1
STR	229	185	159	663	142	106	731	551	416	61	51	34				1,684	929	715	77.0
Tamil Nadu Circle	506	437	363	2,354	950	776	6,615	5699	3972	707	412	197				10,182	7498	5308	70.8
Telangana Telecom circle	287	229	185	1,691	497	422	4,620	4127	3468	1,420	1083	805				8,018	5936	4880	82.2
Telecom Factory Jabalpur	13	12	10	39	28	16	47	41	26	69	45	20	166	142	99	334	268	171	63.8
Telecom Factory Kolkata	9	8	2	47	36	21	44	34	10	55	39	16	262	201	96	417	318	145	45.6
Telecom Factory Mumbai	4	5	2	35	23	12	54	47	37	31	23	21	215	187	139	339	285	211	74.0
UP (E) Telecom Circle	202	137	102	1,649	325	241	4,275	3504	2697	1,158	764	524				7,284	4730	3564	75.3
UP (W) Telecom Circle	127	89	63	1,048	235	187	2,723	2255	1745	718	476	283				4,616	3055	2278	74.6
Uttaranchal Telecom Circle	72	44	36	300	81	64	791	613	518	160	114	75				1,323	852	693	81.3
West Bengal Telecom Circle	112	98	67	1,011	418	298	2,121	1610	1053	578	331	135				3,822	2457	1553	63.2
WTP	48	35	25	188	71	56	290	249	205	201	179	146				727	534	432	80.9
WTR	152	115	94	490	136	109	714	596	475	187	158	128				1,543	1005	806	80.2
Grand Total	7211	5661	4295	37785	11971	9010	86757	71007	54994	21390	15302	9936	643	530	334	153786	104471	78569	75.2
		%	75.9			75.3			77.4			64.9			63.0			75.2	

Reference: Annual Report 2023

1. Internal Data from BSNL portals www.intranet.bsnl.co.in; intranet AP BSNL; intranet Visakhapatnam SSA BSNL.

2. News paper coverage from The Hindu, Times of India etc.
3. BSNL executive Association web site www.sneachq.in.

3.6.6 BSNL Revival Plan 2022:

The Union Cabinet Minister of Telecommunication announced the 2nd Package for BSNL and MTNL on 27-07-2022 as a “Revival Plan BSNL and Merger of BBNL with BSNL”. This package mainly three elements:

- It will aim at improving the quality of the services of the BSNL.
- This Revival Package will be used for de-stressing the balance sheet of BSNL.
- This Plan attempt to expand the BSNL’s Fiber reach.

Table: 3.8: BSNL Revival Plan 2022

SL NO	Description	Details
1	Improving the quality of BSNL services	Administrative allotment of Spectrum & Procurement of 4G Equipment
		Financial support for CAPEX
		Viability gap funding for rural wireline operations
		Increase in authorized capital
		Raising Sovereign Guarantee bonds by MTNL
2	De-stressing the BSNL balance sheet	Debt structuring
		Financial support for AGR dues
		Re-issue of preference shares
		Sanction of Viability Gap Fund
3	Expand the company's fiber reach	The merger of BBNL with BSNL
4	Deputation of ITS officers in BSNL	From the formation of BSNL to till date ITS officers working on deemed deputation & very few of them are absorbed in BSNL

Source: BSNL Website.

3.6.7 Financial Performance of BSNL in Post VRS Period

Table:3.9: Comparative statement of the profit and loss of BSNL for the year ended 31st March 2019 to 2022

Particulars	FY 2018- 19	FY 2019 -20	FY 2020 -21	FY 2021 -22	Absolute Change in FY 2019- 20	Absolute Change inFY 2020- 21	Absolute Change in FY 2021- 22	Percen tage change in 2019- 20	Percen- tage Change in2020- 21	Percen- tage Change in2021- 22
Revenue										
Revenue from operations	17,76,106	17,88,609	17,45,211	16,81,126	12,503	-30,895	-94,980	0.70	-1.74	-5.35
Other income	1,55,961	1,02,047	1,19,379	2,24,337	-53,914	-36,582	68,376	-34.57	-23.46	43.84
Total revenue (I)	19,32,067	18,90,656	18,64,590	19,05,463	-41,411	-67,477	-26,604	-2.14	-3.49	-1.38

Expenses										
License and spectrum fee	1,28,534	1,61,632	1,25,761	1,44,142	33,098	-2,773	15,608	25.8	-2.2	12.1
Employee Benefit Expenses	14,31,590	13,59,678	6,67,916	7,16,867	-71,912	-7,63,674	-7,14,723	-5.0	-53.3	-49.9
Other expenses	12,06,003	10,57,274	9,53,218	9,50,084	-1,48,729	-2,52,785	-2,55,919	-12.3	-21.0	-21.2
Expenditure (Excluding Interest and depreciation) (II)	27,66,127	25,78,584	17,46,895	18,11,093	-1,87,543	-10,19,232	-9,55,034	-6.8	-36.8	-34.5
Profit before	-8,34,060	-6,87,928	1,17,695	94,370						

interest, depreciation and tax (EBIDTA)(I- II)										
Finance costs	78,166	1,99,110	2,56,707	2,61,729	1,20,944	1,78,541	1,83,563	154.7	228.4	234.8
Depreciation and amortisation expense	5,78,198	6,62,914	6,05,100	5,30,804	84,716	26,902	-47,394	14.7	4.7	-8.2
Total expenses (III)	34,22,491	34,40,608	26,08,702	26,03,626	18,117	-8,13,789	- 8,18,865	0.53	-23.78	-23.93
Loss for the Year (I-III)	- 14,90,424	- 15,49,952	-7,44,112	-6,98,163	-59,528	7,46,312	7,92,261	3.99	-50.07	-53.16

Source: BSNL Annual Reports

The comparative analysis of the profit and loss statement of the BSNL reveals that the total revenue generated of BSNL fell by 2.14 % and 3.49% during the financial year 2019-20 and 2020-21. However, the revenue increased during the financial year 2021-22 which indicates better performance. The table also reveals that the total expenses are reduced by 23.93% by Financial Year 2021-22 after implementation of the Revival Package and the implementation of the VRS Scheme. The above table also shows that the total loss has been reduced by 53.16% in the year 2021-22 compare to the loss of FY 2018-19.

Administrative allotment of Spectrum & Procurement of 4G Equipment:

To improve existing services and provide 4G services, BSNL will be allotted Spectrum in 900/1800 MHz band administratively at the cost of Rs 44,993 Cr (with GST of Rs.6836 Crs) through equity infusion in BSNL in the financial year 2022-23 subject to revision of said amount as per price discovered in the auction conducted in the financial year 2022. Allotment to BSNL will be done in all LSAs with effect from 29-02-2022 and the date of allotment in Delhi / Mumbai LSAs. The cost on a pro-rata basis will be settled for spectrum held by MTNL (5MHz in Delhi / Mumbai) from 05-04-2019 till the date of spectrum allotment to BSNL. The license-related conditions will be as applicable under the exact policy.

BSNL will provide telecom services in Delhi and Mumbai through the leasing of operational assets or other appropriate models. With operations by BSNL in Delhi/Mumbai, MTNL would leave with land/building assets which it will continue to monetize to discharge its loan liabilities. Also, the process to be followed for procurement of 4G equipment under the Atmanirbhar initiative will be placed before the GoM for approval. Accordingly, BSNL will finalize the procurement.

An important component of the Revival Package 2022, is the allotment of 4G spectrum to BSNL, for which the government will spend Rs.44, 993 crores. Already in the Revival Package 2019, the government had stated that it would spend Rs.23, 814 crores for the allotment of 4G spectrum to BSNL. Again, in February 2022, the Hon'ble Finance minister announced during the Budget speech that, Rs.44, 000 crore would be spent for BSNL's technology upgradation. Now, in the 2nd Revival Package, it has been stated that the government would spend Rs.44,

993 crores, for the allotment of 4G spectrum to BSNL. So adding together, all the allotments/announcements made by this government, for the allotment of 4G spectrum to BSNL, it comes to a staggering Rs.1, 12,807 crores.

Financial support for CAPEX:

To promote indigenous technology development, BSNL is in process of deploying the Atmanirbhar 4G technology stack. To meet the projected capital expenditure for the next 4 years, Government will fund CAPEX of Rs 22,471 Cr. This will be a significant boost to the development and deployment of the Atmanirbhar 4G stack.

Viability gap funding for rural wire line operations:

Despite the commercial non-viability, BSNL has been providing wire line services in rural /remote areas to meet the social objectives of the Government. The government will provide Rs 13,789 Cr to BSNL as viability gap funding for commercially unviable rural wire-line operations done during 2014-15 to 2019-20.

Increase in the authorized capital:

The authorized capital of BSNL will be increased from Rs.40, 000 Cr to Rs.1, 50,000 Cr in lieu of AGR dues, provision of CAPEX, and allotment of spectrum.

Raising Sovereign Guarantee bonds by MTNL:

Raising Sovereign Guarantee bonds by MTNL with tenure of 10 years or more, for a number of Rs. 17,571 Cr (Rs.10, 910 Cr in FY 2022-23 and Rs. 6,661 Cr in FY 2023-24) with the waiver of guarantee fee, to repay the high-cost debt and restructure it with the new sustainable loan. The principal /interest will be repaid by MTNL through the proceeds of rental /sale of land /building assets. Given the unsustainable debt of MTNL, for a further detailed examination to resolve matters such as asset monetization, AGR dues, debt resolution and further course of action for the merger of MTNL with BSNL, a Committee of Secretaries (CoS) comprising of Secretary DoE, Secretary DoT, Secretary DIPAM and Secretary DPE will be constituted to recommend the forwarding. The Finance Minister and Minister of Communications will be empowered to decide the way forward. The Government will provide budgetary support of Rs. 1,600 Cr for restructuring and operational integration of the Telecom PSUs as a one-time grant.

De-stressing BSNL balance sheet:

Debt structuring:

The government will provide sovereign guarantee bonds to these PSUs for raising long-term loans with a tenure of 10 years or more for an amount of Rs.22,828 Cr over three financial years, Rs. 8466Cr in 2022-23, Rs.6522 Cr in 2023-24, and Rs.7860 Cr in 2024-25 with a waiver off guarantee fee, to repay high-cost debt and restructure it with the new suitable loan. BSNL will repay the principal /interest. They will be able to raise long-term bonds for an amount of Rs 40,399 Cr. This will help restructure existing debt and de-stressing the balance sheets.

(Financial support for AGR dues:

To further improve the balance sheet, AGR dues of BSNL amounting to Rs 33,404 Cr as of 31-03-2022 including GST of 5,344 Cr will be settled by conversion into equity up to 5 years w.e.f. 1st April 2022. The exact AGR dues /interest will be certified by DoT.

Re-issue of preference shares:

BSNL will re-issue 9% of the non-cumulative preference share of Rs 7,500 Cr to the Government. The government will make budgetary provisions for Rs 7,500 Cr in the financial year 2022-23.

With these measures, BSNL will be able to improve the quality of existing services, roll out 4G services and become financially viable.

Sanction of Viability Gap Fund:

As a Viability gap Rs.13, 789 Cr will be Sanctioned in the form of a grant-in-aid to BSNL towards unviable rural wire-line operations for the FY 2014-15 to 2019-20 through budgetary support in FY 2022-23. Similar reimbursement will also be allowed to BSNL for FY2020-21 onwards for five years also on this principle, subject to a ceiling of Rs.7, 200 Cr for this duration of six years.

Refund to be made by the Government to BSNL:

The government of India has to refund BSNL to the tune of Rs. 24,751 crores of rupees towards the cost of CDMA spectrum which surrender in the circles of Karnataka, Tamil Nadu, Kolkata, Andhra Pradesh, and Maharashtra as surplus. The outstanding amount from the Government project NOFN Bharat net, Interest on the Wi-Max spectrum Surrender, refund of the excess amount paid to the DoT towards pension contribution for the employees who were recruited in DoT, reimbursement

of Leave encashment for the DoT period in respect of the employees those are absorbed from the DoT, execution & operational charges of the LWE project, the rental charges towards the provisioning of Building/office space and staff quarters for the DoT, different staff related claims from the DoT, rentals to provide telecom services for the DoT in the country, USO fund claim pertaining to Andaman & Nicobar, Lakshadweep, and Jammu& Kashmir, provisioning of 25,000 Wi-Fi Hot spots in the country and Viability gap funding to provide communication during Amarnath Yatra as mentioned in table 3.10.

Table 3.10: Refund to be made by the GOI to BSNL

S.No.	Details	Rs. (in Crore)
1	Surrender of CDMA Spectrum	2,472
2	Government Projects – NOFN (BharatNet)	1,051
3	Interest in Wi-Max Spectrum Surrendered	5,850
4	Refund of Excess paid Pension Contribution	1,996
5	Reimbursement of Leave Encashment against DoT period in respect of absorbed employees.	11,998
6	LWE Project	380
7	Providing Building/Office space/Staff quarters etc., to DoT	320
8	Staff related claims (i.e., Salary of BSNL staff working/worked in DoT, Loans & Advances paid by BSNL to unabsorbed employees of DoT, Leave salary paid to DoT employees (unabsorbed) & LSPC paid during the Leave period, etc.)	225
9	Providing Telecom Services to DoT	282
10	Claims from USOF w.r.t. A&N, Lakshadweep, Assam	30
11	25,000 Wi-fi Hotspot Project	131
12	Viability Gap Funding for Amaranth Yatra	16
	Total	24,751

Source: BSNL Annual Report 2022

Merger of BBNL with BSNL to expand the Fiber reaches to Village panchayats:

A Special purpose vehicle (SPV) BBNL was formed in February 2012, to lay out an optical fiber network across 2.5 lakh village panchayats across the country using USOF and provide access to all telecom operators on a non-discriminatory

basis. Now the GOI proposed BBNL will be merged with BSNL, as BSNL already has a network of over 6.8 lakh kilometers of optical fiber cable (OFC) network. With the proposed merger, BSNL will get 5.67 lakh kilometers of optical fiber which has been laid across 1.85 lakh village panchayats in the country using the Universal Service Obligation Fund (USOF).

Roles /responsibilities being discharged by BBNL will be carried out by BSNL, with the following guiding principles:

- Bharath Net is to be funded by USOF and infrastructure to be a National asset owned by USOF, accessible on a non-discriminatory basis to all service providers.
- BSNL is to be responsible for targets by Government for FTTH services in all villages.
- Agreement to be signed between USOF and BSNL on constructions, O&M, utilization of the BharatNet network, payment terms and conditions, etc.
- Payment for O&M works to be based on outcome-linked measurable Service Level Agreements (SLAs) including penalties for non-performance. Payments for the construction of the network are to be based on the achievement of the milestones.
- The Minister of Communications has delegated the powers to take decisions on all issues arising out of the merger of BBNL with BSNL.

3.6.8 Reasons for reviving BSNL by the GOI:

- As the majority of private mobile operators not having good reach in the rural, agency, and remote areas, where BSNL has its presence in those areas, with the merger of BBNL with BSNL the presence in the rural area still increases for BSNL. Even though RJIO in its expansion project of mobile services and Airtel intensify the establishment of new BTSs in the rural areas still BSNL remains a strong player there. The experience with coverage through private operators using the USO Fund as a viability gap measure was not very effective in achieving the objective of NTPs.

- The key factor is security considerations. As the country is growing increasingly digital and security threats in the digital space mount, there may be a felt need for having an instrument of the government-owned Telecom Company BSNL, which could directly address some of its high-priority and high-security communication requirements.
- The need for coverage of difficult regions such as extremist-affected areas (LWE). Lack of coverage in such areas is not due to economic factors, but other factors like the law-and-order situation. Such areas may require special effort to provide coverage. This is regarded as important from both a security point of view as well as from a societal point of view.

Another factor is making use of a spectrum that remains unsold and unused. Presently in India, only three private operators and there are growing concerns of a possible duopoly dominance in the mobile sector. As a policy decision, GOI injecting a little more competition may have been seen to have some virtue.

BSNL suffered a loss of Rs.50631 crores in the past five years. The GOI initiated the first revival package in 2019, which reduces losses from Rs.15,500 crores in financial 2020 to Rs.7441 crores in financial 2021. The plan includes measures to reduce the staff cost through VRS, administrative allotment of spectrum for 4G services, and debt restructuring by raising Sovereign Guarantee Bonds.

CHAPTER 4

HRD Climate of BSNL, Assam Telecom Circle.

4.1 Introduction

In the present chapter, attempt has been made to statistically explore the collected primary data through questionnaire. The main aim of this chapter is empirically and statistically investigating the impacts that various Human Resource Development (HRD) dimensions such as top management support, HRD mechanism or sub-systems have on the perception of the employees in the select organization. The data relating to demographic factors like gender, age, salary, education, experience, designation, income, etc. are analyzed. The main purpose and aim of this chapter to empirically investigate the employee's perception on HRD Climate of Bharat Sanchar Nigam Limited (BSNL). The researchers investigate the three important dimensions of HRD climate in this chapter. The dimensions are General Climate, HRD Mechanism and OCTAPACE Culture. In the present study, the researcher analyzed the perception of the respondents with regard to their demographic variables like age, gender, salary, experience, income and education.

The researchers also analyze and compare the perception of employees with respect to their demographic variables such as age, gender, designation, educational qualification, experience and the location of their job. The different statistical techniques mentioned in the introduction chapter are used in this chapter of the thesis.

Human Resource Management (HRM) is increasing in popularity today. HRM has evolved into a critical strategic tool businesses use to gain and sustain a competitive edge in both the commercial and public sectors. Businesses have also begun recognizing that managing human resources is the only way to gain a competitive advantage. Yet, it is important to remember that all businesses, particularly those in the manufacturing industry, currently deal with several human resources (HR) challenges. Internal and external obstacles linked to the industry's regular structure are called human resource difficulties for industries. Firms would struggle to thrive in today's competitive economy if they did not overcome the HR challenges.

The HRD climate can be produced by utilizing appropriate HRD processes and the leadership styles of senior management. HRD environments function as both a means to an end and an end. Several HRD climate measurements have been produced recently. These instruments are widely used to study the climate regularly, maintain profiles, and develop strategies to improve it further.

4.2 Reliability and Validity Test

Reliability Test

The reliability test is an essential measure to evaluate the internal consistency of a questionnaire, ensuring that the items used within the instrument consistently reflect the same construct across different respondents. In this analysis, Cronbach's Alpha was used to assess the reliability of the 38-item questionnaire for both executive and non-executive employees.

Cronbach's Alpha is a commonly used reliability index, with values ranging from 0 to 1. A higher value indicates greater internal consistency among the items in the questionnaire. Typically, a Cronbach's Alpha value above 0.7 is considered acceptable, while values above 0.8 are deemed good, and values above 0.9 reflect excellent reliability.

Table 4.1: Reliability statistics

Number of Items	Cronbach's Alpha for Executive	Cronbach's Alpha for Non-Executive
38	0.795	0.780

For Executives, the Cronbach's Alpha was 0.795, indicating good reliability. This suggests that the items used in the questionnaire are consistently measuring the intended construct for executive employees. On the other hand, For Non-Executives, the Cronbach's Alpha was 0.780, which also reflects good internal consistency. The questionnaire is reliable for assessing the responses of non-executive employees.

Both values indicate that the questionnaire is well-constructed and reliable for measuring the dimensions in question across both groups of employees, ensuring that the results obtained from it are trustworthy and consistent.

4.3 Validity Test:

The validity test was performed using two key measures: the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. These tests are crucial for assessing the suitability of the data for factor analysis, which examines the construct validity of the questionnaire.

According to Hutcheson and Safroniou (1999): 0.5-0.7: Mediocre, 0.7-0.8: Good, 0.8-0.9: Great and Above 0.9: Superb.

Table 4.2: Validity Test

KMO and Bartlett's Test			Non-Executive	Executive
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.641	.640
Bartlett's Test of Sphericity	Approx. Chi-Square		4665.603	4665.603
	df		703	703
	Sig.		.000	.000

Source: Primary data compiled and computed by researcher.

In this study, for non-executives, the KMO value is 0.641, which is above 0.5 and falls into the "mediocre" category. On the other hand, for executives, the KMO value is 0.640, which also falls into the "mediocre" range.

Objective 1: To study the demographic profile of the employees working in BSNL Assam Telecom Circle.

4.4 Demographic Variables of the Respondents

The total number of employees considered in the study is 705. These employees are categorized into two main designations: Executives and Non-Executives. Out of the total, 416 employees (59%) hold non-executive positions, while 289 employees (41%) are in Executive.

Table 4.3: Frequency table of Gender with respect to Designation of Employees.

Count			
Designation	Gender		Total
	Female	Male	
Non-Executive	178	238	416
Executive	117	172	289
Total	295	410	705

Source: Primary data compiled and computed by researcher.

Table 1 the gender distribution, the workforce consists of 410 male employees and 295 female employees. This shows that the organization employs more males than females. However, the focus is on understanding how these gender groups are distributed across the Executive and Non-Executive designations.

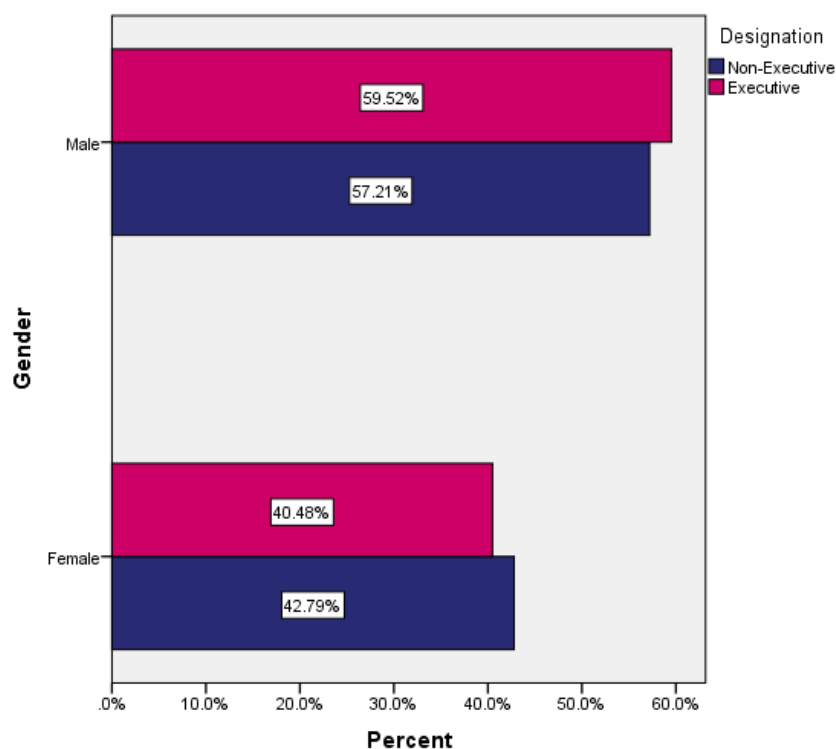


Fig 4.1: Graphical Representation of Gender in the Basis of Designation of Employees.

Among the male employees, a clear majority are in non-executive roles. Out of the 410 male employees, 238 (approximately 59.52%) occupy non-executive positions, while 172 (about 42.79%) hold executive roles. This suggests that men are more likely to hold higher-ranking or managerial roles within BSNL Assam Telecom Circle. In contrast, the pattern is different for female employees. Of the 295 female employees, 178 (around 40.48%) are in non-executive positions, and 117 (about 57.21%) are in executive roles. This indicates that female employees are more concentrated in executive positions, suggesting a lower representation in higher-level positions compared to their male counterparts.

Table 4.4: Frequency table of Age with respect to Designation of Employees.

Count					
Designation	Age				Total
	20-30 Years	31-40 years	41-50 years	51-60 years	
Non-Executive	105	158	85	68	416
Executive	85	116	44	44	289
Total	190	274	129	112	705

Source: Primary data compiled and computed by researcher.

The employees are divided into four distinct age groups: 20-30 years, 31-40 years, 41-50 years, and 51-60 years. These age groups are then examined in relation to the two designation categories: Executive and Non-Executive employees. In Table 2 the 20-30 years age group, the majority of employees are in executive positions. Out of a total of 190 employees in this group, 105 employees (approximately 55.26%) are in non-executive roles, while 85 employees (about 44.74%) hold executive positions. This shows a slightly higher concentration of younger employees in non-executive roles, though the difference is not drastic. The 31-40 years age group represents the largest segment of employees in BSNL Assam Telecom Circle, with 274 employees in total. Of these, 158 employees (or 57.66%) are in non-executive positions, while 116 employees (about 42.34%) occupy executive roles. This age group shows a strong representation in Non-Executive positions, highlighting that mid-career professionals are more likely to hold managerial or senior positions within the company.

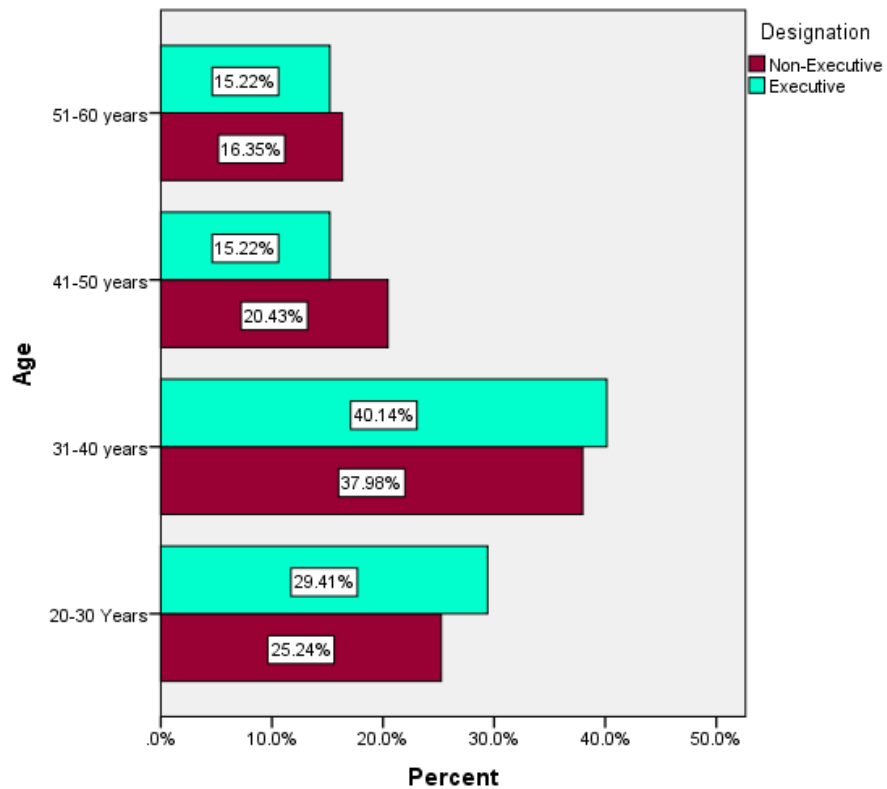


Fig 4.2: Graphical Representation of Age in the Basis of Designation of Employees.

Among employees aged 41-50 years, the majority are executives. Out of the 129 employees in this group, 85 employees (approximately 65.89%) are in non-executive positions, while 44 employees (34.11%) are in executive roles. Although non-executives still dominate in this age group, the gap between Executives and Non-Executives narrows as age increases, indicating a more balanced distribution in mid to late career stages. In the oldest age group, 51-60 years, the distribution between Executive and Non-Executive employees is relatively even. Out of 112 employees, 68 (or 60.71%) are in non-executive roles, while 44 (39.29%) are executives. As employees approach retirement age, the data indicates a closer balance between those in managerial positions and those in non-managerial roles.

Table 4.5: Frequency table of Marital Status with respect to Designation of Employees.

Count			
Designation	Marital Status		Total
	Married	Single	
Non-Executive	228	188	416
Executive	151	138	289
Total	379	326	705

Source: Primary data compiled and computed by researcher.

The employees are divided into two categories of marital status: Married and Single. These two groups are further analyzed with respect to the employees' designations, which are classified as either Executive or Non-Executive. Table 3 represents out of the 326 employees who are single, the distribution between Executive and Non-Executive roles is relatively balanced. A total of 188 employees (approximately 57.67%) in the single group hold non-executive positions, while 138 employees (about 42.33%) are in executive roles. This indicates that single employees are slightly more likely to hold non-executive roles, but the difference is not pronounced.

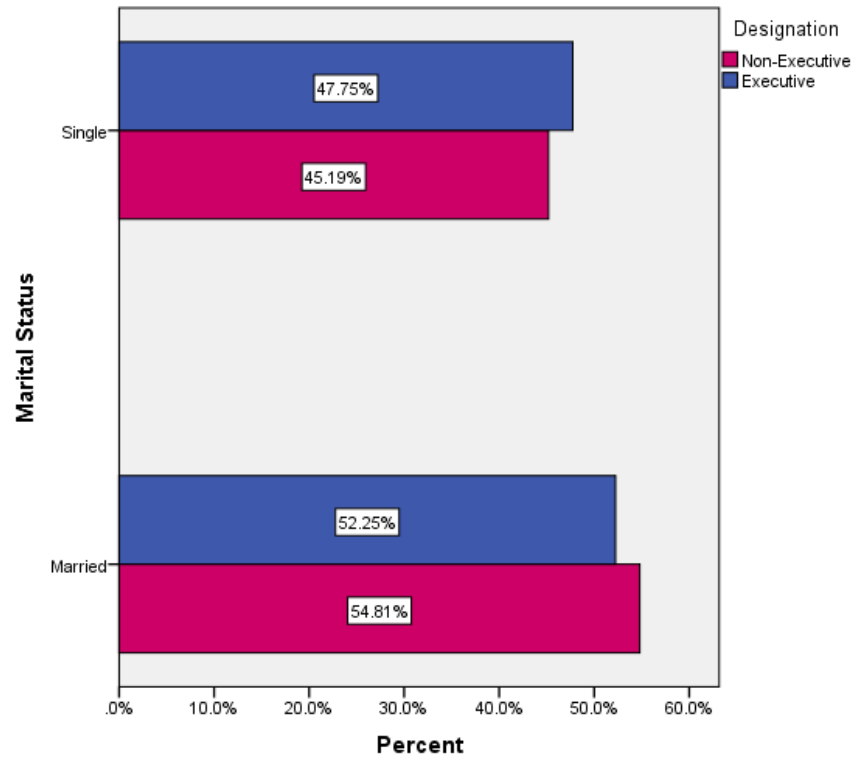


Fig 4.3: Graphical Representation of Marital Status in the Basis of Designation of Employees.

Among the 379 married employees, there is a stronger distinction between Executive and Non-Executive roles. A total of 228 employees (approximately 60.16%) are in non-executive positions, while 151 employees (about 39.84%) are executives. The majority of married employees hold non-executive positions, which could suggest a higher degree of career progression and responsibility among employees who are married.

Table 4.6: Frequency table of Educational Qualification with respect to Designation of Employees.

Count						
Designation	Educational Qualification					Total
	10th Pass	10+2 Pass	Graduation	Post-Graduation	Others	
Non-Executive	89	122	115	81	9	416
Executive	66	74	95	48	6	289
Total	155	196	210	129	15	705

Source: Primary data compiled and computed by researcher.

Among the employees who have passed 10+2, there are 122 non-executives (approximately 62.24%) and 74 executives (about 37.76%), making up a total of 196 employees. The majority of employees with this qualification hold non-executive roles, indicating a higher likelihood of progression to non-executive positions for individuals with a 10+2 qualification. For employees with only a 10th pass qualification, 89 employees (about 57.42%) are in non-executive positions, while 66 employees (around 42.58%) are executives, making a total of 155 employees. Similar to the 10+2 pass group, more employees with a 10th pass education are in non-executive roles, though the difference is less pronounced.

In the case of employees who have completed a Graduation degree, there are 115 non-executives (about 54.76%) and 95 executives (around 45.24%), out of a total of 210 employees. The distribution shows that graduates are almost equally represented in both Executive and Non-Executive roles, though slightly more are in non-executive positions.

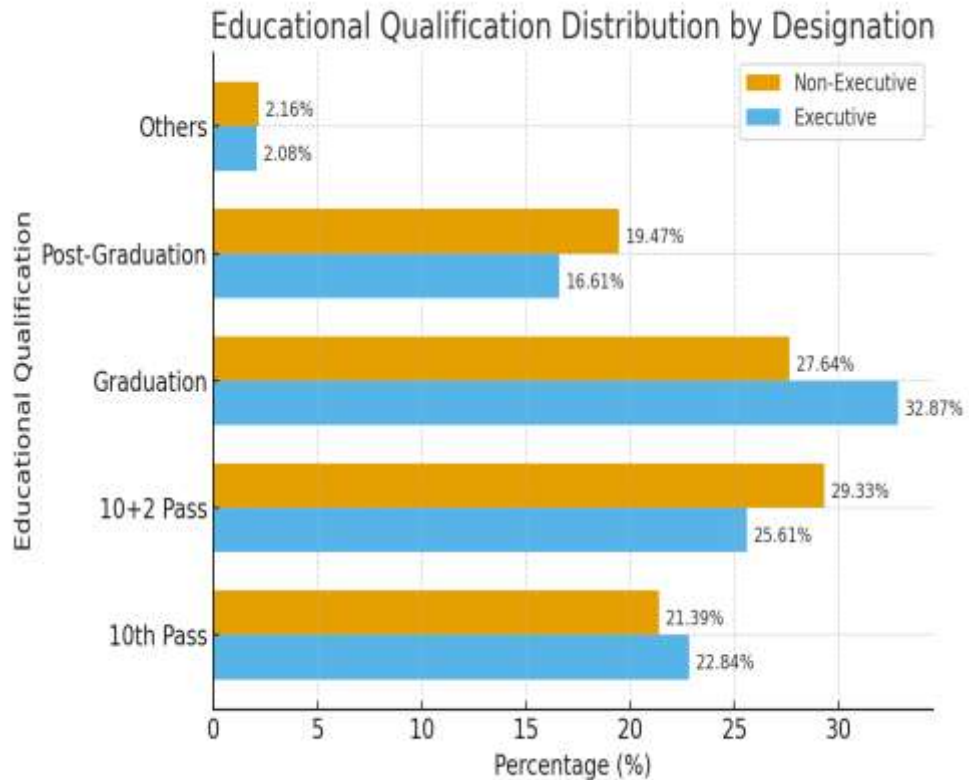


Fig 4.4: Graphical Representation of Educational Qualification in the Basis of Designation of Employees.

For employees with a post-graduation degree, there are 81 non-executives (approximately 62.79%) compared to 48 executives (around 37.21%), making up a total of 129 employees. This indicates that employees with higher educational qualifications (post-graduation) are more likely to hold non-executive roles, possibly due to the demand for advanced skills and knowledge at the non-executive level. The Others category, which likely includes employees with specialized or alternative educational backgrounds, has 9 non-executives and 6 Executives, making up a small group of 15 employees in total. The distribution here is fairly balanced, though slightly more employees in this category hold non-executive positions.

Table 4.7: Frequency table of Salary with respect to Designation of Employees.

Count						
Designation	Salary					Total
	20000-30000	30001-40000	40001-50000	50001-60000	Above 60000	
Non-Executive	58	98	115	83	62	416
Executive	42	69	77	61	40	289
Total	100	167	192	144	102	705

Source: Primary data compiled and computed by researcher.

Table 5 presents the salary distribution of employees at BSNL Assam Telecom Circle, segmented into five salary ranges: ₹20,000-₹30,000, ₹30,001-₹40,000, ₹40,001-₹50,000, ₹50,001-₹60,000, and above ₹60,000. The distribution is further categorized based on the employees' designations as either Executive or Non-Executive. In the lowest salary range of ₹20,000-₹30,000, there are 58 non-executives (around 58% of this group) and 42 executives (about 42% of this group), making a total of 100 employees. Despite being at the lower salary level, a notable number of non-executives are present in this range, possibly reflecting entry-level positions or promotions from Executive to Non-Executive roles. In the salary range of ₹30,001-₹40,000, 98 non-executives (approximately 58.68%) and 69 executives (around 41.32%) fall within this category, making a total of 167 employees. This range sees a relatively larger number of employees compared to the lower salary range, indicating a more significant proportion of workers, especially non-executives, in mid-level salary positions. The largest number of employees are found in the ₹40,001-₹50,000 salary range, where 115 non-executives (about 59.90%) and 77 executives (approximately 40.10%) are represented, totaling 192 employees. This range is highly populated by both Executives and Non-Executives, though non-

executives dominate this salary bracket, likely reflecting a mid-to-senior level in the organization.

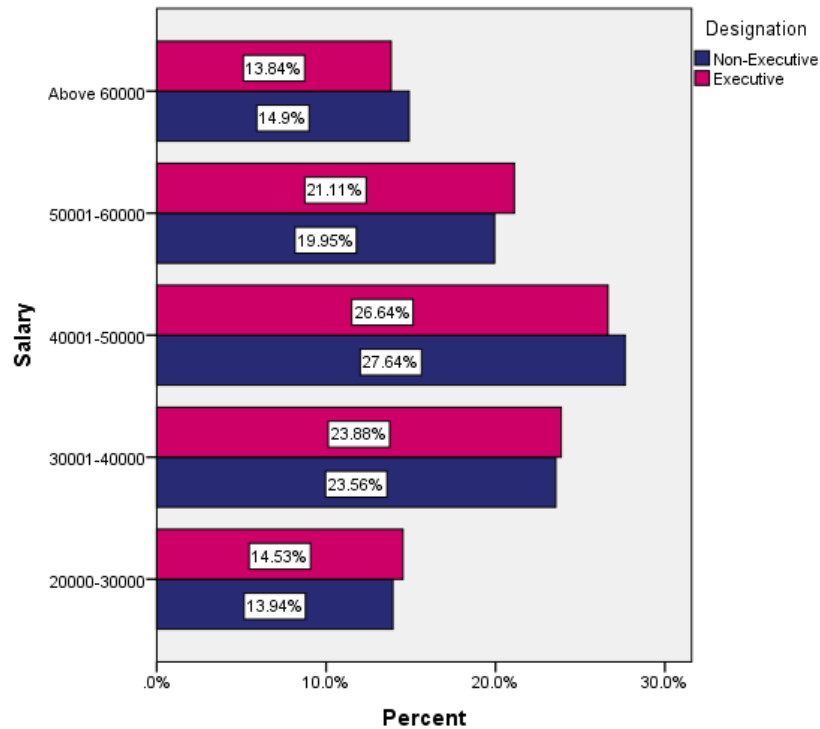


Fig 4.5: Graphical Representation of Salary on the Basis of Designation of Employees.

In the ₹50,001-₹60,000 salary range, there are 83 non-executives (around 57.64%) and 61 executives (about 42.36%), making a total of 144 employees. This group also shows a higher proportion of non-executives, further indicating that employees moving up the salary ladder are more likely to be in non-executive roles. In the highest salary range of Above ₹60,000, 62 Non-Executives (about 60.78%) and 40 executives (approximately 39.22%) are found, comprising a total of 102 employees. The majority of individuals in this salary bracket are non-executives, reflecting the highest levels of compensation associated with senior positions and greater responsibility.

Table 4.8: Frequency table of Location with respect to Designation of

Count				
Designation	Location			Total
	Dibrugarh	Kamrup	Silchar	
Non-Executive	129	158	129	416
Executive	86	122	81	289
Total	215	280	210	705

Employees.

Source: Primary data compiled and computed by researcher.

The table 6 presents the location distribution of 705 employees at BSNL Assam Telecom Circle across three main regional centers: Dibrugarh, Kamrup, and Silchar. The data is segmented by the employees' designations into Executives and Non-Executives, showing how many employees are stationed at each location based on their designation.

In Dibrugarh, there are 129 non-executives and 86 Executives, making up a total of 215 employees. Non-Executives represent about 60% of the workforce in this location, while executives account for around 40%. This distribution suggests that Dibrugarh has a balanced mix of both Executives and Non-Executives, though non-executives slightly dominate in numbers.

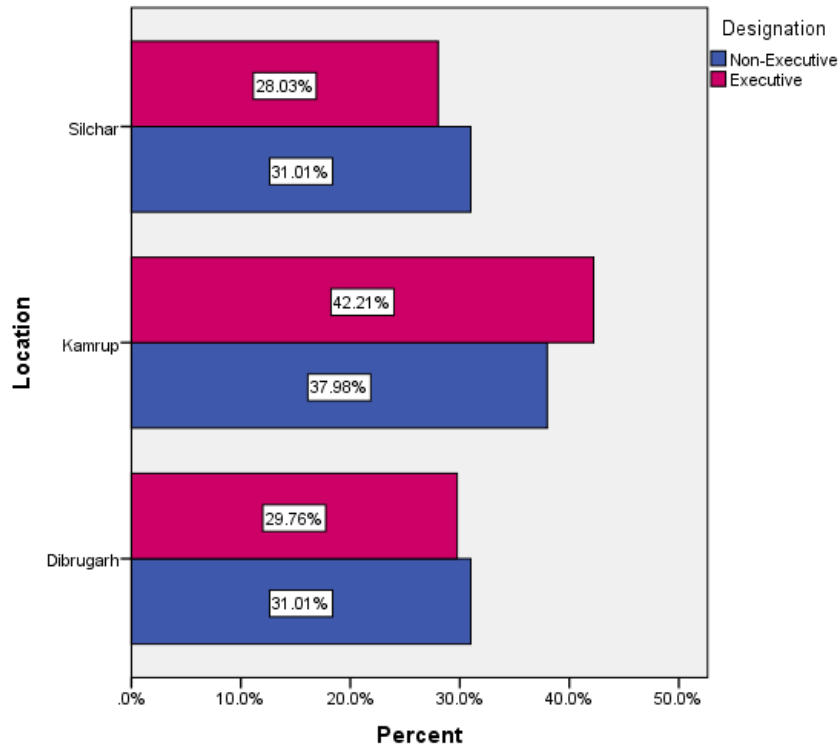


Fig 4.6: Graphical Representation of Location in the Basis of Designation of Employees.

However, Kamrup the workforce is the largest, with a total of 280 employees. This includes 158 non-executives (approximately 56.43% of the total in Kamrup) and 122 Executives (about 43.57%). Kamrup stands out as the location with the highest number of employees overall, particularly non-executives, indicating its possible significance as a central hub or administrative region within BSNL Assam Telecom Circle. Also, in Silchar 129 Non-Executives and 81 Executives are employed, making up a total of 210 employees. Similar to Dibrugarh, Non-Executives here represent about 61.43%, with executives making up 38.57%. Like Dibrugarh, this shows a larger proportion of Non-Executives in Silchar, suggesting the importance of non-executive roles in this region.

Table 4.9: Frequency table of Job Experience with respect to Designation of Employees.

Count					
Designation	Job Experience				Total
	0- 5 years	5-10 years	10-20 years	Above 20 years	
Non-Executive	105	117	140	54	416
Executive	68	91	92	38	289
Total	173	208	232	92	705

Source: Primary data compiled and computed by researcher.

The table provides a breakdown of 705 employees at BSNL Assam Telecom Circle based on their job experience in four categories: 0-5 years, 5-10 years, 10-20 years, and Above 20 years. The data is further segmented into employees holding Executive and Non-Executive positions, showing how many employees in each job experience category belong to each designation. For employees with 0-5 years of experience, the total number is 173, consisting of 105 non-executives and 68 Executives. Non-Executives represent 60.69% of this group, while executives make up 39.31%. The relatively high proportion of non-executives in this category indicates that a significant number of new hires or those with relatively fewer years of experience are entering non-executive roles. This could be indicative of a recruitment policy that emphasizes leadership development among newer employees or a fast track to non-executive roles for younger professionals.

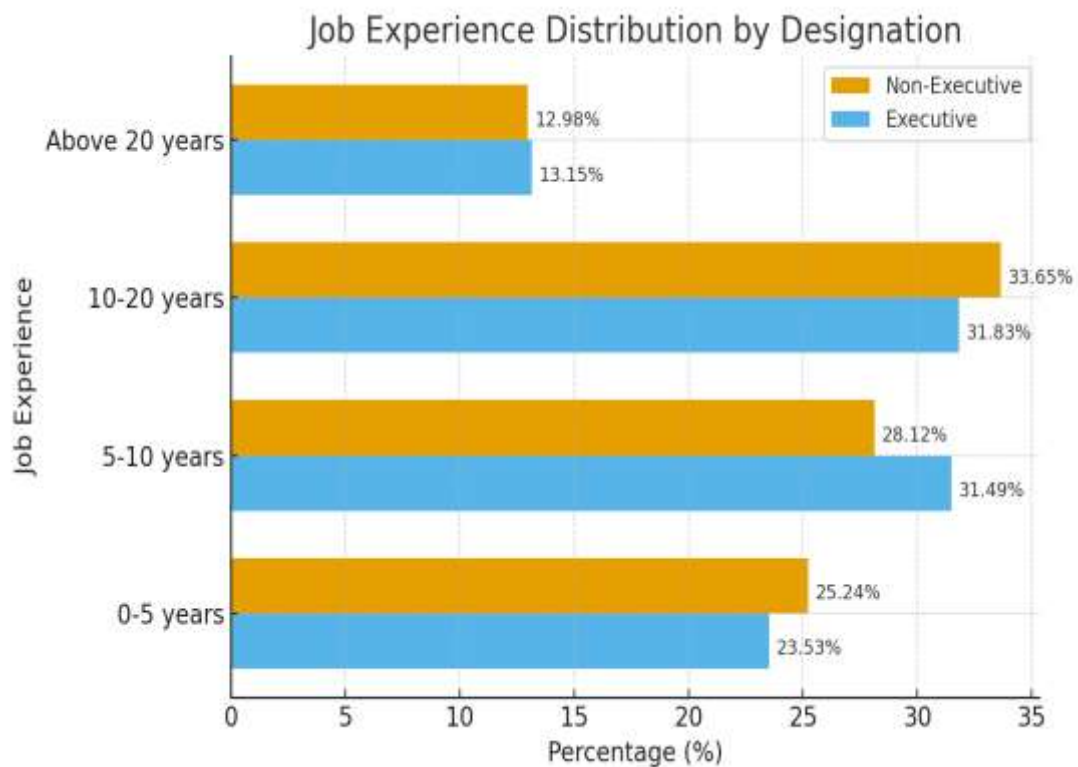


Fig 4.7: Graphical Representation of Job Experience in the Basis of Designation of Employees.

In the 5-10 years of experience category, there are 208 employees in total, with 117 non-executives and 91 Executives. Non-Executives make up 56.25% of this group, while executives account for 43.75%. This distribution suggests a slight dominance of non-executives in mid-career positions, though the gap between Executives and Non-Executives in this category is narrower than in the 0-5 years group. This could indicate a more balanced workforce at this level of experience, with a nearly equal focus on both operational and leadership roles. The 10-20 years of experience group is the largest, with a total of 232 employees. Of these, 140 are non-executives (about 60.34%), and 92 are executives (around 39.66%). This distribution shows a similar pattern to the 0-5 years group, where non-executives hold the majority of positions. The relatively higher number of employees in this experience range suggests that this is the core workforce in terms of career longevity, with a strong presence of experienced non-executives likely occupying key management or leadership roles in the organization. For employees with above 20 years of experience, the total number

is 92, with 54 non-executives and 38 Executives. Non-Executives make up 58.70% of this group, while executives account for 41.30%. This category, representing the most senior employees in terms of experience, shows a continued trend of non-executives being the majority, though the proportion of executives is slightly higher here compared to the other experience categories. This might indicate that some executives have remained in operational roles for extended periods, potentially providing stability and continuity in the workforce.

Table 4.10 Comparative Demographic Profile of Executive and Non-Executive Employees at BSNL Assam Telecom Circle

Variable	Executive (N = 289)			Non-Executive (N = 416)	
	Category	Frequency	Percentage (%)	Frequency	Percentage (%)
Gender	Female	117	40.5	178	42.8
	Male	172	59.5	238	57.2
Age	20–30 years	85	29.4	105	25.2
	31–40 years	116	40.1	158	38.0
	41–50 years	44	15.2	85	20.4
	51–60 years	44	15.2	68	16.3
Marital Status	Married	151	52.2	228	54.8
	Single	138	47.8	188	45.2
Education	10th Pass	66	22.8	89	21.4
	10+2 Pass	74	25.6	122	29.3
	Graduation	95	32.9	115	27.6
	Post-Graduation	48	16.6	81	19.5
	Others	6	2.1	9	2.2
Salary (Monthly)	20,000–30,000	42	14.5	58	13.9
	30,001–40,000	69	23.9	98	23.6
	40,001–	77	26.6	115	27.6

	50,000				
	50,001–60,000	61	21.1	83	20.0
	Above 60,000	40	13.8	62	14.9
Job Experience	0–5 years	68	23.5	105	25.2
	5–10 years	91	31.5	117	28.1
	10–20 years	92	31.8	140	33.7
	Above 20 years	38	13.1	54	13.0
Location	Dibrugarh	86	29.8	129	31.0
	Kamrup	122	42.2	158	38.0
	Silchar	81	28.0	129	31.0

Source: Primary data compiled and computed by researcher.

Table 4.10 presents the demographic distribution of employees designated as Executives and Non-Executives at the BSNL Assam Telecom Circle. The comparison highlights key variations in gender, age, marital status, education, salary, experience, and location between the two categories.

The gender distribution indicates that males form the majority in both groups, with 59.5 percent among Executives and 57.2 percent among Non-Executives. This pattern suggests male dominance across both designations, though the proportion of female employees is slightly higher among Non-Executives.

In terms of age, the largest segment for both classifications falls within the 31–40 years bracket (40.1 percent for Executives and 38.0 percent for Non-Executives). However, the presence of older employees (41–50 and 51–60 years) is somewhat higher among Non-Executives, indicating that the latter group tends to be marginally older on average.

Marital status data reveal that a majority of employees in both categories are married, with 52.2 percent of Executives and 54.8 percent of Non-Executives reporting being

married. This shows a similar family-life distribution across both groups, with a slightly higher proportion of married individuals among Non-Executives.

Education levels are comparable between the two groups. Most respondents in both categories hold at least a graduate or higher qualification. Among Executives, 32.9 percent are graduates and 16.6 percent postgraduates, while for Non-Executives, 27.6 percent are graduates and 19.5 percent postgraduates. This pattern indicates that both categories are relatively well-qualified, although Executives have a slightly higher share of graduates, whereas Non-Executives show a marginally larger share of postgraduates.

Regarding salary, Executives and Non-Executives exhibit similar distributions. The most common income range in both groups falls between 40,001 and 50,000 per month (26.6 percent and 27.6 percent respectively). The overall distribution reveals only minor differences, signifying that salary structures are relatively balanced across both groups.

When job experience is considered, the majority of employees in both groups fall within the mid-level experience categories of 5–10 years and 10–20 years, together representing over 60 percent of respondents in both designations. Executives show a slightly higher proportion in the 5–10-year category, whereas Non-Executives have more in the 10–20-year range, suggesting that Non-Executives tend to have slightly longer experience tenures overall.

The location-wise distribution shows that the highest concentration of employees in both groups is from Kamrup (42.2 percent for Executives and 38.0 percent for Non-Executives). Dibrugarh and Silchar follow with similar proportions across both groups, indicating a geographically balanced workforce.

In summary, the comparison reveals that Executives and Non-Executives in BSNL Assam Telecom Circle share similar demographic characteristics. Minor variations exist, with Executives showing a slightly younger age profile and higher proportion of graduates, whereas Non-Executives exhibit marginally higher age, more postgraduates, and a slightly greater proportion of married employees. Overall, both segments display parallel trends in salary, experience, and regional representation.

4.5 Dimensions of HRD Climate:

Objective 2: To analyze the different dimensions of Human Resource Development (HRD) climate in BSNL, Assam Telecom Circle

H1: There is a significant contribution of ‘General Climate’ in the overall HRD climate of the BSNL.

H2: There is a significant contribution of the OCTAPAC culture in the overall HRD climate of the BSNL.

H3: There is a significant contribution of ‘HRD Mechanism’ in the overall HRD climate of the BSNL.

General HRD Climate: Top Management support for HRD

To assess the General HRD Climate in BSNL, Assam Telecom Circle, seven items were selected from the questionnaire. The responses from the sample employees were collected, calculated, and presented in the following table.

Table 4.11: Descriptive Statistics of General Climate with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
1. The top management of the organization goes out of its way to make sure that employees enjoy their work.	3.87	1.104	3.94	1.099
2. The top management believes that human resources are an extremely important resource and that they have to be treated more humanly.	3.72	1.055	3.56	1.123
3. The development of the subordinates is seen as an important part of their job by the managers or officers here.	3.47	1.159	3.35	1.058
4. The personnel policies in this	3.29	1.202	3.27	1.155

organization facilitate employee development.				
5. The top management is willing to invest a considerable part of their time and other resources to ensure the development of the employees.	3.46	1.235	3.36	1.273
6. Senior officers or executives in this organization take an active interest in their juniors and help them learn their job.	3.88	1.271	3.89	1.290
11. The psychological climate in this organization is very conducive to any employee interested in developing himself by acquiring new knowledge and skills.	3.64	1.124	3.53	1.115
Overall Mean Score	3.62		3.56	

Source: Primary data compiled and computed by researcher.

The overall mean score is 3.62 for non-executives and 3.56 for executives, which indicates that the General HRD Climate is perceived as moderately favorable by both groups. However, the scores gravitate toward 3, suggesting that there is substantial scope for improvement in the areas of top management support, investment in employee development, and HR policies that facilitate growth. Executives tend to be slightly more critical in their evaluation than non-executives.

4.6 HRD Mechanisms

To assess the implementation of HRD mechanisms in BSNL, Assam Telecom Circle, ten items were selected from the 38-item questionnaire, specifically aimed at measuring the extent to which HRD mechanisms are implemented within the organization.

Table 4.12: Descriptive Statistics of HRD Mechanisms with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
7. People lacking competence in doing their jobs are helped to acquire competence rather than being left unattended.	3.92	1.164	3.86	1.192
12. Seniors guide their juniors and prepare them for future responsibilities/roles they are likely to take up.	3.82	1.213	3.85	1.190
15. Promotion decisions are based on merit rather than favoritism.	3.63	1.239	3.64	1.177
16. There is a mechanism in this organization to reward any good work done or any contribution made by employees.	3.61	1.285	3.63	1.293
21. This organization ensures employee welfare to such an extent that the employees can save a lot of their mental energy for work purposes.	3.64	1.222	3.69	1.172
22. Job rotation in this organization facilitates employee development.	3.67	1.244	3.79	1.178
23. The weaknesses of employees are communicated to them in a non-threatening way.	3.61	1.197	3.63	1.171
24. When behavior feedback is given to employees, they take it seriously and use it for development.	3.55	1.148	3.55	1.120
28. Employees are sponsored for training	3.38	1.167	3.49	1.024

programs based on genuine training needs.				
36. Career opportunities are pointed out to juniors by senior officers in the organization.	3.54	1.048	3.52	1.054
Overall Mean Score	3.64		3.65	

Source: Primary data compiled and computed by researcher.

The overall mean score for non-executives is 3.64 and for executives is 3.65, showing a very similar perception of the HRD mechanisms. Both groups view the mechanisms as moderately implemented, indicating that while there are positive practices in place (such as support for skill development and guidance from seniors), there are still areas where improvements can be made, particularly in merit-based promotions, training needs assessment, and reward systems.

4.7 OCTAPAC Culture

The OCTAPAC culture consists of eight key values: openness, confrontation, trust, autonomy, proactivity, authenticity, collaboration, and experimentation, which are crucial for fostering Human Resource Development (HRD) within the organization.

OPENNESS

Openness refers to the spontaneous expression and sharing of thoughts, feelings, and feedback without defensiveness. It involves a two-way process of both receiving and giving, whether it relates to ideas, feedback, or emotions. In the context of BSNL, openness means actively encouraging feedback and suggestions from colleagues, customers, and others, while also sharing ideas, information, and feedback without hesitation.

Spatial openness can also reflect this value, such as through the use of shared workspaces or easy access to information via internal communication systems like email. In some organizations, even top executives work in open, shared spaces, promoting a culture of accessibility and transparency. This fosters clearer objectives

and free interaction, resulting in more unbiased performance feedback, productive meetings, and better implementation of systems and innovations.

In the study, five items from the 38-item questionnaire specifically address Openness within the organization.

Table 4.13: Descriptive Statistics of Openness with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
10. Employees in this organization are very informal and do not hesitate to discuss their problems with their supervisors.	3.34	1.036	3.36	1.097
14. People in this organization do not have any fixed mental impressions about each other.	3.53	1.192	3.47	1.225
17. When an employee does good work, his supervisor takes special care to appreciate it.	3.76	1.234	3.79	1.154
30. Employees are not afraid to express or discuss their feelings with their subordinates.	3.33	1.176	3.53	1.031
38. Employees are not afraid to express or discuss their feelings with their superiors.	3.92	.982	3.88	1.062
Overall Mean Score	3.58		3.61	

Source: Primary data compiled and computed by researcher.

The overall mean score is 3.58 for non-executives and 3.61 for executives, indicating a moderately positive level of openness within the organization. Both groups show a similar perception of openness, with executives slightly rating it higher. There is a healthy degree of openness in upward communication (with superiors) and acknowledgment of good work by supervisors, but there is room to improve openness in terms of discussing problems informally with supervisors and expressing feelings with subordinates.

COLLABORATION

Collaboration refers to both offering and seeking help from others, working together to solve problems, and fostering team spirit. The results of effective collaboration include timely assistance, teamwork, experience sharing, enhanced communication, and better resource sharing. Indicators of collaboration may include improved productivity, increased staff involvement, more joint decisions, better resource utilization, and higher-quality meetings. In the study, three items from the 38-item questionnaire specifically focus on Collaboration within the organization.

Table 4.14: Descriptive Statistics of Collaboration with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
9. People in this organization are helpful to each other.	3.63	1.122	3.56	1.123
34. Team spirit is of high order in this organization.	3.56	1.143	3.56	1.171
37. The organization's plans are made known to the managerial staff to help them develop their juniors and prepare them for the future.	3.69	1.073	3.69	1.061
Overall Mean Score	3.63		3.6	

Source: Primary data compiled and computed by researcher.

The table presents the mean and standard deviation for non-executive and executive employees on the dimension of collaboration in BSNL, Assam Telecom Circle, highlighting how employees work together, offer assistance, and promote team spirit within the organization.

The overall mean score for non-executives is 3.63 and for executives is 3.60, indicating a moderate level of collaboration within the organization. Both groups of employees have similar perceptions regarding collaboration, with slightly higher satisfaction in the way organizational plans are communicated for employee

development. The results indicate that while there is a positive level of collaboration in terms of helpfulness, team spirit, and communication of plans, there remains an opportunity to further enhance collaboration and team dynamics across different levels within BSNL, Assam Telecom Circle.

TRUST

Trust in the context of an organization is not used in a moral sense but is demonstrated through maintaining the confidentiality of information shared by others and ensuring it is not misused. It also involves the assurance that colleagues will provide help when needed and will honor mutual commitments and obligations. Trust is evident when one accepts what another person says at face value without searching for hidden motives. This element of trust is crucial for building a strong organization. The outcomes of trust include greater empathy, timely support, reduced stress, and the simplification of procedures. Simplified processes and reduced paperwork are indicators of trust, as are effective delegation and increased productivity. In this study, three items from the 38-item questionnaire specifically focus on measuring Trust within the organization.

Table 4.15: Descriptive Statistics of Trust with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
8. Managers in this organization believe that employee behavior can be changed and people can be developed	3.75	1.143	3.76	1.251

at any stage of their life.				
20. When an employee makes a mistake, his supervisors treat it with understanding and help him to learn from such mistakes rather than punishing him or discouraging him.	3.74	1.192	3.77	1.157
29. People trust each other in this organization	3.47	1.125	3.44	1.079
Overall Mean Score	3.65		3.66	

Source: Primary data compiled and computed by researcher.

The overall mean score of 3.65 for non-executives and 3.66 for executives suggests a moderately positive trust climate in the organization, but there is still potential for strengthening trust between colleagues and across different levels of hierarchy. The consistency in perceptions between the two groups reflects a shared experience of trust-related practices within the organization.

AUTHENTICITY

Authenticity refers to the alignment between what a person feels, says, and does. It is demonstrated through acknowledging one's own mistakes and openly sharing feelings without reservation. Authenticity is closely related to openness and leads to clearer, less distorted communication within an organization. This can be observed in the consistency between what members of an organization communicate and their actions. Authenticity reflects the tendency of individuals to follow through on their words. In the context of this study, three items from the 38-item questionnaire were selected to measure authenticity.

Table 4.16: Descriptive Statistics of Authenticity with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
18. Performance appraisal reports in our organization are based on objective assessment and adequate information and not on favoritism.	3.87	1.081	3.83	1.161
26. When employees are sponsored for training, they take it seriously and try to learn from the programs they attend.	3.54	1.153	3.58	1.091
27. Employees returning from training programs are given opportunities to try out what they have learned.	3.47	1.104	3.38	1.146
Overall Mean Score	3.63		3.6	

Source: Primary data compiled and computed by researcher.

The overall mean scores of 3.63 for non-executives and 3.6 for executives suggest that employees perceive a moderate level of authenticity in the organization's processes, especially concerning performance appraisals and the seriousness of training. However, the lower scores related to opportunities for applying training indicate that this is an area where the organization could focus efforts to improve.

PROACTIVITY

Proactivity refers to taking the initiative, planning ahead, and engaging in preventive actions, while considering the potential outcomes of various alternatives before taking action. Unlike reactive behavior, where actions are in response to external events, proactive behavior is independent and self-initiated. For instance, if someone calmly addresses a friend's accusation by suggesting a discussion, rather than reacting defensively, they demonstrate proactive behavior.

Proactivity empowers individuals to initiate new processes or establish new behavior patterns, often involving unconventional approaches. It involves acting beyond

immediate concerns and engaging on emotional, cognitive, and practical levels. In this study, one item from the 38-item questionnaire was selected to assess Proactivity.

Table 4.17: Descriptive Statistics of Proactivity with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
13. The top management of this organization makes efforts to identify and utilize the potential of the employees.	3.61	1.294	3.58	1.291
Overall Mean Score	3.61		3.58	

Source: Primary data compiled and computed by researcher.

For the Proactivity dimension, the data shows that both non-executive and executive employees perceive the top management's efforts to identify and utilize employee potential at a fairly similar level. The non-executive group has a mean score of 3.61, while the executive group has a slightly lower mean score of 3.58. These mean scores indicate a moderate level of proactive behavior in the organization, with room for improvement in identifying and leveraging employee capabilities more effectively.

AUTONOMY

Autonomy refers to the ability and freedom to plan and act independently within one's area of responsibility. It involves respecting and promoting individual and role-based autonomy, fostering mutual respect, and encouraging employees to take on responsibility and show initiative. Autonomy is also linked to better succession planning within an organization. Key indicators of autonomy include effective

delegation and a reduction in the need for constant approval from senior management. In this study, three items from the 38-item questionnaire were identified to measure the level of autonomy in the organization.

Table 4.18: Descriptive Statistics of Autonomy with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
31. Employees are encouraged to take initiative and do things on their own without having to wait for instructions from supervisors.	3.46	1.127	3.47	1.093
32. Delegation of authority to encourage juniors to develop handling higher responsibilities is quite common in this organization.	3.58	1.204	3.67	1.095
33. When seniors delegate authority to juniors the juniors use it as an opportunity for development.	3.56	1.141	3.56	1.169
Overall Mean Score	3.53		3.57	

Source: Primary data compiled and computed by researcher.

The overall mean score for non-executives and executives 3.53 and 3.57 respectively, which shows very close overall perceptions of autonomy, reflecting moderate levels of autonomy in the organization. These scores indicate that while some autonomy is given, there is potential for further enhancing autonomy by encouraging more initiative and development opportunities for both groups.

CONFRONTATION

Confrontation refers to the act of directly addressing problems rather than avoiding them. It entails a thorough analysis of interpersonal issues and involves embracing challenges. While the term "confrontation" may carry negative connotations, it

should be understood in the context of both confrontation and exploration—actively facing a problem and collaboratively seeking solutions with others. The positive outcomes of this approach include enhanced role clarity, improved problem-solving abilities, and a greater willingness to address issues, including those involving difficult employees and customers. Teams become more inclined to discuss and resolve sensitive matters.

Indicators of effective confrontation can include regular discussions with clients, proactive measures, and a commitment to tackling challenging issues without delay. In this study, two items from the 38-item questionnaire focus on the theme of Confrontation.

Table 4.19: Descriptive Statistics of Confrontation with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
25. Employees in this organization take pains to find out their strengths and weaknesses from their supervising officers or colleagues.	3.64	1.076	3.48	1.077
35. When problems arise, people discuss these problems openly and try to solve them rather than keep accusing each other behind the back.	3.57	1.134	3.60	1.030
Overall Mean Score	3.61		3.54	

Source: Primary data compiled and computed by researcher.

The overall mean score for non-executives is 3.61, while executives have a mean score of 3.54. Both scores suggest a moderate level of confrontation and openness in addressing issues, but the non-executives appear to have a slightly more favorable view on these aspects.

EXPERIMENTATION

Experimentation involves utilizing and promoting innovative approaches to problem-solving, leveraging feedback for improvements, and encouraging creativity. Often,

we become so focused on our daily responsibilities that we rely solely on traditional, tried-and-true methods to address challenges. While these familiar approaches can save time and energy, they may also prevent us from recognizing the benefits of exploring new solutions. Under pressure, our inclination to adopt alternative strategies diminishes, as the perceived risks associated with change may seem too high, particularly for complex problems that require fresh perspectives for resolution.

Organizational learning goes beyond mere repetition; it entails applying past experiences to current challenges to foster creativity. This encompasses terms like innovation, experimentation, and new methodologies, all of which convey a similar concept. Various facets of creativity within an organization include generating new suggestions from employees, enhancing existing processes, experimenting with fresh ideas, and engaging in lateral thinking, which involves brainstorming alternative solutions while disregarding conventional limitations. Evidence suggests that such innovative thinking plays a crucial role in developing new products, methods, and processes. One item in the 38-item questionnaire specifically addresses the concept of Experimentation.

Table 4.20: Descriptive Statistics of Experimentation with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
19. Employees are encouraged to experiment with new methods and try out creative ideas.	3.73	1.157	3.83	1.072
Overall Mean Score	3.73		3.83	

Source: Primary data compiled and computed by researcher.

The overall mean score for non-executive and executive are 3.73 and 3.83 which are relatively high, indicating a positive perception of encouragement to experiment and innovate within the organization. This suggests that employees feel supported in

trying out new methods and creative ideas, which is essential for fostering a culture of experimentation and innovation.

4.8 CORRELATION ANALYSIS

To analyze the significant contributions of the General Climate, HRD Mechanisms, and OCTAPAC Culture to the overall HRD climate, correlation analysis was performed. For this each factor was converted into a score using the formula:

$$Score = \frac{Sum\ of\ items}{No.\ of\ items}$$

This approach allowed for a clearer comparison between the various factors and their impact on the overall HRD climate.

Table 4.21: Correlation Analysis with respect to Designation of Employees.

Dependent Factor	Independent Factors	Executive (Correlation and sig value)	Non-Executive (Correlation and sig value)
Overall HRD Climate	General Climate	0.636 (Sig: 0.000)	0.967 (Sig: 0.000)
	HRD Mechanisms	0.813 (Sig: 0.000)	0.830 (Sig: 0.000)
	OCTAPAC Culture	0.923 (Sig: 0.000)	0.783 (Sig: 0.000)

Source: Primary data compiled and computed by researcher.

For executives, the correlation coefficient is **0.636** (p-value: 0.000), indicating a moderate to strong positive relationship with the overall HRD climate. This suggests that improvements in the General Climate are associated with enhancements in the overall HRD climate among executives. On the other hand, for non-executives, the correlation coefficient is **0.967** (p-value: 0.000), demonstrating a very strong positive

relationship. This implies that non-executives experience a more significant impact from the General Climate on their perception of the overall HRD climate compared to executives.

The correlation coefficient for executives is **0.813** (p-value: 0.000), indicating a strong positive relationship. This means that effective HRD mechanisms substantially contribute to the overall HRD climate perceived by executives. However, for non-executives, the correlation coefficient is **0.830** (p-value: 0.000), also indicating a strong positive relationship. This suggests that HRD mechanisms play a similarly crucial role for non-executives in shaping their overall HRD climate.

The correlation coefficient for executives is **0.923** (p-value: 0.000), reflecting a very strong positive relationship. This indicates that the OCTAPAC Culture significantly influences the overall HRD climate perceived by executives. On the other hand, for non-executives, the correlation coefficient is **0.783** (p-value: 0.000), indicating a strong positive relationship but somewhat less pronounced than for executives. This suggests that while OCTAPAC Culture is important for non-executives, its impact is less significant compared to executives.

4.9 REGRESSION ANALYSIS

Following the correlation analysis, regression analysis will be utilized to quantitatively assess the contribution of each factor to the overall HRD climate. This analysis will help establish the degree of influence that each independent variable (General Climate, HRD Mechanisms, and OCTAPAC Culture) has on the dependent variable (Overall HRD Climate). The results will offer a deeper understanding of the relationships among these variables and provide actionable insights for enhancing HRD practices within BSNL, Assam Telecom Circle.

Table 4.22: Regression Analysis with respect to Designation of Employees.

Factor	Executive		Non-Executive	
	R ²	Sig.	R ²	Sig.
General Climate	0.405	0.000	0.485	0.000
HRD Mechanisms	0.660	0.000	0.690	0.000
OCTAPAC Culture	0.853	0.000	0.613	0.000

Source: Primary data compiled and computed by researcher.

General Climate explains 40.5% of the variance in the overall HRD Climate for executives, with a significant relationship (Sig = 0.000). On the other hand, in non-executive general climate explain 48.5% of the variance for non-executives, indicating a stronger influence compared to executives, also with a highly significant relationship (Sig = 0.000). The results confirm that General Climate significantly impacts the overall HRD climate for both executive and non-executive employees. For non-executives, General Climate explains 48.5% of the variance in HRD climate, slightly higher than for executives (40.5%). This supports H1, indicating that the general perception of management's approach to HR and organizational climate is crucial, particularly for non-executive employees

HRD Mechanisms account for 66% of the variance in the overall HRD Climate for executives, with a significance of 0.000. On the other hand, in non-executive HRD Mechanisms explain 69% of the variance for non-executives, showing a slightly stronger role, with a significance level of 0.000. OCTAPAC Culture has emerged as the most significant factor contributing to the HRD climate, especially for executives. The analysis shows that OCTAPAC Culture explains a substantial 85.3% of the variance in the HRD climate for executives and 61.3% for non-executives. This highlights the central role of an organizational culture that promotes openness, collaboration, and trust, thus strongly supporting H2.

OCTAPAC Culture has the greatest influence on the overall HRD Climate for executives, explaining 85.3% of the variance (Sig = 0.000). On the other hand, for non-executives, OCTAPAC Culture explains 61.3% of the variance, making it a strong factor, but with slightly less impact compared to executives (Sig = 0.000). The analysis shows that HRD Mechanisms play a vital role in shaping the HRD climate, with a particularly strong influence on non-executives (69% of variance explained). For executives, HRD Mechanisms contribute to 66% of the variance. This confirms H3, indicating that well-structured HRD systems and practices, such as training and development opportunities, are essential for enhancing the overall climate, especially for non-executive employees.

4.10 Perception of Employees towards HRD Climate in BSNL

Objective 3: To assess the employee's perception on existing Human Resource Development (HRD) climate of BSNL, Assam Telecom Circle.

H4: There is no significant difference in the perception of employees regarding HRD Climate with respect to their demographic profile (Gender, Age, Education, Experience and Income)

H5: There is no significant difference in the perception of employees regarding HRD climate in the select units of the study (Dibrugarh SSA, Kamrup SSA and Silchar SSA)

CROSS TABULATION

Table 4.23: Gender Based Frequency of Perception Based on Designation of Employee

Gender						
Perception	Non-Executive		Total	Executive		Total
	Female	Male		Female	Male	
Low perception	64	84	148	39	58	97
Moderate Perception	51	86	137	40	55	95
High Perception	63	68	131	38	59	97
Total	178	238	416	117	172	289

Source: Primary data compiled and computed by researcher.

The table presents the frequency distribution of employee perceptions regarding the HRD climate based on gender and designation (Non-Executive and Executive). Perception levels are categorized into three groups: Low Perception, Moderate Perception, and High Perception.

Among non-executive employees, both males and females exhibit a tendency toward low or moderate perception of the HRD climate. Specifically, 84 males and 64 females in this group fall into the low perception category, which makes it the most frequent perception level among non-executives. Moderate perception is the second most common, with 86 males and 51 females. The high perception category is the least frequent, with 68 males and 63 females reporting a positive outlook on the HRD climate. Overall, non-executive employees, regardless of gender, are more inclined to have a less favorable view of the HRD climate in BSNL, Assam Telecom Circle.

In contrast, executive employees show a more balanced distribution across all perception levels. There are 97 executives who report a low perception of the HRD climate (comprising 58 males and 39 females), while another 97 executives (split

into 59 males and 38 females) fall into the high perception category. The moderate perception level is slightly lower, with 95 executives (55 males and 40 females). Unlike non-executives, the executive group does not display a clear majority in any single perception category, indicating a more diverse range of opinions regarding the HRD climate.

When comparing the two genders, males slightly outnumber females in all perception categories across both non-executive and executive designations. However, the trend remains consistent for both genders: non-executive employees are more likely to have a low or moderate perception, while executive employees exhibit an even split between low, moderate, and high perceptions. This suggests that gender, while having some influence, is less impactful on perception levels compared to designation.

Table 4.24: Age Based Frequency of Perception Based on Designation of Employee

Age										
Perception	Non-Executive				Total	Executive				Total
	20-30 years	31-40 years	41-50 years	51-60 years		20-30 years	31-40 years	41-50 years	51-60 years	
Low perception	34	70	22	22	148	29	39	18	11	97
Moderate Perception	40	42	25	30	137	31	43	8	13	95
High Perception	31	46	38	16	131	25	34	18	20	97
Total	105	158	85	68	416	85	116	44	44	289

Source: Primary data compiled and computed by researcher.

This table displays the frequency distribution of employees' perceptions of the HRD climate based on age groups and designation (Non-Executive and Executive). The perception levels are divided into Low Perception, Moderate Perception, and High Perception.

For non-executive employees, the 31-40 years age group has the largest proportion of employees across all perception categories, with 70 employees reporting low perception, 42 employees reporting moderate perception, and 46 employees reporting high perception. This group demonstrates the most significant diversity of perceptions, with a balanced distribution across low, moderate, and high perception levels.

- Low Perception: The 31-40 years group has the highest number of employees in this category (70), followed by 20-30 years (34 employees), indicating that younger employees are more likely to have a negative view of the HRD climate.
- Moderate Perception: The same 31-40 years group also has the highest number in this category (42 employees), indicating that middle-aged employees show a moderate level of satisfaction with the HRD climate.
- High Perception: In contrast, the 41-50 years group shows a stronger inclination toward high perception with 38 employees, suggesting that older employees have a more positive outlook on the HRD climate.

Among executive employees, the 31-40 years group once again dominates the perception categories, with 39 employees reporting low perception, 43 employees reporting moderate perception, and 34 employees reporting high perception. However, the distribution of perceptions within this group is more balanced than among non-executives, suggesting a more neutral outlook across age groups.

- Low Perception: As with non-executives, younger employees in the 20-30 years age group exhibit low perception of the HRD climate, with 29 employees in this category. However, older executives (specifically, 31-40

years) also display notable dissatisfaction, with 39 employees in the low perception group.

- **Moderate Perception:** The 31-40 years age group again shows the highest number of employees with a moderate view, followed by 20-30 years employees, suggesting that employees in their 30s are more neutral in their perception of the HRD climate.
- **High Perception:** The 51-60 years age group has the highest number of employees reporting high perception (20 employees), followed by the 31-40 years group with 34 employees. This indicates that senior executives, as well as mid-career employees, tend to view the HRD climate more positively.

Across both non-executive and executive employees, the 31-40 years age group emerges as the most represented in terms of both low, moderate, and high perceptions. However, in the non-executive group, younger employees in the 20-30 years category are more likely to have low perceptions, while the 41-50 years age group tends to have a more positive outlook.

In contrast, among executives, the 51-60 years group shows a higher inclination toward high perception compared to younger executives. This pattern may suggest that more experienced or senior executives perceive the HRD climate as more favorable, possibly due to their higher positions and greater involvement in organizational processes.

4.25: Educational Qualification Based Frequency of Perception Based on Designation of Employee

Educational Qualification												
Perception	Non-Executive					Total	Executive					Total
	1	2	3	4	5		1	2	3	4	5	
Low perception	50	31	40	3	24	148	28	25	29	2	13	97

Moderate Perception	38	34	29	2	34	137	23	23	31	1	17	95
High Perception	34	24	46	4	23	131	23	18	35	3	18	97
Total	122	89	115	9	81	416	74	66	95	6	48	289
Where, 1= 10+2 Pass, 2= 10th Pass, 3= Graduation, 4= Others and 5= Post-Graduation												

Source: Primary data compiled and computed by researcher.

This table illustrates the frequency distribution of employees' perceptions of the HRD climate based on educational qualifications and designation (Non-Executive and Executive). The perception levels are categorized into Low Perception, Moderate Perception, and High Perception.

For non-executive employees, the largest groups are those with Graduation and 10+2 Pass qualifications. These educational categories exhibit diverse perception levels, indicating that educational qualifications may influence how employees perceive the HRD climate.

- **Low Perception:** The 10+2 Pass group has the highest number of employees with low perception of the HRD climate (50 employees), followed by those with Graduation (40 employees) and 10th Pass (31 employees). This suggests that employees with lower educational qualifications tend to have a less favorable perception of the HRD climate.
- **Moderate Perception:** The Post-Graduation group stands out with 34 employees showing moderate perception, followed by 10th Pass (34 employees). This indicates that employees with higher educational qualifications exhibit a more neutral stance on the HRD climate.
- **High Perception:** Employees with Graduation have the highest number of high perceptions (46 employees), followed by those with 10+2 Pass (34

employees). This suggests that graduate employees perceive the HRD climate more positively than those with lower qualifications.

Among executive employees, the distribution of perceptions also varies based on educational qualifications, but the patterns differ slightly from non-executives. The majority of executives are Graduates and Post-Graduates, and these groups dominate the perception categories.

- Low Perception: The Graduation group has the highest number of employees with low perception (29 employees), followed by 10+2 Pass (28 employees) and 10th Pass (25 employees). Similar to non-executives, executives with lower educational qualifications are more likely to have low perceptions of the HRD climate.
- Moderate Perception: The Post-Graduation group shows the highest number of employees with moderate perception (17 employees), indicating that more educated executives tend to have a neutral or balanced view of the HRD climate.
- High Perception: Employees with Graduation qualifications also dominate the high perception category (35 employees), followed by Post-Graduation (18 employees). This indicates that graduate and post-graduate executives tend to have a more favorable perception of the HRD climate compared to those with lower qualifications.

In both non-executive and executive employees, Graduation and Post-Graduation qualifications are associated with more positive perceptions of the HRD climate. Employees with lower qualifications such as 10+2 Pass and 10th Pass are more likely to have low perceptions. Among non-executive employees, those with Graduation qualifications exhibit a stronger tendency toward high perception. On the other hand, executive employees, post-graduates are more likely to have a moderate or high perception, while employees with 10+2 Pass and 10th Pass qualifications tend to have low perceptions.

Table 4.26: Income Based Frequency of Perception Based on Designation of Employee

Income												
Perception	Non-Executive					Total 1						Total 1
	1	2	3	4	5		1	2	3	4	5	
Low perception	21	30	40	33	24	148	16	26	26	15	14	97
Moderate Perception	14	32	44	22	25	137	13	19	25	24	14	95
High Perception	23	36	31	28	13	131	13	24	26	22	12	97
Total	58	98	115	83	62	416	42	69	77	61	40	289
Where, 1=20000-30000, 2=30001-40000, 3=40001-50000, 4=50001-60000 and 5= Above 60000												

Source: Primary data compiled and computed by researcher.

This table presents the frequency distribution of employees' perceptions of the HRD climate based on income levels and designation (Non-Executive and Executive). The perception levels are categorized into Low Perception, Moderate Perception, and High Perception.

For non-executive employees, the distribution of perception based on income levels shows variation across the categories, with a higher concentration of employees falling into the middle-income brackets (₹30,001-₹50,000).

- Low Perception: Non-executive employees in the income bracket of ₹40,001-₹50,000 have the highest number of employees with low perception (40 employees), followed by those in the ₹50,001-₹60,000 income bracket (33 employees). This suggests that as income increases, the tendency to have a less favorable perception of the HRD climate decreases slightly, but remains notable in mid-income brackets.

- **Moderate Perception:** The highest number of employees with moderate perception comes from the ₹40,001-₹50,000 group (44 employees), followed by the ₹30,001-₹40,000 group (32 employees). These income groups reflect a balanced view of the HRD climate, neither highly positive nor negative.
- **High Perception:** The largest number of high perception comes from the ₹30,001-₹40,000 income bracket (36 employees), followed by the ₹40,001-₹50,000 income bracket (31 employees). This indicates that middle-income non-executive employees are more likely to perceive the HRD climate favorably, especially those earning between ₹30,001 and ₹50,000.

Among executive employees, the income distribution reflects a different trend, with fewer employees in the lower income brackets (below ₹50,000). The perceptions vary less dramatically compared to non-executive employees.

- **Low Perception:** Executive employees in the ₹30,001-₹40,000 group have the highest low perception (26 employees), followed by those in the ₹40,001-₹50,000 group (26 employees). This suggests that lower-income executive employees are more likely to have negative perceptions of the HRD climate.
- **Moderate Perception:** The largest group showing moderate perception comes from the ₹40,001-₹50,000 group (25 employees), followed by those in the ₹50,001-₹60,000 income bracket (24 employees). This indicates that executives with higher incomes tend to have more balanced views of the HRD climate.
- **High Perception:** Executive employees in the ₹40,001-₹50,000 group show the largest number of high perception (26 employees), followed by the ₹50,001-₹60,000 income group (22 employees). Executives in higher-income brackets are more likely to view the HRD climate positively.

However, income influences employees' perceptions of the HRD climate across both non-executive and executive groups. Among non-executive employees, middle-income employees (₹30,001-₹50,000) tend to have more favorable perceptions, with a relatively higher number showing high perceptions of the HRD climate. On the

other hand, executive employees, those earning ₹40,001-₹50,000 and ₹50,001-₹60,000 have more positive perceptions of the HRD climate. Lower-income executives (₹30,001-₹40,000) tend to have low perceptions, indicating that income is a strong predictor of HRD perception in this group.

Table 4.27: Experience Based Frequency of Perception Based on Designation of Employee

Experience										
Perception	Non-Executive				Total	Executive				Total
	1	2	3	4		1	2	3	4	
Low perception	37	47	49	15	148	27	30	25	15	97
Moderate Perception	31	52	35	19	137	17	28	36	14	95
High Perception	37	41	33	20	131	24	34	30	9	97
Total	105	140	117	54	416	68	92	91	38	289
Where, 1=0- 5 years, 2=10-20 years, 3=5-10 years,4= Above 20 years										

Source: Primary data compiled and computed by researcher.

This table presents the frequency distribution of employees' perceptions of the HRD climate based on their work experience and designation (Non-Executive and Executive). The perceptions are categorized into Low Perception, Moderate Perception, and High Perception.

For non-executive employees, the distribution of perceptions based on experience levels shows notable variations across different experience categories.

- Low Perception: Non-executive employees with 5-10 years of experience show the highest number of low perception responses (47 employees), followed by those with 10-20 years of experience (49 employees). This indicates that employees with mid-level experience tend to perceive the HRD

climate less favorably. Employees with 0-5 years of experience also show a relatively high low perception count (37 employees), indicating that both early-career and mid-career employees have concerns about the HRD climate.

- **Moderate Perception:** The highest number of non-executive employees with moderate perception comes from the 5-10 years of experience group (52 employees), followed by the 0-5 years of experience group (31 employees). This indicates that non-executive employees with less experience tend to have a more balanced perception of the HRD climate.
- **High Perception:** Employees with 5-10 years of experience also dominate the high perception category (41 employees), followed by those with 0-5 years of experience (37 employees). This suggests that employees in the early and mid-career stages are more likely to perceive the HRD climate positively than those with more than 10 years of experience.

Among executive employees, the distribution of perceptions based on experience levels is somewhat balanced across different categories, but certain trends can be observed.

- **Low Perception:** Executive employees with 5-10 years of experience show the highest number of low perception responses (30 employees), followed by those with 0-5 years of experience (27 employees). This indicates that early and mid-career executive employees are more likely to have negative perceptions of the HRD climate.
- **Moderate Perception:** Employees with 10-20 years of experience show the highest number of moderate perception responses (36 employees), followed by those with 5-10 years of experience (28 employees). This suggests that mid-level executive employees tend to view the HRD climate with a more balanced perspective.
- **High Perception:** The 5-10 years of experience group again dominates the high perception category (34 employees), followed by employees with 0-5

years of experience (24 employees). This shows that employees in the early to mid-career stages are more likely to perceive the HRD climate positively.

The experience plays a significant role in shaping employees' perceptions of the HRD climate for both non-executive and executive employees. Among non-executive employees, those with 5-10 years of experience show the widest range of perceptions, while those with 10-20 years of experience tend to have a lower perception of the HRD climate. On the other hand, executive employees, the 5-10 years of experience group also shows the greatest variation in perception, with a significant portion having either low or high perceptions of the HRD climate. Meanwhile, those with 10-20 years of experience lean towards a moderate perception.

Table 4.28: Location Based Frequency of Perception Based on Designation of Employee

Location								
Perception	Non-Executive			Total	Executive			Total
	Dibrugarh	Kamrup	Silchar		Dibrugarh	Kamrup	Silchar	
Low perception	48	48	52	148	31	38	28	97
Moderate Perception	36	54	47	137	22	47	26	95
High Perception	45	56	30	131	33	37	27	97
Total	129	158	129	416	86	122	81	289

Source: Primary data compiled and computed by researcher.

This table presents the frequency distribution of employees' perceptions of the HRD climate based on their location (Dibrugarh, Kamrup, and Silchar) and designation (Non-Executive and Executive). The perceptions are categorized into Low Perception, Moderate Perception, and High Perception.

For non-executive employees, the distribution of perceptions based on location shows variations across different areas.

- **Low Perception:** The number of non-executive employees with low perception is quite evenly distributed across the three locations. Dibrugarh and Kamrup both have 48 employees reporting low perception, while Silchar has 52 employees. This suggests that employees across all three locations have similar levels of dissatisfaction with the HRD climate, with Silchar showing slightly more employees having a low perception.
- **Moderate Perception:** Kamrup has the highest number of non-executive employees with moderate perception (54 employees), followed by Silchar with 47 employees and Dibrugarh with 36 employees. This indicates that non-executive employees in Kamrup are more likely to have a balanced view of the HRD climate, while Dibrugarh has fewer employees with moderate perceptions.
- **High Perception:** Kamrup again has the highest number of non-executive employees with high perception (56 employees), followed by Dibrugarh with 45 employees. Silchar has the fewest employees with a high perception (30 employees), indicating that non-executive employees in Kamrup and Dibrugarh are more likely to view the HRD climate positively, while Silchar shows lower levels of satisfaction.

Among executive employees, the distribution of perceptions based on location also reveals in low Perception Kamrup has the highest number of executive employees with low perception (38 employees), followed by Dibrugarh with 31 employees. Silchar has the fewest employees with low perception (28 employees). This suggests that executive employees in Kamrup are more likely to perceive the HRD climate negatively, while Silchar shows fewer executives with negative perceptions. In Moderate Perception Kamrup again has the highest number of executives with moderate perception (47 employees), indicating that many executives in this region have a balanced view of the HRD climate. Silchar has the fewest executives with moderate perception (26 employees), suggesting fewer employees in this location

have neutral views. In High Perception Dibrugarh has the highest number of executives with high perception (33 employees), followed closely by Kamrup with 37 employees. Silchar again has the fewest executives with high perception (27 employees), indicating that fewer executives in this region are satisfied with the HRD climate.

The data highlights that location significantly influences employees' perceptions of the HRD climate for both non-executive and executive employees. Among non-executive employees, those in Kamrup are more likely to have moderate or high perceptions, suggesting a more favorable view of the HRD climate in this region. Silchar non-executives, on the other hand, tend to have more low perceptions, indicating dissatisfaction.

Among executive employees, Kamrup stands out as having the most low and moderate perceptions, while Dibrugarh executives are more likely to have high perceptions. Silchar executives tend to have lower perceptions overall, indicating that executives in this region may be less satisfied with the HRD climate.

To further assess whether there is a significant difference in the perception of the HRD climate, Independent Sample t-tests and One-Way ANOVA were applied.

4.11 ANNOVA Analysis

Table 4.29: ANOVA table for different demographic profile Based on Designation of Employee

Factors	Non-Executive		Executive	
	F value	Sig	F value	Sig
Age	3.324	0.020	1.112	0.345
Income	0.433	0.785	1.006	0.345
Education	0.794	0.530	0.890	0.470
Experience	0.754	0.521	1.101	0.349
Location	2.654	0.072	0.049	0.952

Source: Primary data compiled and computed by researcher.

1. **Age:** The ANOVA results indicate that there is a significant difference in the perception of HRD climate based on age among non-executive employees, as evidenced by an F-value of 3.324 and a significance level of 0.020. This provides sufficient evidence to reject the null hypothesis, suggesting that age influences the perception of HRD climate for this group. In contrast, for executive employees, the F-value is 1.112 with a significance level of 0.345, leading to the acceptance of the null hypothesis. This indicates that, within the executive group, there is significant difference in perception based on age.
2. **Income:** The analysis of income reveals that both non-executive and executive employees exhibit significant differences in their perception of HRD climate. The F-values for non-executive and executive employees are 0.433 and 1.006, respectively, with significance levels of 0.785 and 0.345. These results provide sufficient evidence to accept the null hypothesis for both groups, indicating that income significantly affect the perception of HRD climate among the employees.
3. **Education:** Regarding educational qualifications, the F-values are 0.794 for non-executive employees and 0.890 for executive employees, with significance levels of 0.530 and 0.470, respectively. Both sets of results indicate sufficient evidence to accept the null hypothesis, suggesting that there is significant difference in perception of HRD climate based on educational qualifications for either group.
4. **Experience:** The findings for experience show F-values of 0.754 for non-executive employees and 1.101 for executive employees, with significance levels of 0.521 and 0.349, respectively. These results further support the acceptance of the null hypothesis, indicating that experience significantly impact the perception of HRD climate for either category of employees.
5. **Location:** In terms of location, the F-value for non-executive employees is 2.654, with a significance level of 0.072, which suggests a borderline effect but does not reach statistical significance at the 0.05 level. Therefore, while there may be some differences in perception based on location, it is not

statistically significant. For executive employees, the F-value is 0.049, with a significance level of 0.952, providing strong evidence to accept the null hypothesis, indicating significant difference in perception based on location.

Table 4.30: Multiple comparison of age groups.

Tukey HSD		Executive		Non-Executive	
(I) Age	(J) Age	Mean Difference (I-J)	Sig.	Mean Difference (I-J)	Sig.
20-30 Years	31-40 years	-.004	1.000	.123	.623
	41-50 years	-.047	.990	-.217	.261
	51-60 years	-.252	.351	.060	.965
31-40 years	20-30 Years	.004	1.000	-.123	.623
	41-50 years	-.043	.991	-.340 [*]	.011
	51-60 years	-.248	.323	-.064	.949
41-50 years	20-30 Years	.047	.990	.217	.261
	31-40 years	.043	.991	.340 [*]	.011
	51-60 years	-.205	.647	.276	.157

51-60 years	20-30 Years	.252	.351	-.060	.965
	31-40 years	.248	.323	.064	.949
	41-50 years	.205	.647	-.276	.157

Source: Primary data compiled and computed by researcher.

The Multiple Comparison of Age Groups (Table 27) provides a detailed analysis of how employees from different age groups perceive the HRD (Human Resource Development) climate. The analysis uses Tukey's HSD (Honestly Significant Difference) test to compare mean differences between age groups, focusing separately on executive and non-executive employees.

For executive employees, the Tukey HSD results show **no statistically significant differences** in perceptions of HRD climate across the age groups ("20-30 years," "31-40 years," "41-50 years," and "51-60 years"). This is evident from the fact that all **p-values (Sig.) are greater than 0.05**, and no pairwise comparisons show significant mean differences.

- **"20-30years"vs"31-40years":**

The mean difference is **-0.004**, and the significance value is **1.000**. This indicates that the perception of HRD climate between these two age groups is almost identical, with no meaningful distinction.

- **"31-40years"vs."41-50years":**

The mean difference is **-0.043**, and the Sig. value is **0.991**, again showing no significant variation in perception between these two age groups.

- **"20-30years"vs."51-60years":**

The mean difference is **-0.252**, with a Sig. value of **0.351**. While the numerical difference is slightly larger, it is still not statistically significant,

indicating that even the youngest and oldest executive groups have similar perceptions of HRD climate.

For non-executive employees, the results indicate **one statistically significant difference** in perceptions of HRD climate, specifically between the **"31-40 years" and "41-50 years"** age groups. For other age group comparisons, no significant differences are observed.

- **"31-40years"vs."41-50years":**

The mean difference is **-0.340**, with a significance value of **0.011** (< 0.05). This indicates that employees in the **"41-50 years"** age group perceive the HRD climate significantly more favorably compared to those in the **"31-40 years"** age group. Employees aged 41-50 years may have a better understanding of HR practices and their benefits, which could lead to more positive perceptions. This age group may feel more secure and established in their careers, fostering greater satisfaction with HR policies. Employees aged 31-40 years might be at a stage where they expect rapid career growth or greater support, and unmet expectations could result in less favorable perceptions. For comparisons such as "20-30 years" vs. "31-40 years" (mean difference **0.123**, Sig. **0.623**) or "20-30 years" vs. "51-60 years" (mean difference **-0.060**, Sig. **0.965**), the Sig. values are greater than 0.05, indicating no statistically significant differences. These groups perceive the HRD climate in a relatively similar way.

Table 4.31: Multiple comparison of Income.

Tukey HSD		Executive		Non-Executive	
(I) Salary	(J) Salary	Mean Difference (I-J)	Sig.	Mean Difference (I-J)	Sig.
20000-30000	30001-40000	-.042	.999	-.027	1.000
	40001-50000	-.071	.991	.113	.913
	50001-	-.186	.792	.095	.962

	60000				
	Above 60000	-.021	1.000	.212	.617
30001- 40000	20000- 30000	.042	.999	.027	1.000
	40001- 50000	-.029	1.000	.139	.728
	50001- 60000	-.144	.859	.121	.858
	Above 60000	.021	1.000	.239	.377
40001- 50000	20000- 30000	.071	.991	-.113	.913
	30001- 40000	.029	1.000	-.139	.728
	50001- 60000	-.115	.927	-.018	1.000
	Above 60000	.050	.998	.099	.939
50001- 60000	20000- 30000	.186	.792	-.095	.962
	30001- 40000	.144	.859	-.121	.858
	40001- 50000	.115	.927	.018	1.000
	Above 60000	.165	.863	.117	.914
Above 60000	20000- 30000	.021	1.000	-.212	.617
	30001- 40000	-.021	1.000	-.239	.377

	40001-50000	-.050	.998	-.099	.939
	50001-60000	-.165	.863	-.117	.914

Source: Primary data compiled and computed by researcher.

The Multiple Comparison of Income (Table 28) provides a comparison of perceptions of HRD (Human Resource Development) climate across various income brackets for both executive and non-executive employees.

For executive employees, all **p-values (Sig.) are greater than 0.05** across all pairwise comparisons of income groups. This indicates that there are **no statistically significant differences** in how executives across different income levels perceive the HRD climate.

- **₹20,000–₹30,000vs.₹30,001–₹40,000:**

The mean difference is **-0.042**, with a Sig. value of **0.999**. This shows that perceptions of HRD climate are almost identical between these two income groups.

- **₹20,000–₹30,000vs.₹50,001–₹60,000:**

The mean difference is **-0.186**, with a Sig. value of **0.792**. While the numerical difference is slightly larger, it remains statistically insignificant.

- **₹30,001–₹40,000vs.Above₹60,000:**

The mean difference is **0.021**, with a Sig. value of **1.000**, confirming no significant variation in perception.

For non-executive employees, the analysis similarly shows **no statistically significant differences** in perceptions of HRD climate across income groups. All Sig. values are greater than 0.05.

- **₹20,000–₹30,000vs.₹30,001–₹40,000:**

The mean difference is **-0.027**, with a Sig. value of **1.000**, indicating no significant variation in perception.

- **₹20,000–₹30,000vs.Above₹60,000:**

The mean difference is **0.212**, with a Sig. value of **0.617**. While the numerical difference is slightly higher, it is not statistically significant.

- **₹40,001–₹50,000vs.₹50,001–₹60,000:**

The mean difference is **-0.018**, with a Sig. value of **1.000**, indicating no meaningful difference in perception.

Table 4.32: Multiple comparison of Educational Qualification.

Tukey HSD		Executive.		Non-Executive	
(I) Education	(J) Education	Mean Difference (I-J)	Sig.	Mean Difference (I-J)	Sig.
10+2 Pass	10th Pass	.038	.999	-.052	.991
	Graduation	-.131	.843	-.183	.422
	Post-Graduation	-.172	.792	-.119	.850
	Others	-.234	.962	-.242	.913
10th Pass	10+2 Pass	-.038	.999	.052	.991
	Graduation	-.169	.701	-.131	.790
	Post-Graduation	-.210	.661	-.066	.985
	Others	-.273	.937	-.190	.964
Graduation	10+2 Pass	.131	.843	.183	.422
	10th Pass	.169	.701	.131	.790
	Post-Graduation	-.041	.999	.065	.983
	Others	-.104	.998	-.059	1.000
Post-Graduation	10+2 Pass	.172	.792	.119	.850
	10th Pass	.210	.661	.066	.985
	Graduation	.041	.999	-.065	.983

	Others	-.063	1.000	-.123	.993
Others	10+2 Pass	.234	.962	.242	.913
	10th Pass	.273	.937	.190	.964
	Graduation	.104	.998	.059	1.000
	Post-Graduation	.063	1.000	.123	.993

Source: Primary data compiled and computed by researcher.

The Multiple Comparison of Educational Qualification (Table 29) provides insights into how perceptions of HRD (Human Resource Development) climate vary across different educational qualification levels for both executive and non-executive employees.

For executives, **all p-values (Sig.) are greater than 0.05** across every pairwise comparison of educational qualification groups. This indicates that there are **no statistically significant differences** in how executives with different educational qualifications perceive the HRD climate.

- **10+2Pass vs 10thPass:**

The mean difference is **0.038**, with a Sig. value of **0.999**, indicating no significant difference in perception.

- **10+2Pass vs post-graduation:**

The mean difference is **-0.172**, with a Sig. value of **0.792**, showing no meaningful variation in perception.

- **Graduation vs Others:**

The mean difference is **-0.104**, with a Sig. value of **0.998**, indicating no significant variation in HRD climate perception between these groups.

For non-executive employees, **all p-values (Sig.) are also greater than 0.05**, showing no statistically significant differences in perceptions of HRD climate across educational levels.

- **10+2Pass vs Graduation:**

The mean difference is **-0.183**, with a Sig. value of **0.422**, showing no significant difference.

- **10+2Pass vs Others:**

The mean difference is **-0.242**, with a Sig. value of **0.913**, indicating no substantial variation.

- **Post-Graduation vs 10th Pass:**

The mean difference is **0.066**, with a Sig. value of **0.985**, confirming no significant difference in perception.

Table 4.33: Multiple comparison of Job Experience

Tukey HSD		Executive		Non-Executive	
(I) Job experience	(J) Job experience	Mean Difference (I-J)	Sig.	Mean Difference (I-J)	Sig.
0- 5 years	10-20 years	-.088	.910	.043	.977
	5-10 years	-.099	.876	.137	.600
	Above 20 years	.114	.903	-.093	.906
5-10 years	0- 5 years	.099	.876	-.137	.600
	10-20 years	.011	1.000	-.094	.796
	Above 20 years	.213	.538	-.229	.323
10-20 years	0- 5 years	.088	.910	-.043	.977
	5-10 years	-.011	1.000	.094	.796
	Above 20 years	.201	.582	-.135	.730
Above 20	0- 5 years	-.114	.903	.093	.906

years	10-20 years	-.201	.582	.135	.730
	5-10 years	-.213	.538	.229	.323

Source: Primary data compiled and computed by researcher

The Multiple Comparison of Job Experience (Table 30) provides insights into how perceptions of HRD (Human Resource Development) climate vary across different levels of job experience for both executive and non-executive employees.

For executives, **all p-values (Sig.) are greater than 0.05**, indicating that there are **no statistically significant differences** in HRD climate perception across any pair of job experience levels.

- **0-5yearsvs.10-20years:**

The mean difference is **-0.088**, with a Sig. value of **0.910**, indicating no significant difference in perception.

- **5-10yearsvs.Above20years:**

The mean difference is **0.213**, with a Sig. value of **0.538**, showing no significant difference.

- **10-20yearsvs.Above20years:**

The mean difference is **-0.201**, with a Sig. value of **0.582**, again showing no statistically significant variation.

For non-executives, **all p-values (Sig.) are also greater than 0.05**, indicating that no pairwise comparison of experience levels shows a statistically significant difference in perceptions of HRD climate.

- **0-5yearsvs.10-20years:**

The mean difference is **0.043**, with a Sig. value of **0.977**, showing no significant variation.

- **5-10yearsvs.Above20years:**

The mean difference is **-0.229**, with a Sig. value of **0.323**, indicating no significant difference.

- **10-20yearsvs.Above20years:**

The mean difference is **0.135**, with a Sig. value of **0.730**, confirming no statistically significant variation.

Table 4.34: Multiple comparison of Location

Tukey HSD		Executive		Non-Executive	
(I) Location	(J) Location	Mean Difference (I-J)	Sig.	Mean Difference (I-J)	Sig.
Dibrugarh	Kamrup	.031	.960	-.074	.726
	Silchar	.036	.958	.147	.316
Kamrup	Dibrugarh	-.031	.960	.074	.726
	Silchar	.004	.999	.221	.059
Silchar	Dibrugarh	-.036	.958	-.147	.316
	Kamrup	-.004	.999	-.221	.059

Source: Primary data compiled and computed by researcher.

The Multiple Comparison of Location (Table 31) evaluates differences in perceptions of HRD (Human Resource Development) climate among employees working in three different locations: Dibrugarh, Kamrup, and Silchar, for both executive and non-executive employees.

For executives, **all p-values (Sig.) are greater than 0.05**, indicating no statistically significant differences in perceptions of HRD climate among employees based on their location.

- **Dibrugarh vs. Kamrup:**

The mean difference is **0.031**, with a Sig. value of **0.960**, showing no significant difference.

- **Dibrugarh** vs. **Silchar:**
The mean difference is **0.036**, with a Sig. value of **0.958**, indicating no significant variation.
- **Kamrup** vs. **Silchar:**
The mean difference is **0.004**, with a Sig. value of **0.999**, again confirming no statistically significant difference.

For non-executives, **all p-values (Sig.) are also greater than 0.05**, indicating no statistically significant differences in HRD climate perceptions among employees across locations.

- **Dibrugarh** vs. **Kamrup:**
The mean difference is **-0.074**, with a Sig. value of **0.726**, indicating no significant variation.
- **Dibrugarh** vs. **Silchar:**
The mean difference is **0.147**, with a Sig. value of **0.316**, showing no significant difference.
- **Kamrup** vs. **Silchar:**
The mean difference is **0.221**, with a Sig. value of **0.059**, which is close to the threshold for significance (**p = 0.05**) but still not statistically significant.

Overall, the ANOVA results suggest that demographic factors such as income, education, job experience, and location do not significantly influence the perception of HRD climate among employees at BSNL, Assam Telecom Circle, for both non-executive and executive groups. However, **age does show a significant impact for non-executive employees**, with employees in the 31-40 and 41-50 age groups exhibiting notable differences, while executive employees exhibit no significant differences based on age. Similarly, **location shows no significant differences for either group**, although there is a near-significant trend for non-executives between Kamrup and Silchar, suggesting a potential need for further investigation into regional dynamics. These findings indicate a general consistency in the perception of HRD climate across most demographic factors, but the significant influence of age

for non-executives highlights its importance in shaping HRD strategies. Additionally, the lack of significant differences for other factors such as income, education, and job experience suggests that BSNL's HR policies are largely standardized and equitable. Nevertheless, the nuanced trends observed in specific comparisons (e.g., location for non-executives and age differences) emphasize the complexity of employee perceptions of HRD climate, requiring targeted interventions to address specific demographic needs, particularly for non-executive employees.

4.12 Independent sample t test

Table 4.35: Independent sample t test table for Gender Based on Designation of Employee

Factor	Non-Executive	Executive
Gender	0.448 (sig.)	0.815 (sig.)

The Independent Sample t-test was conducted to assess whether there are significant differences in the perception of HRD climate based on gender for both non-executive and executive employees.

The significance level (p-value) for gender in the non-executive group is 0.448. Since this value is greater than the conventional alpha level of 0.05, we fail to reject the null hypothesis. This indicates that there is statistically significant difference in the perception of HRD climate between male and female non-executive employees. In other words, gender appear to influence how non-executive employees perceive the HRD climate within the organization.

Similarly, the significance level for gender in the executive group is 0.815. This value is also above 0.05, leading us to again fail to reject the null hypothesis. Thus, there is statistically significant difference in the perception of HRD climate between male and female executive employees.

CHAPTER 5

HR Policy and Challenges of BSNL

5.1 Introduction

In the previous chapter, the data has been analyzed on Human Resource Development Climate. In this chapter, the researcher analyzed the data on human resource policy and the various challenges of BSNL employees in the organization. In this section, the researcher made an attempt to statistically explore the different HR policies and challenges associated with the employees in BSNL. To take the opinion from the respondents, the researcher designed 9 questions for HR Policy and 13 questions relating to the employee challenges in the organization.

After obtaining the information from the respondents, the researcher processed the information. After the tabulation, the weighted mean score was calculated for each statement for the total response. To get the perception differences among different groups, ANNOVA analysis conducted by the researcher. The researcher also prepares the cross tabulation to show the different level of perception with respect to demographic variables and different location of the study.

5.2 Data Analysis for Objective 4.

Objective 4: To identify the recent challenges faced by the employees of BSNL working in Assam Telecom Circle

Reliability Analysis

Reliability refers to the extent to which a measurement instrument yields consistent results over repeated applications under the same conditions. High reliability ensures that the data collected is stable and free from random error. Introduced by Lee Cronbach in 1951, it is one of the most widely used measures for internal consistency. It assesses the extent to which all items in a test measure the same construct and are correlated. Alpha values range from 0 to 1:

- < 0.6: Poor reliability.
- 0.6–0.7: Moderate reliability.

- **0.7–0.8:** Good reliability.
- **> 0.8:** Excellent reliability.

Table 5.1: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.780	13

With an alpha value of 0.780, the 13-item questionnaire demonstrates **good internal consistency**, indicating that the items reliably assess employees' perceptions or challenges in the HRD climate of BSNL, Assam Telecom Circle. This reliability ensures that the insights derived from the responses are dependable and can be used to draw meaningful conclusions.

Validity Analysis

Table 5.2: Validity test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.555
Bartlett's Test of Sphericity	Approx. Chi-Square	1100.532
	df	78
	Sig.	.000

The KMO value measures the adequacy of the sampling for factor analysis. KMO values range from 0 to 1. A **KMO value of 0.555** falls in the **mediocre** category.

While it is not ideal, it is still **acceptable** for proceeding with factor analysis. This suggests that the data is adequate for the factor analysis technique, though there might be some limitations in terms of the strength of the correlations among variables.

Table 5.3: Descriptive Statistical analysis statement wise of Challenges of Employees

Statements	Executive		Non-Executive	
	Mean	Std. Deviation	Mean	Std. Deviation
Social circumstances inside the organization are suitable for the employees of BSNL.	3.62	1.128	3.52	1.284
If any employee commits mistakes, superiors help the employee in rectification of that mistake and gives feedback to employee to learn from the mistake.	3.37	1.110	3.44	1.191
There is an open communication system among employees, superiors, supervisions and subordinates and nobody hesitate in expressing their views on discussing their feeling.	3.52	1.014	3.47	1.018
Are you satisfied and comfortable with the working condition of the organization	3.33	1.178	3.34	1.163
There is a well-developed human resource information system in the organization.	3.37	1.195	3.37	1.158

Promotion decisions are made based on the promoted individual's abilities, not based on favoritism.	3.52	1.167	3.60	1.216
Recreational welfare services like sports, library, indoor games, reading hall etc. are provided by the organization.	3.33	1.309	3.43	1.286
Weaknesses of employees are communicated to them in a non-threatening way.	3.54	1.080	3.44	1.115
In the organization, a specific procedure is followed in taking disciplinary action.	3.66	1.245	3.57	1.278
The organizational training program are evaluated and improved based on need time to time.	3.66	1.240	3.61	1.299
Housing, Medical, transportation and canteen facilities are satisfactory in the organization.	3.76	.981	3.65	1.058
Employee Grievances are handled promptly.	3.49	1.185	3.59	1.171
When something unexpected occurs at work, do you generally know who to contact for assistance?	3.52	1.259	3.52	1.196

Source: Primary data compiled and computed by researcher.

1. Social circumstances inside the organization are suitable for the BSNL.

Executives: Mean = 3.62, Std. Dev. = 1.128 which means that Executives generally agree that social circumstances are suitable, but there is moderate variation in responses.

Non-Executives: Mean = 3.52, Std. Dev. = 1.284 which means that Non-executives slightly agree, with more variability in responses compared to executives.

2. If any employee commits mistakes, superiors helps the employee in rectification of that mistake

Executives: Mean = 3.37, Std. Dev. = 1.110 which means that Executives show moderate agreement with the rectification of employee mistake; the responses have moderate consistency.

Non-Executives: Mean = 3.44, Std. Dev. = 1.191 that is Non-executives slightly agree more than executives, but with slightly greater variability in responses.

3. There is an open communication system among employees, superiors, supervisions and subordinates.

Executives: Mean = 3.52, Std. Dev. = 1.014, Executives generally agree that they communicate freely to anyone without any hasitation, and the responses are relatively consistent.

Non-Executives: Mean = 3.47, Std. Dev. = 1.018, Non-executives share similar agreement, with nearly identical variability as executives.

4. Are you satisfied and comfortable with the working condition of the organization.
Executives: Mean = 3.33, Std. Dev. = 1.178, Executives are neutral about working condition, and there is considerable variability in their responses.

Non-Executives: Mean = 3.34, Std. Dev. = 1.163, Non-executives share a similar neutral perception, with slightly lower variability.

5. There is a well-developed human resource information system in the organization.

Executives: Mean = 3.37, Std. Dev. = 1.195, Executives show moderate agreement about the HR information system, with moderate variation in responses.

Non-Executives: Mean = 3.37, Std. Dev. = 1.158, Non-executives agree to the same extent as executives, with slightly more consistency in responses.

6. Promotion decisions are made based on the promoted individual's abilities, not based on favoritism.

Executives: Mean = 3.52, Std. Dev. = 1.167, Executives moderately agree with promotion fairness, with some variability in perceptions.

Non-Executives: Mean = 3.60, Std. Dev. = 1.216, Non-executives show slightly stronger agreement, but variability is higher compared to executives.

7. Recreational welfare services like sports, library, indoor games, reading hall etc. are provided by the organization.

Executives: Mean = 3.33, Std. Dev. = 1.309, Executives are neutral about recreational facilities with high variability in responses, indicating mixed perceptions.

Non-Executives: Mean = 3.43, Std. Dev. = 1.286, Non-executives show slightly more agreement, but variability is still high, showing differing views.

8. Weaknesses of employees are communicated to them in a non-threatening way.

Executives: Mean = 3.54, Std. Dev. = 1.080, Executives moderately agree that they are communicated in a non-threatening way, with relatively consistent responses.

Non-Executives: Mean = 3.44, Std. Dev. = 1.115, non-executives slightly agree, with slightly higher variability.

9. In the organization, a specific procedure is followed in taking disciplinary action.

Executives: Mean = 3.66, Std. Dev. = 1.245, Executives moderately agree that specific procedure is followed in taking disciplinary action, though responses show considerable variation.

Non-Executives: Mean = 3.57, Std. Dev. = 1.278, Non-executives agree slightly less, but variability in responses is similar to executives.

10. The organizational training program are evaluated and improved based on need time to time.

Executives: Mean = 3.66, Std. Dev. = 1.240, Executives moderately agree on effective improvement and evaluation of training, though there is notable variation.

Non-Executives: Mean = 3.61, Std. Dev. = 1.299, Non-executives share similar agreement, but variability is slightly higher.

11. Housing, Medical, transportation and canteen facilities are satisfactory in the organization.

Executives: Mean = 3.76, Std. Dev. = 0.981, Executives mostly agree they are getting facilities, with relatively consistent responses.

Non-Executives: Mean = 3.65, Std. Dev. = 1.058, Non-Executives also agree but with slightly higher variability in responses.

12. Employee Grievances are handled promptly

Executives: Mean = 3.49, Std. Dev. = 1.185, Executives moderately agree grievance handling, with moderate variation in responses.

Non-Executives: Mean = 3.59, Std. Dev. = 1.171, Non-executives agree slightly more, with slightly lower variability.

13. When something unexpected occurs at work, do you generally know who to contact for assistance?

Executives: Mean = 3.52, Std. Dev. = 1.259, Executives moderately agree with notable variability in responses.

Non-Executives: Mean = 3.52, Std. Dev. = 1.196, Non-executives show identical agreement, with slightly less variability.

The mean scores across all statements indicate that both executive and non-executive employees perceive the recent challenges in BSNL with a moderate level of agreement, showing only slight variations in their responses. Executives tend to rate aspects such as effective communication, encouragement to experiment, and clarity during unexpected situations slightly higher, while non-executives perceive better learning opportunities, fairness in promotions, and awareness of HRD policies.

Overall, the similarities in perceptions between the two groups suggest a shared understanding of the organizational challenges.

Table 5.4: Cross Tabulation of Perception with respect to location (Kamrup, Dibrugarh and Silchar)

Location								
Perception	Executive			Total	Non-Executive			Total
	Dibrugarh	Kamrup	Silchar		Dibrugarh	Kamrup	Silchar	
Low Perception	32	34	16	82	46	63	48	157
Moderate Perception	35	52	37	124	40	48	38	126
High Perception	19	36	28	83	43	47	43	133
Total	86	122	81	289	129	158	129	416

Source: Primary data compiled and computed by researcher.

The table presents the frequency distribution of employees' perceptions (low, moderate, and high) across the three locations i.e, Dibrugarh, Kamrup, and Silchar separately for executive and non-executive employees.

Executive Employees:

- In Dibrugarh, 32 executives exhibit low perception, 35 moderate perception, and 19 high perceptions. This shows that most executives in Dibrugarh have a moderate perception, with relatively fewer holding a high perception.
- In Kamrup, 34 executives exhibit low perception, 52 moderate perception, and 36 high perceptions, indicating that the majority of executives have a moderate perception.

- In Silchar, 16 executives exhibit low perception, 37 moderate perception, and 28 high perceptions, showing a balanced distribution between moderate and high perceptions.

Overall, executives tend to have a moderate perception across all locations, with Kamrup having the highest proportion of moderate perception.

Non-Executive Employees:

- In Dibrugarh, 46 non-executives exhibit low perception, 40 moderate perception, and 43 high perceptions, showing a relatively even distribution among all three categories.
- In Kamrup, 63 non-executives exhibit low perception, 48 moderate perception, and 47 high perceptions, indicating a slight dominance of low perception.
- In Silchar, 48 non-executives exhibit low perception, 38 moderate perception, and 43 high perceptions, showing a relatively balanced distribution, similar to Dibrugarh.

Overall, non-executive employees show a higher tendency toward low perception compared to executives, particularly in Kamrup.

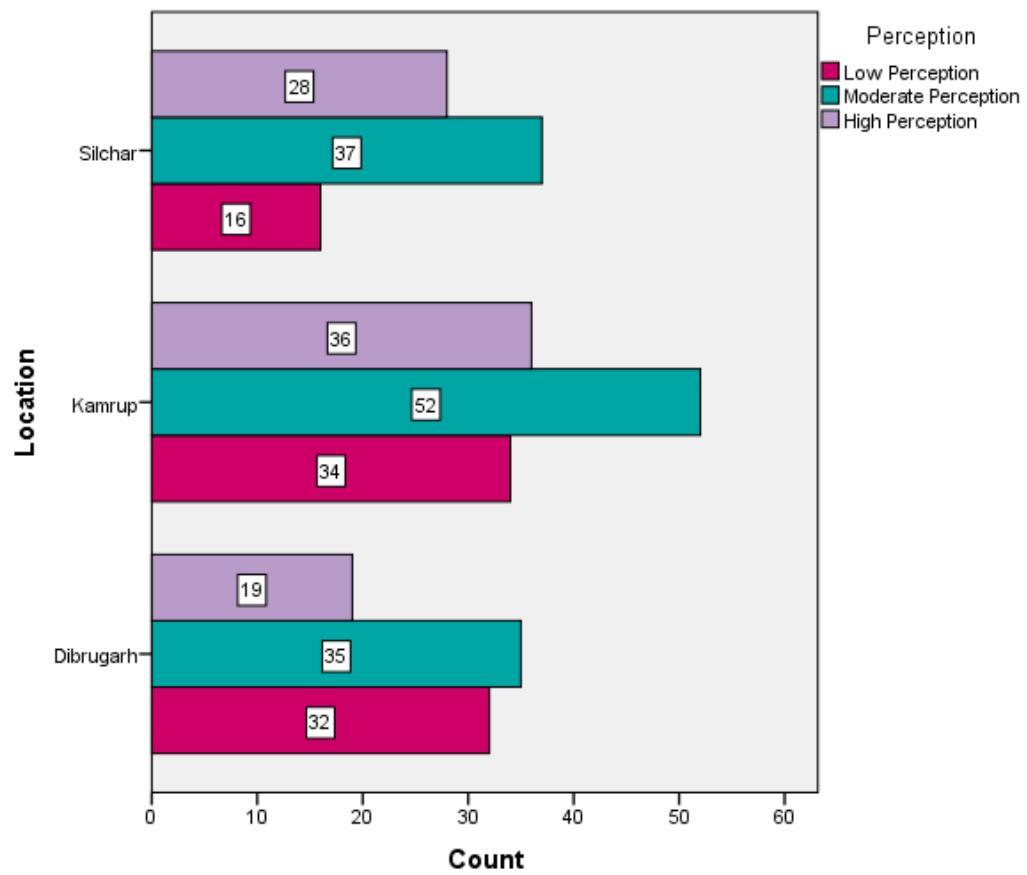


Figure 5.1: Graphical Representation of perception of Executive with the location

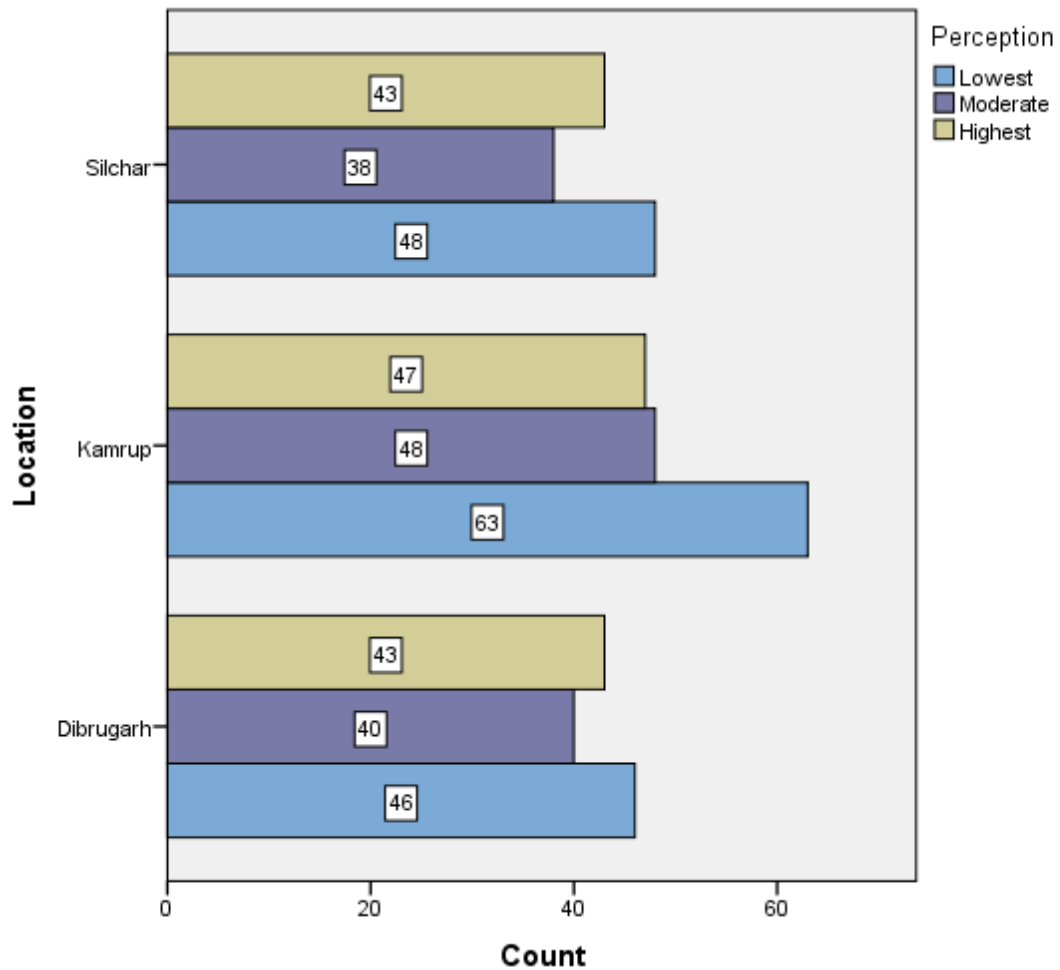


Figure 5.2: Graphical Representation of perception of Non Executive with the location

5.3 Analysis of Variance:

ANOVA (Analysis of Variance) is conducted to determine whether there are statistically significant differences in the means of perceptions (low, moderate, and high) across different groups, such as locations (Dibrugarh, Kamrup, Silchar) or job categories (executive and non-executive). It is particularly useful in this context to identify whether employees' perceptions vary significantly based on their work location or designation, which can help in pinpointing specific areas where interventions are needed. By comparing the mean values across multiple groups simultaneously, ANOVA avoids the limitations of multiple pairwise comparisons

and provides a robust statistical framework for evaluating differences. If significant differences are identified, post-hoc tests can further reveal which specific groups differ from one another.

Table 5.5: Overall ANOVA table for location showing the perception among executive and non-executive Employees

Location wise	Executive		Non-Executive	
	F value	Sig.	F value	Sig.
	3.346	0.037	0.358	0.699

The table presents the results of an ANOVA test to examine the differences in perceptions regarding HRD climate across the three locations (Dibrugarh, Kamrup, and Silchar) for both executive and non-executive employees.

Executive Employees:

- **F-value:** 3.346
- **Significance (Sig.):** 0.037

For executives, the significance value (0.037) is less than the threshold of 0.05. This indicates that there is a statistically significant difference in the perceptions of executives regarding HRD climate across the three locations. Thus, the null hypothesis (that there is no significant difference in perception across locations) is rejected for executives.

Non-Executive Employees:

- **F-value:** 0.358
- **Significance (Sig.):** 0.699

For non-executives, the significance value (0.699) is greater than the threshold of 0.05. This indicates that there is no statistically significant difference in the

perceptions of non-executive employees regarding HRD climate across the three locations. Thus, the null hypothesis is accepted for non-executives.

Table 5.6: ANOVA table for multiple comparison location wise in three different SSAs under study

Tukey HSD		Executive			Non-Executive		
(I) Location	(J) Location	Mean Difference (I-J)		Sig.	Mean Difference (I-J)		Sig.
Dibrugarh	Kamrup	-.168		.254	.078		.711
	Silchar	-.299*		.028	.016		.988
Kamrup	Dibrugarh	.168		.254	-.078		.711
	Silchar	-.132		.440	-.063		.803
Silchar	Dibrugarh	.299*		.028	-.016		.988
	Kamrup	.132		.440	.063		.803
*. The mean difference is significant at the 0.05 level.							

Source: Primary data compiled and computed by researcher.

The Tukey HSD (Honestly Significant Difference) test compares the mean differences in perceptions regarding HRD climate between locations for executive and non-executive employees.

Executive Employees:

1. Dibrugarh vs. Kamrup:

- Mean Difference: -0.168
- Significance (Sig.): 0.254

Since the significance value is greater than 0.05, the difference in perceptions between Dibrugarh and Kamrup is not statistically significant.

2. Dibrugarh vs. Silchar:

- Mean Difference: -0.299
- Significance (Sig.): 0.028

Since the significance value is less than 0.05, the difference in perceptions between Dibrugarh and Silchar is statistically significant.

3. Kamrup vs. Silchar:

- Mean Difference: -0.132
- Significance (Sig.): 0.440

Since the significance value is greater than 0.05, the difference in perceptions between Kamrup and Silchar is not statistically significant.

Non-Executive Employees:

1. Dibrugarh vs. Kamrup:

- Mean Difference: 0.078
- Significance (Sig.): 0.711

Since the significance value is greater than 0.05, the difference in perceptions between Dibrugarh and Kamrup is not statistically significant.

2. Dibrugarh vs. Silchar:

- Mean Difference: 0.016
- Significance (Sig.): 0.988

Since the significance value is greater than 0.05, the difference in perceptions between Dibrugarh and Silchar is not statistically significant.

3. Kamrup vs. Silchar:

- Mean Difference: -0.063
- Significance (Sig.): 0.803

Since the significance value is greater than 0.05, the difference in perceptions between Kamrup and Silchar is not statistically significant.

The Tukey HSD test provides deeper insights into the perception differences among employees based on their work locations. For executive employees, a statistically significant difference in perception is observed between Dibrugarh and Silchar, with a mean difference of -0.299 and a significance value of 0.028 ($p < 0.05$). This indicates that executives in these two locations perceive the HRD climate differently. However, no significant differences are observed between Dibrugarh and Kamrup or Kamrup and Silchar, suggesting similarity in perceptions among executives in these pairs of locations. Conversely, for non-executive employees, there are no statistically significant differences in perceptions across any of the locations (Dibrugarh, Kamrup, and Silchar), as all significance values are above 0.05. This aligns with the ANOVA results, which indicated that location significantly impacts the perceptions of executive employees but not those of non-executive employees. Overall, this suggests that the location-specific challenges and experiences may vary more for executives, while non-executives perceive the HRD climate relatively consistently across the locations studied.

5.4 Data Analysis for Objective 5

Objective 5: To examine and analyze the policies and procedures of human resource development in BSNL, Assam Telecom Circle

Table 5.7: Descriptive Statistics Statement wise in respect to HR Policies

Statements	Executive		Non-Executive	
	Mean	Std. Deviation	Mean	Std. Deviation
All the employees are aware of all the policies of Human Resource Development in the organization	3.74	1.072	3.81	1.117

BSNL is prepared to devote a significant portion of its time and other resources to staff development.	3.74	1.110	3.74	1.167
You are aware about your organizations career planning and development.	3.39	1.174	3.51	1.089
The psychological atmosphere at BSNL is very friendly to an individual interested in growing personally via the acquisition of new information and skills.	3.69	1.218	3.74	1.214
When developing personnel policies, the development of human resources is considered.	3.38	1.453	3.60	1.432
The BSNL atmosphere is conducive to the development of new skills and knowledge by workers.	3.68	1.120	3.83	1.125
Employee wellbeing measures are designed in such a way that workers may save a significant amount of mental energy for work-related activities.	3.55	1.108	3.64	1.142
The BSNL has an appropriate job description.	3.87	1.173	3.92	1.194
BSNL are encouraged to experiment with novel techniques and novel ideas.	3.43	1.110	3.68	1.127

Source: Primary data compiled and computed by researcher.

The table compares the mean and standard deviation of executive and non-executive employees' perceptions regarding HRD policies and procedures in BSNL, Assam Telecom Circle.

1. **Awareness about the HR Policy:** Both executives (mean: 3.74) and non-executives (mean: 3.81) agree that BSNL employees have awareness about human resources policies, indicating moderate satisfaction in this area with slight variation.
2. **Staff and Worker Development:** Both groups have a similar perception regarding BSNL's commitment to staff development (mean: 3.74), but non-executives have a slightly higher mean (3.51 vs. 3.39) for efforts to ensure worker growth.
3. **Organizations career planning and development:** Both executive and non-executive respondents have similar perception about the career planning and development in the organization (mean 3.39 vs. 3.51). The non-executive groups (3.51) have slight higher mean for the career planning and development.
4. **Psychological Atmosphere:** Both executives (mean: 3.69) and non-executives (mean: 3.74) rate the psychological atmosphere as moderately friendly for personal growth, showing alignment between the groups.
5. **Human Resource Development in Policy Formation:** Non-executives (mean: 3.60) have a slightly higher perception than executives (mean: 3.38) regarding HRD being considered during policy formulation.
6. **The BSNL atmosphere is conducive:** Non-executives (mean: 3.83) are more positive than executives (mean: 3.68) about BSNL providing a conducive atmosphere for skill and knowledge development.
7. **Employee Wellbeing:** Both groups rate wellbeing measures similarly, with non-executives (mean: 3.64) perceiving slightly better efforts than executives (mean: 3.55).
8. **Job Descriptions:** Both groups agree on the appropriateness of job descriptions, with non-executives having a slightly higher mean (3.92) than executives (3.87).

9. **Encouragement for Innovation:** Non-executives (mean: 3.68) feel more encouraged than executives (mean: 3.43) to experiment with new techniques and ideas.

Table 5.8: Perception of the Respondents in different Age group.

Age										
Perception	Non-Executive				Total	Executive				Total
	20-30 years	31-40 years	41-50 years	51-60 years		20-30 years	31-40 years	41-50 years	51-60 years	
Low perception	35	67	31	24	157	33	49	21	20	123
Moderate Perception	33	38	31	24	126	25	43	13	13	94
High Perception	37	53	23	20	133	27	24	10	11	72
Total	105	158	85	68	416	85	116	44	44	289

Source: Primary data compiled and computed by researcher.

The table illustrates age-wise perception differences among executive and non-executive employees regarding human resource development (HRD) policies and procedures in BSNL, Assam Telecom Circle. The perceptions are categorized as low, moderate, and high across four age groups: 20–30 years, 31–40 years, 41–50 years, and 51–60 years.

1. Non-Executive Employees

- **Low Perception:** The majority of non-executives with low perception are in the 31–40 age group (67 out of 157), followed by the 20–30 age group (35). This suggests younger and mid-career non-executives may perceive challenges in HRD policies.
- **Moderate Perception:** A relatively balanced distribution exists among age groups, with the highest proportion in the 31–40 group (38), followed by the 20–30 group (33).
- **High Perception:** The 20–30 age group (37) and 31–40 group (53) dominate the high perception category, suggesting younger employees are more optimistic or satisfied with HRD practices.

2. Executive Employees

- **Low Perception:** A similar trend is observed for executives, with the 31–40 age group having the highest low perception (49 out of 123), followed by the 20–30 group (33).
- **Moderate Perception:** Most executives with moderate perception are in the 31–40 age group (43), with fewer individuals in older age groups (13 in both 41–50 and 51–60 years).
- **High Perception:** Younger executives aged 20–30 years (27) have the highest high perception, while older groups (41–50 and 51–60 years) report lower high perception (10 and 11, respectively).

Overall Insights

1. **Age-wise Distribution of Perceptions:** Younger employees (20–30 years) generally show higher positive perceptions (high perception: 37 for non-executives, 27 for executives), while mid-career (31–40 years) and senior employees exhibit mixed perceptions.
2. **Low Perception in 31–40 Age Group:** For both executives and non-executives, the 31–40 age group has the highest share of low perception (67

for non-executives, 49 for executives), possibly indicating dissatisfaction during mid-career stages.

3. **Balanced Moderate Perception:** Moderate perception is fairly balanced across age groups, particularly among non-executives.
4. **High Perception in Younger Groups:** Younger employees across both categories are more likely to have high perceptions of HRD policies, reflecting positive experiences or greater adaptability to organizational practices.

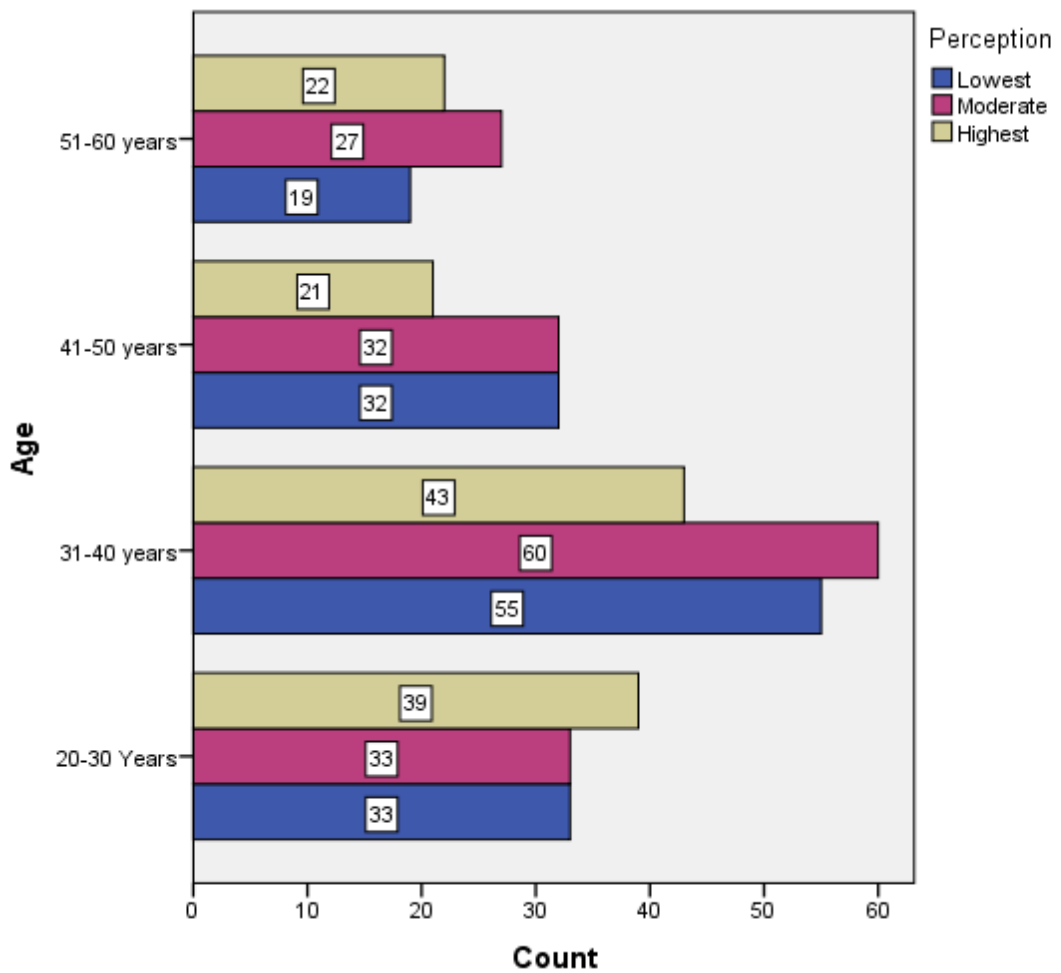


Figure 5.3: Graphical Representation of perception of Non-Executive with the Age

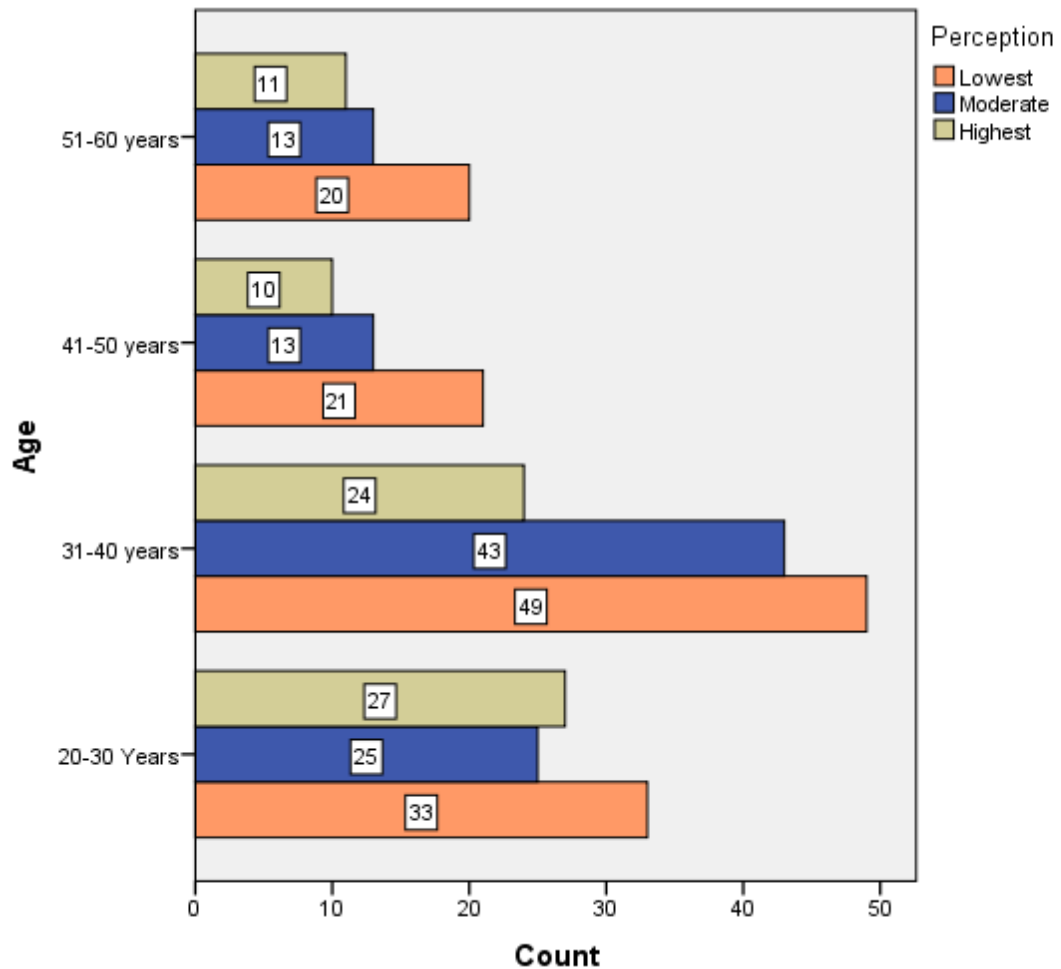


Figure 5.4: Graphical Representation of perception of Executive with the Age

The bar graph i.e figure 3 and figure 4 illustrates the perception of HRD policies among non-executive and executive employees across different age groups (20–30, 31–40, 41–50, and 51–60 years). Among non-executives, low perception is most prominent in the 31–40 years age group (67 employees), while high perception is higher in younger employees, particularly those aged 20–30 years (37 employees). A similar trend is observed among executives, with the 31–40 years group reporting the highest low perception (49 employees) and the 20–30 years group showing the most favorable perception (27 employees). This indicates that mid-career employees (31–40 years) may be less satisfied with HRD policies, while younger employees generally view them more positively. Such trends suggest a need for targeted

interventions to address the concerns of mid-career employees and leverage the positive perceptions of younger staff.

Table 5.9: Perception of the employees in three different SSAs under study.

Location								
Perception	Executive			Total	Non-Executive			Total
	Dibrugarh	Kamrup	Silchar		Dibru garh	Kam rup	Silc har	
Low Perception	45	48	30	123	46	63	48	157
Moderate Perception	25	40	29	94	40	48	38	126
High Perception	16	34	22	72	43	47	43	133
Total	86	122	81	289	129	158	129	416

Source: Primary data compiled and computed by researcher.

The table presents location-wise employee perceptions (low, moderate, and high) for both executive and non-executive employees in BSNL, Assam Telecom Circle, across three locations: Dibrugarh, Kamrup, and Silchar.

1. Executive Employees

- **Low Perception:** Kamrup has the highest number of executives with low perception (48 out of 123), followed by Dibrugarh (45) and Silchar (30). This indicates that a significant number of executives in Kamrup perceive HRD practices unfavorably.
- **Moderate Perception:** A similar trend is observed, with Kamrup having the highest number of executives with moderate perception (40 out of 94),

followed by Dibrugarh (25) and Silchar (29). This shows a more balanced perception distribution among locations.

- **High Perception:** Kamrup again leads with the highest number of executives reporting high perception (34 out of 72), followed by Silchar (22) and Dibrugarh (16). While Kamrup has a higher share of positive perception, it also has a high share of low perception, reflecting polarized views.

2. Non-Executive Employees

- **Low Perception:** Kamrup has the highest number of non-executives with low perception (63 out of 157), followed by Dibrugarh (46) and Silchar (48). This indicates that Kamrup faces challenges in aligning HRD policies with employee expectations.
- **Moderate Perception:** Kamrup again leads (48 out of 126), followed by Dibrugarh (40) and Silchar (38). Non-executives in Kamrup have a more moderate outlook compared to executives.
- **High Perception:** Dibrugarh and Silchar both report 43 non-executives with high perception, while Kamrup has the most (47 out of 133). This suggests relatively positive sentiment among a portion of non-executives in Kamrup.

Overall Insights

1. **High Representation of Low Perception in Kamrup:** Kamrup records the highest number of employees with low perception in both executive (48) and non-executive (63) categories. This suggests a need for HRD interventions to improve perception in this region.
2. **Balanced Perception in Silchar and Dibrugarh:** Silchar and Dibrugarh show a more balanced distribution of perceptions across categories, with slightly higher low perception compared to high perception.
3. **Polarized Views in Kamrup:** While Kamrup leads in high perception across both employee categories, it also has the highest low perception, reflecting divergent views on HRD policies and practices.

4. **Executives vs. Non-Executives:** Non-executives generally report higher numbers across all perception levels, indicating they may experience and interpret HRD policies differently compared to executives.

Location significantly affects employee perception of HRD practices in BSNL. Kamrup emerges as a critical area with both high and low perceptions, suggesting the presence of positive and negative experiences among employees. Targeted HR initiatives in Kamrup could help address dissatisfaction while leveraging the positive perceptions to improve overall sentiment. Dibrugarh and Silchar show relatively stable perceptions, but there is room for improvement to reduce low perception in these locations as well.

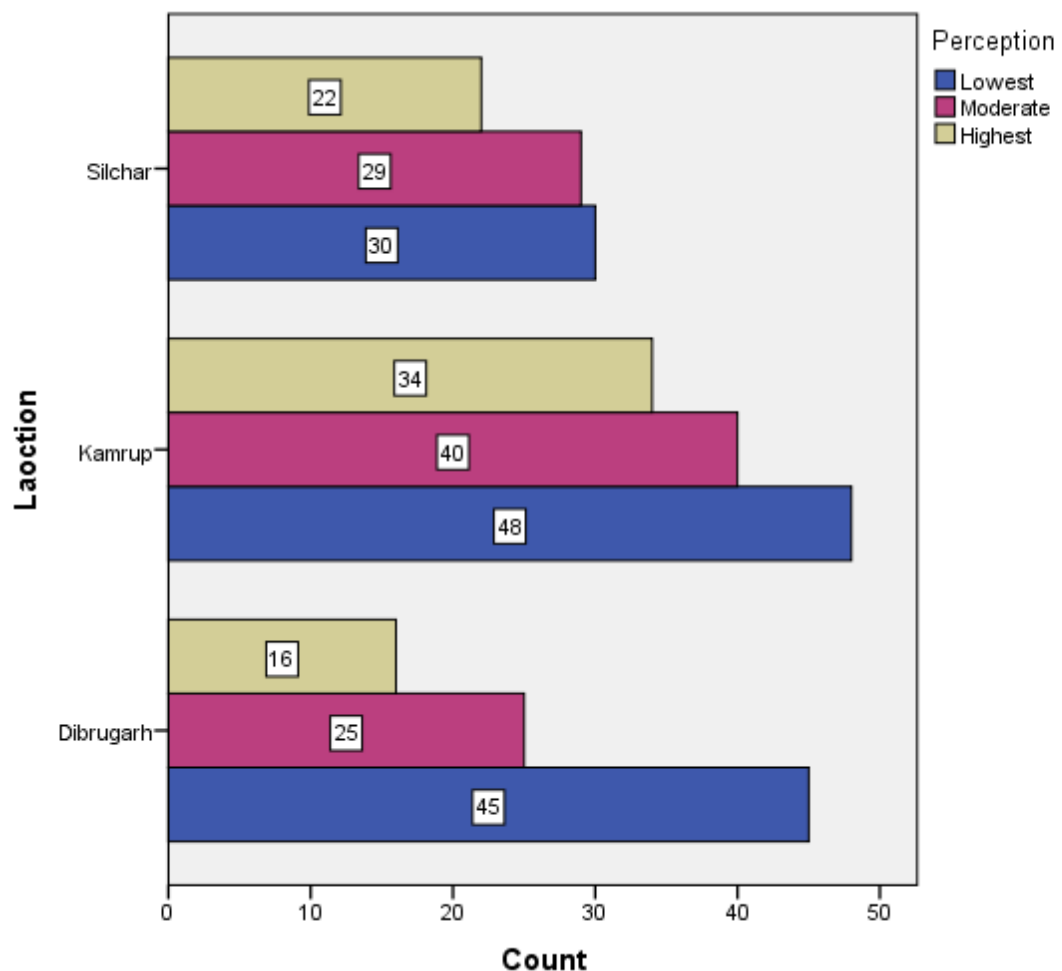


Figure 5.5: Graphical Representation of perception of Executive with the Location

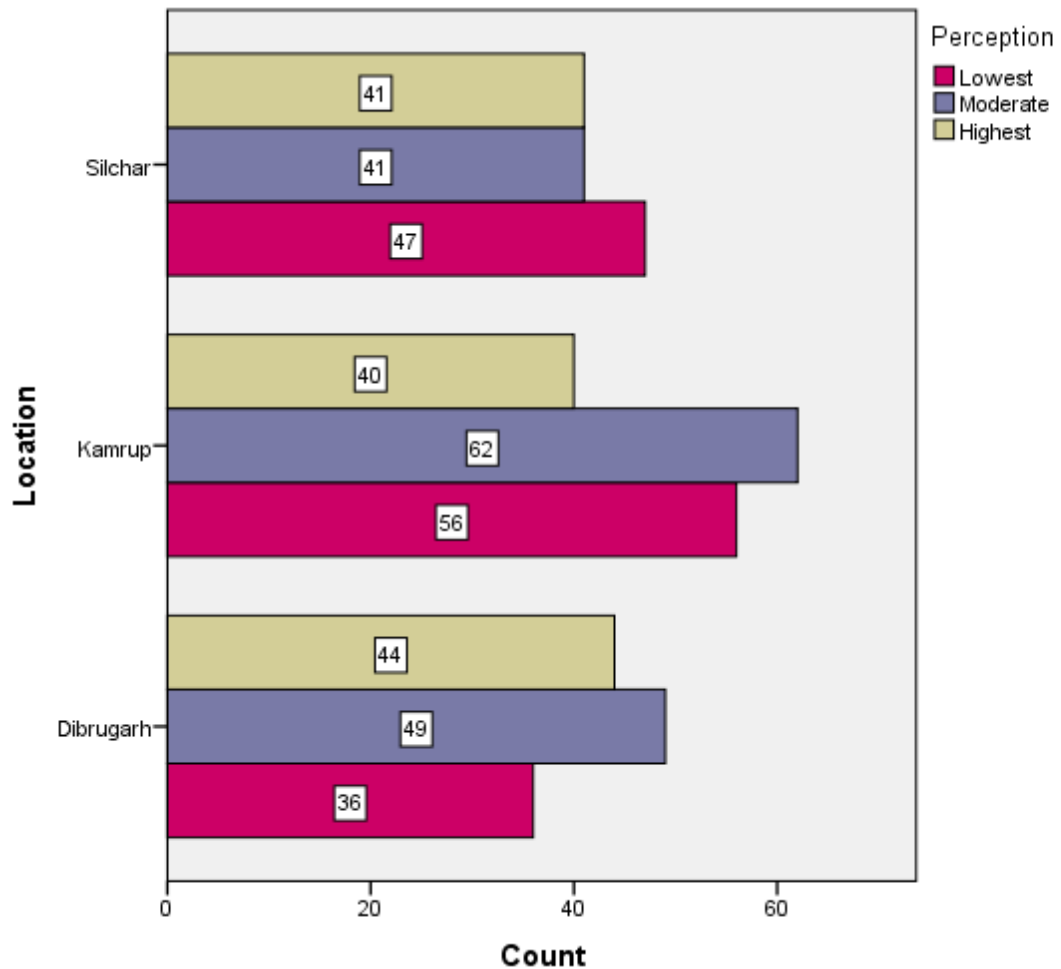


Figure 5.6: Graphical Representation of perception of Non-Executive with the Location

The bar graphs i.e figure 5. and figure 6. depicts the distribution of perceptions (low, moderate, and high) of HRD policies among executive and non-executive employees across three locations: Dibrugarh, Kamrup, and Silchar. Among executives, low perception is highest in Kamrup (48 employees), followed by Dibrugarh (45 employees), indicating greater dissatisfaction in these regions. In contrast, moderate perception is more balanced, with Kamrup again having the highest count (40 employees). High perception is notably lower across all locations, with Kamrup (34 employees) showing relatively higher positive perceptions compared to Dibrugarh (16 employees) and Silchar (22 employees). Among non-executives, a similar trend

is observed, with low perception being most pronounced in Kamrup (63 employees), while high perception is equally distributed across locations (43 employees each for Dibrugarh, Kamrup, and Silchar). These results suggest that while Kamrup shows higher dissatisfaction overall, it also reflects a relatively stronger positive perception among executives compared to other locations.

Table 5.10: Perception of the employees related to their Experience

Experience										
Perception	Non-Executive				Total	Executive				Total
	1	2	3	4		1	2	3	4	
Low perception	45	44	48	20	157	31	34	38	20	123
Moderate Perception	32	44	39	11	126	23	33	31	7	94
High Perception	28	52	30	23	133	14	25	22	11	72
Total	105	140	117	54	416	68	92	91	38	289
Where, 1=0- 5 years, 2=10-20 years, 3=5-10 years,4= Above 20 years										

Source: Primary data compiled and computed by researcher

The table presents the distribution of employee perception (low, moderate, and high) across different levels of work experience for non-executive and executive employees in BSNL, Assam Telecom Circle. Experience is categorized as 0–5 years (1), 5–10 years (2), 10–20 years (3), and above 20 years (4).

1. Non-Executive Employees

- **Low Perception:**

- The largest group reporting low perception is in the 10–20 years category (48 out of 157), followed by 5–10 years (44) and 0–5 years (45).

- The lowest low perception is seen among employees with above 20 years of experience (20), suggesting relatively more satisfaction among the most experienced employees.
- **Moderate Perception:**
 - Employees with 10–20 years of experience also dominate this category (44 out of 126), followed by those with 5–10 years (39) and 0–5 years (32).
 - Employees with above 20 years of experience have the lowest moderate perception (11), indicating polarizing views among this group.
- **High Perception:**
 - Employees with 10–20 years of experience report the highest high perception (52 out of 133), followed by those with 5–10 years (30) and 0–5 years (28).
 - Employees with above 20 years of experience show relatively strong high perception (23), second only to those with 10–20 years.

2. Executive Employees

- **Low Perception:**
 - Employees with 5–10 years of experience report the highest low perception (38 out of 123), followed by those with 10–20 years (34).
 - The least low perception is found among employees with above 20 years of experience (20), aligning with non-executives.
- **Moderate Perception:**
 - Employees with 10–20 years of experience have the highest moderate perception (33 out of 94), followed by 5–10 years (31).

- Employees with above 20 years of experience report the lowest moderate perception (7), reflecting satisfaction or dissatisfaction extremes in this group.
- **High Perception:**
 - Employees with 10–20 years of experience lead in high perception (25 out of 72), followed by 5–10 years (22) and 0–5 years (14).
 - Above 20 years of experience reports the least high perception (11), but a relatively balanced distribution in low and high perceptions suggests varied perspectives.

Employee perception of HRD practices varies with experience levels. Middle experience groups (5–20 years) are the most critical as they report higher dissatisfaction and satisfaction levels, reflecting diverse experiences with HRD policies. Meanwhile, employees with over 20 years of experience show relatively stable and less negative perceptions. Targeting the middle experience groups with enhanced HR policies and development programs can significantly improve overall perceptions.

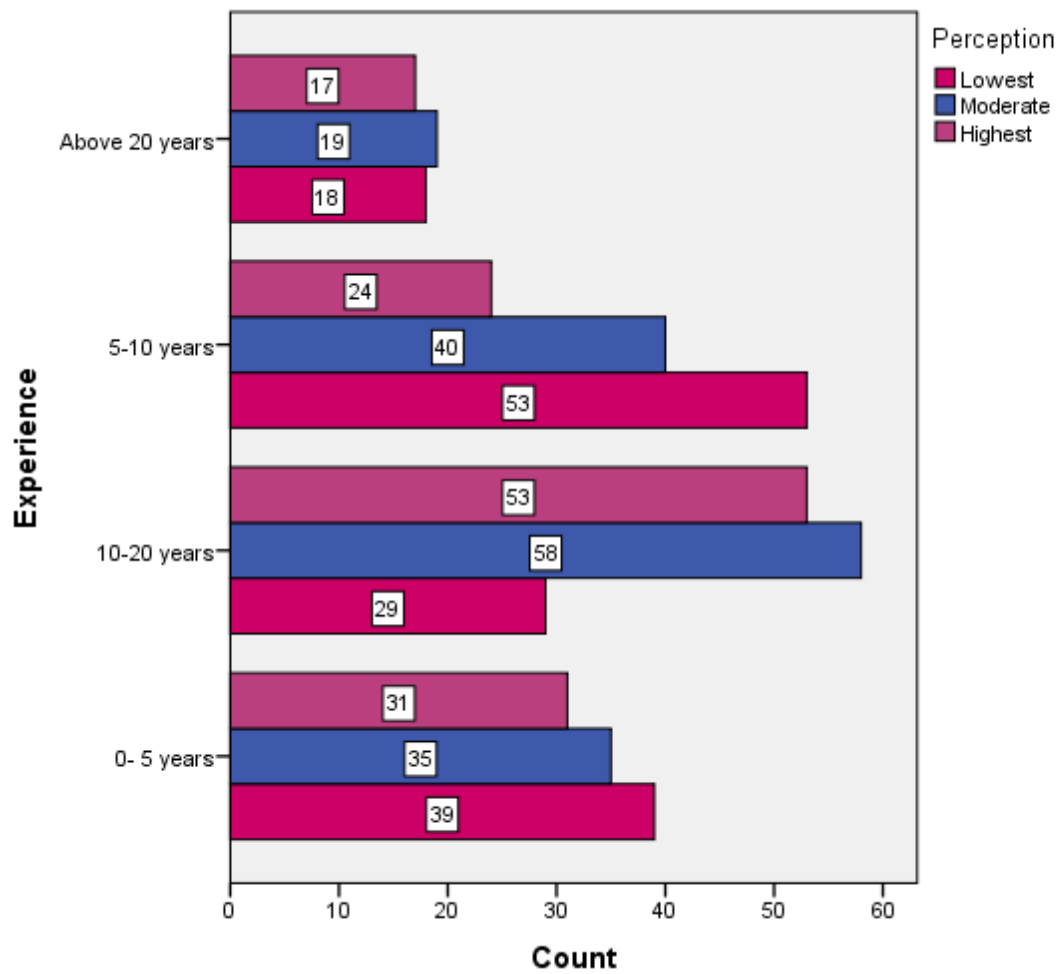


Figure 5.7: Graphical Representation of perception of Non-Executive with the Experience

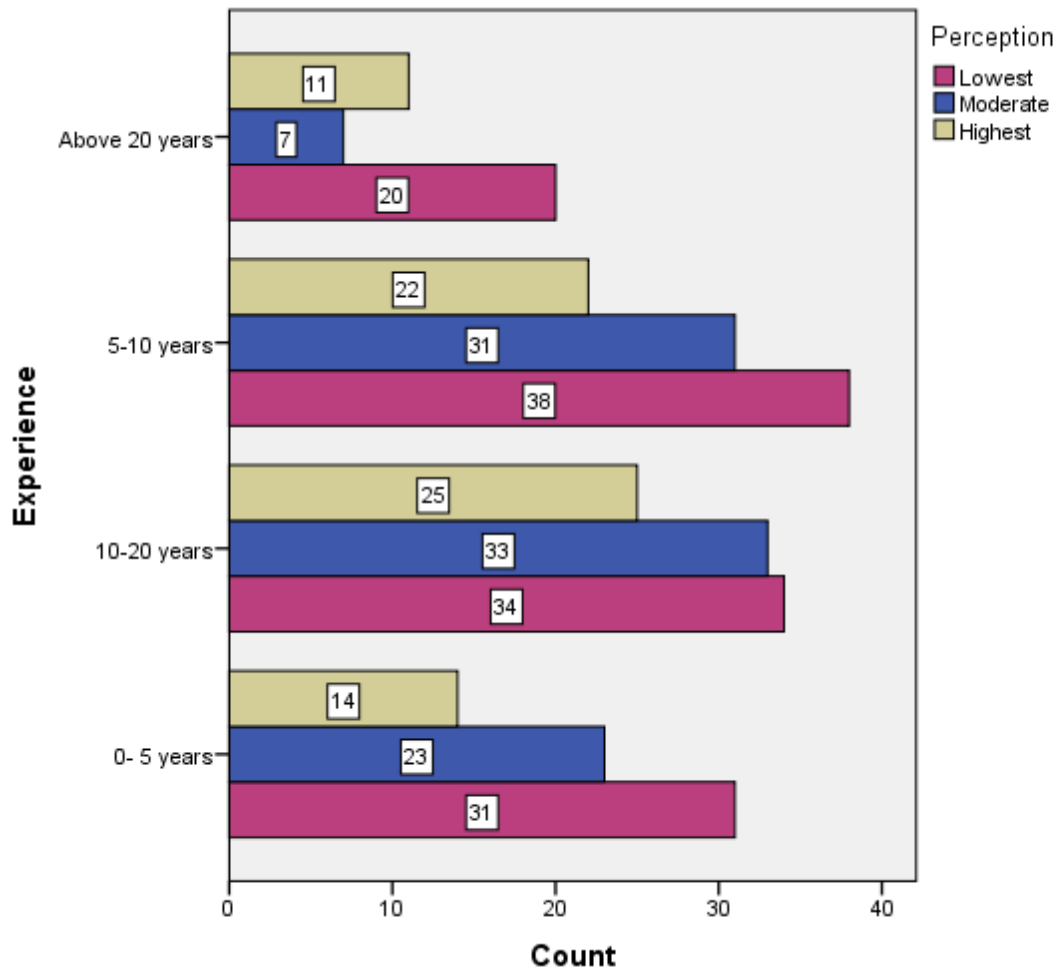


Figure 5.8: Graphical Representation of perception of Executive with the Experience

The bar graphs i.e figure 7 and figure 8 illustrates the perception of HRD policies among non-executive employees, categorized by four groups (1, 2, 3, and 4). Low perception is the most prominent across all groups, with the highest count observed in Group 3 (48 employees) and Group 2 (44 employees), suggesting higher dissatisfaction in these categories. Moderate perception shows a more even distribution, peaking in Group 2 (44 employees) and slightly lower in Groups 1 and 3 (32 and 39 employees, respectively). High perception is comparatively less frequent but is highest in Group 2 (52 employees), followed by Group 3 (30 employees) and Group 4 (23 employees). This trend indicates that Group 2 exhibits both the highest dissatisfaction (low perception) and the highest satisfaction (high perception),

suggesting mixed views. Group 4 consistently reports lower counts across all perceptions, indicating either a smaller population or a generally more neutral or disengaged outlook toward HRD policies.

The overall summary of the three perceptions (low, moderate, and high) reveals distinct trends among non-executive employees regarding HRD policies. **Low perception** is the most dominant across all groups, particularly in Groups 2 and 3, indicating significant dissatisfaction in these categories. **Moderate perception** is more evenly distributed but peaks in Group 2, suggesting a sizable proportion of employees hold a neutral or mixed outlook. **High perception** is comparatively lower but is also highest in Group 2, reflecting a subset of employees with a positive view of HRD policies. This highlights that while dissatisfaction is widespread, there are pockets of satisfaction, particularly in Group 2. The consistently lower counts in Group 4 across all perception levels indicate either fewer employees or relatively subdued engagement with HRD policies. Overall, the findings suggest the need for targeted improvements in HRD practices, particularly for Groups 2 and 3, to address dissatisfaction and build on areas of satisfaction.

5.5 Factor Analysis

Factor analysis was performed to identify the underlying dimensions or constructs influencing the policies and procedures of Human Resource Development (HRD) in BSNL, Assam Telecom Circle. The objective the aim is to examine and analyze HRD policies by reducing a large set of variables (survey items/questions) into a smaller set of factors that explain the observed patterns of correlations. This helps to uncover hidden relationships between variables, group similar items into meaningful categories, and interpret the key themes contributing to employees' perceptions of HRD policies.

Table 5.11: Factor Analysis

Metric/ Analysis	Executive	Non-Executive
KMO Measure of Sampling Adequacy	0.683 (Mediocre, acceptable for factor analysis)	0.633 (Mediocre, acceptable for factor analysis)
Bartlett's Test of Sphericity	Sig. = 0.000 (correlation matrix is suitable)	Sig. = 0.000 (correlation matrix is suitable)
Communalities (Mean)	0.528	0.513
No. of Factors Extracted	3	3
Total Variance Explained	52.34%	51.29%
Top Contributing Variables	Q46 (0.797), Q47 (0.721), Q44 (0.483)	Q44 (0.708), Q45 (0.656), Q46 (0.634)

Source: Primary data compiled and computed by researcher

1. KMO and Bartlett's Test

- **Executives:** KMO = 0.683; **Non-Executives:** KMO = 0.633. Both values fall in the range of 0.5–0.7, indicating mediocre sampling adequacy, which is still acceptable for factor analysis. Bartlett's Test of Sphericity for both groups show significance ($p < 0.05$), confirming that the data structure is appropriate for factor analysis.

2. Total Variance Explained

- For executives, the top three factors explain 52.34% of the variance, while for non-executives, they explain 51.29%.
 - This indicates that a significant portion of the variability in perceptions of HRD policies can be captured by these three factors, though some variability remains unexplained.

3. Rotated Component Matrix

- **Executives:**
 - Q46 ("The organization has an accurate job description") and Q47 ("Employees are encouraged to experiment with novel techniques") load highly on Factor 1, suggesting a focus on **organizational clarity and innovation**.
 - Q44 ("The BSNL atmosphere is conducive to skill and knowledge development") contributes to Factor 2, emphasizing **work environment suitability**.
- **Non-Executives:**
 - Q44, Q45 ("Employee wellbeing measures save mental energy for work-related activities"), and Q46 load highly on Factor 1, emphasizing **employee growth and support**.
 - Q41 ("Employees can apply what they've learned") strongly contributes to Factor 2, reflecting a focus on **learning application**.

The factor analysis results reveal three main components for both executives and non-executives, explaining 52.34% and 51.29% of the variance, respectively. The Kaiser-Meyer-Olkin (KMO) values (executives: 0.683, non-executives: 0.633) are acceptable, and Bartlett's Test of Sphericity is significant ($p < 0.05$), indicating that the data is suitable for factor analysis. For executives, key factors focus on organizational clarity (Q46), innovation (Q47), and a conducive work environment (Q44). Non-executives emphasize skill development (Q44), wellbeing (Q45), and the application of learning (Q41). These findings highlight differences in priorities, with executives leaning toward strategic clarity and innovation, while non-executives value personal growth and support. The analysis underscores the need for targeted HRD interventions to align policies with employee perceptions.

The overall summary of these findings highlights key insights into the perceptions of HRD policies among executives and non-executives at BSNL, based on factor analysis. The **Kaiser-Meyer-Olkin (KMO)** values for both groups (executives: 0.683, non-executives: 0.633) indicate mediocre but acceptable sampling adequacy, while the significance of **Bartlett's Test of Sphericity** confirms that the data is suitable for factor analysis. Three main factors were extracted for each group, explaining 52.34% of the variance for executives and 51.29% for non-executives, demonstrating that these factors capture a substantial portion of the variability in perceptions.

For executives, the analysis emphasizes priorities such as **organizational clarity** (Q46), **innovation** (Q47), and a **conducive work environment** (Q44). Non-executives, on the other hand, focus more on **skill development** (Q44), **employee well-being** (Q45), and the **application of learning** (Q41). These differences in priorities suggest that executives value strategic and organizational aspects, while non-executives prioritize personal growth, support, and operational aspects of HRD policies.

The findings underline the need for **targeted HRD interventions** that address the distinct priorities of these two groups. For executives, efforts should focus on fostering innovation and clarity in organizational roles. For non-executives, policies should emphasize providing opportunities for skill enhancement, supporting well-being, and enabling the practical application of learning to improve overall satisfaction and effectiveness.

CHAPTER 6

Summary of Findings, Suggestions, and Conclusions

6.1 Introduction

Human Resource Development (HRD) climate is one of the critical factors for growth and excellence in any organization, particularly in dynamic sectors like telecommunications. For Bharat Sanchar Nigam Limited (BSNL), HRD ensures that employee skills are upgraded, which adds more scope for development and even helps to create a work support environment. Some key HRD mechanisms applied would include training, performance appraisal systems, and career advancement opportunities to further encourage employee development.

However, there has been a new challenge to BSNL that would impact the HRD climate. The technological advancement in this telecom industry moves so fast that BSNL was unable to match its pace with private players. The financial problems in the organization along with the competition against new telecom companies have resulted in reduced investment in employee development programs. The cost-cutting measures have also involved the introduction of Voluntary Retirement Schemes (VRS), under which the workforce is reduced, putting pressure on the existing employee strength to carry the workload with limited resources. However, such constraints aside, for long-term survival and competition, a healthy climate of HRD will be crucial for BSNL.

A conclusion is a section that summarizes the main points and findings to synthesize material. A summary of the findings, their implications, and the significance of the results is provided in the conclusion. An effective conclusion often states the main idea, including the responses and findings based on the research objectives/hypothesis, it may also refer to future studies, encouraging people to consider the topic in its broader context.

6.2 Summary of the Chapters

Chapter 1: Introduction

The chapter provided an overview of Human Resources and its importance in an organization. It traced the historical development of HRD, provided various definitions, and described its function and scope. Discussed with the issues and challenges facing HRD in India are the HRD process as well as the climate of HRD in Indian organizations, which included the main elements determining a good HRD climate. The chapter also mentioned the distinctiveness of HRD in public organizations, especially drawing a line on how it can work as a critical tool in fostering organizational effectiveness and the development of employees. The design of the research and methodology employed in the study have been further discussed in this chapter. Sampling techniques, data collection techniques, and analytical tools that were used to assess HRD climate in BSNL have also been explicated. Briefly, the ethical considerations and limitations of the study have been mentioned.

Chapter 2: Literature Review

The chapter literature review provided evidence for the existing research that prevailed upon the topic "Human Resource Development Climate and Recent Challenges of BSNL: A Case Study of Assam Telecom Circle." It mentioned key findings, aims, and methodology used in previous studies. The research gap of the present study has been provided in this chapter.

Chapter 3: Profile of the Bharat Sanchar Nigam Limited (BSNL)

The chapter explored the origins and development of telecommunication in India alongside tracing its historical evolution and milestones. Then, Bharat Sanchar Nigam Limited (BSNL) depicted its role and contribution towards the industry. The Assam Telecom Circle covered BSNL's role in regional geography. The Growth of the Indian Telecom Industry, another about the Role of Foreign Direct Investment in Telecommunications, and how the VRS Scheme would affect BSNL regarding its present workforce.

Chapter 4: HRD Climate of BSNL in Assam

The chapter focused on analyzing the HRD climate of BSNL into three critical dimensions: the general climate and the level of top management support for HRD; the mechanisms in place for implementing HRD subsystems; and the existence of the OCTAPACE culture. These dimensions bring out the internal structure of support and the general development environment that the leadership of BSNL tries to establish.

Chapter 5: HR Policy and Challenges of BSNL

The chapter described the human resource development policies and procedures followed by BSNL. A close analysis of the policies would bring into sharp focus whether employee development and skill enhancements are effectively conducted as part of such policies and procedures of BSNL. The chapter further advances by discussing various other challenges faced by employees working with BSNL, including those arising due to operational difficulties and limited organizational capacities that affect professional-level development and overall job satisfaction.

Chapter 6: Summary of Findings, Suggestions, and Conclusions

The findings of the study were synthesized and discussed in relation to the research objectives/hypothesis. The findings from all dimensions were interpreted against the critical analysis as to how the factors affected the HRD climate and employee experiences within BSNL.

Discussion of the Overall Descriptive Statistics

The demographic profile of the study was categorized into key variables to collect data from executive and non-executive employees of BSNL, Assam Telecom Circle. The analysis of the demographic characteristics of the respondents provides valuable insights into the structure of the workforce.

In terms of gender, it was observed that 58.1% of the respondents were male, while 41.9% were female, indicating a higher proportion of male employees in BSNL. This gender distribution reflects the general employment trend observed in public sector organizations, particularly in technical and operational roles.

With regard to the age distribution of the respondents, it was found that 25.4% of employees were aged 20-30 years, 29.2% were aged 31-40 years, 30.5% were aged 41-50 years, and 14.9% were aged above 50 years. This indicates that the majority of employees are in the 31-50 year age group, signifying a workforce that is experienced and well-acquainted with the organizational processes and HRD practices.

In terms of educational qualifications, the analysis revealed that 28.6% of employees held 10th Pass certificates, 29.3% were 10+2 pass, 31.6% were graduates, 3.6% had other qualifications, and 6.9% were postgraduates. This distribution highlights that a substantial portion of the workforce holds graduate-level qualifications, which is essential for technical and operational roles in the telecommunications sector. The presence of employees with higher qualifications also reflects the organization's focus on hiring a skilled and competent workforce.

The respondents were further classified into executive and non-executive categories. It was found that 41% of the employees were executives, while 59% of the employees were non-executives. This indicates a larger representation of non-executive employees, which is consistent with the organizational structure of public sector undertakings (PSUs), where the workforce primarily consists of operational and support staff. The larger proportion of non-executive employees suggests a need for effective HR policies targeting this group, as their perception of the HRD climate plays a vital role in overall organizational performance.

In terms of job experience, it was observed that 25.2% of the respondents had 0-5 years of experience, 33.7% had 6-10 years of experience, 28.1% had 11-20 years of experience, and 13% had more than 20 years of experience. This reveals that a considerable portion of employees have moderate to extensive experience, thereby providing the organization with a stable and experienced workforce. The presence of employees with more than 20 years of experience signifies a high degree of organizational knowledge and operational expertise, which could be leveraged for mentoring and training purposes.

The income distribution of respondents showed that 20.5% of the employees earned between ₹20,000-₹30,000 per month, 22.6% earned between ₹30,001-₹40,000, 24.8% earned between ₹40,001-₹50,000, 17.6% earned between ₹50,001-₹60,000, and 14.5% earned above ₹60,000. This distribution reflects the hierarchical pay structure within the organization, where salaries are linked to employee designation, role, and years of experience. Employees in higher pay brackets are typically senior executives or employees with greater responsibilities, while those in lower pay brackets are often non-executive employees engaged in support roles.

Regarding the location of employees, the study examined respondents from the three units of Dibrugarh, Kamrup, and Silchar. It was found that 30.2% of the employees were from Dibrugarh, 40.5% were from Kamrup, and 29.3% were from Silchar. This distribution highlights a balanced representation of employees from the three units, ensuring a fair reflection of the HRD climate across the entire Assam Telecom Circle. The even distribution of respondents across locations provides diverse perspectives from employees working in different regional environments.

Overall, the demographic profile of the respondents ensures a fair and comprehensive representation of executive and non-executive employees from all three units of BSNL, Assam Telecom Circle. The diversity in gender, age, educational qualification, job designation, work experience, income, and location offers a balanced perspective on the HRD climate. The diversity in responses strengthens the study's findings and provides a reliable basis for formulating HRD strategies and policy recommendations to meet the specific needs of different employee groups.

6.3 Summery of Findings based on Objectives of the Study

Objective 1: To study the demographic profile of the employees working in BSNL Assam Telecom Circle.

To achieve this objective, the study collected demographic information from 705 employees of BSNL Assam Telecom Circle. The data was categorized into

executive (n=289) and non-executive (n=416) employees. The following demographic variables were analyzed:

1. Gender Distribution:

- Out of 705 employees, 410 (58.16%) were males and 295 (41.84%) were females.
- Among non-executive employees, 57.21% were male, while 42.79% were female.
- Among executives, 59.52% were male, and 40.48% were female.
- The gender distribution highlights that male employees hold a higher proportion of executive roles, while female employees are more prominent in non-executive roles.

2. Age Distribution:

- The age groups were classified as 20-30, 31-40, 41-50, and 51-60 years.
- The largest age group was 31-40 years, representing 38.86% (274 employees) of the total sample.
- Among non-executives, 31-40 years was the largest group (158 employees, 37.98% of non-executives), while the executive category had a similar pattern with 40.14% (116 employees) in the same age range.
- This demographic insight emphasizes that the 31-40 age group forms the core workforce, indicating that mid-career employees hold significant positions in the organization.

3. Marital Status:

- The analysis revealed that 53.76% (379) of employees were married, while 46.24% (326) were single.
- Among non-executives, 54.81% were married, and 45.19% were single.
- Among executives, 52.25% were married, and 47.75% were single.
- This distribution suggests that the majority of the workforce is married, potentially reflecting a workforce at a mid-to-late stage in their careers.

4. Educational Qualification:

- Employees had diverse educational backgrounds, categorized as 10th Pass, 10+2 Pass, Graduation, Post-Graduation, and Others.

- The most common educational qualifications were Graduation (29.79%, 210 employees) and 10+2 Pass (27.80%, 196 employees).
- Non-executive employees were mostly 10+2 Pass (122 employees, 29.33%), while executives had a larger proportion of graduates (95 employees, 32.87%).
- The educational profile suggests that while a significant portion of non-executive employees have a basic qualification (10+2 Pass), executives generally possess higher qualifications like Graduation and Post-Graduation.

5. **Income Level:**

- Employees were grouped into five salary brackets: ₹20,000-₹30,000, ₹30,001-₹40,000, ₹40,001-₹50,000, ₹50,001-₹60,000, and Above ₹60,000.
- The largest proportion of employees (27.23%) earned in the ₹40,001-₹50,000 range.
- Non-executives predominantly earned between ₹40,001-₹50,000 (27.64%), while executives were concentrated in the ₹50,001-₹60,000 range (21.11%).
- This breakdown highlights salary variations between executive and non-executive roles, with executives earning higher salaries compared to non-executives.

6. **Location of Posting:**

- The workforce was distributed across three major locations: Dibrugarh, Kamrup, and Silchar.
- Kamrup had the highest concentration of employees (39.72%, 280 employees), followed by Dibrugarh (30.50%, 215 employees) and Silchar (29.79%, 210 employees).
- Non-executives were more prominent in Kamrup (37.98%), while executives were evenly distributed across the three locations.
- This distribution suggests that Kamrup serves as the main operational hub for BSNL Assam Telecom Circle.

Objective 2: To analyze the different dimensions of Human Resource Development (HRD) Climate in BSNL, Assam Telecom Circle.

This objective was achieved by exploring the contributions of three key dimensions of the HRD Climate — **General Climate, HRD Mechanisms, and OCTAPAC Culture**. The following methods and findings are highlighted:

1. General Climate:

- Seven items from the HRD climate questionnaire were used to measure General Climate.
- Descriptive statistics revealed that the overall mean score for non-executives was 3.62, while for executives, it was 3.56 (on a Likert scale).
- The highest-rated item was "Senior officers or executives in this organization take an active interest in their juniors" (Mean = 3.88 for non-executives, 3.89 for executives).
- The results indicate that while General Climate is perceived positively by employees, there is scope for improvement in terms of top management support for employee development.

2. HRD Mechanisms:

- Ten items related to HRD mechanisms were analyzed.
- Descriptive analysis showed that the overall mean score for non-executives was 3.64, while for executives, it was 3.65.
- Items like "Promotion decisions are based on merit" (Mean = 3.63) and "Job rotation facilitates employee development" (Mean = 3.67) were rated highly.
- The results indicate that HRD mechanisms are moderately implemented and perceived positively by employees.

3. OCTAPACE Culture:

- The study examined openness, collaboration, trust, autonomy, proactivity, authenticity, confrontation, and experimentation.
- Descriptive statistics showed that the overall mean score for non-executives was 3.63, while for executives, it was 3.61.
- Notably, "Openness" had a mean score of 3.58 (non-executives) and 3.61 (executives), while "Collaboration" was rated 3.63 (non-executives) and 3.60 (executives).

- The findings suggest that the OCTAPAC Culture is positively perceived, with employees acknowledging openness and collaboration, though further enhancement is needed in areas like experimentation and confrontation.

Objective 3: To assess the employee's perception of the existing Human Resource Development (HRD) Climate in BSNL, Assam Telecom Circle.

To meet this objective, the perceptions of employees were assessed based on their designation, demographic variables, and the location of their posting. The following steps were taken:

1. Perception by Designation:

- The perception of the HRD climate was categorized as Low, Moderate, or High.
- Among non-executives, 35.58% had low perception, 32.93% had moderate perception, and 31.49% had high perception.
- For executives, 33.56% had low perception, 32.87% had moderate perception, and 33.56% had high perception.
- These results show a diverse range of employee perceptions, with no clear dominance of one category, indicating variability in how the HRD climate is experienced.

2. Perception by Demographic Variables:

- Perception was analyzed with respect to gender, age, marital status, educational qualification, salary, location, and job experience.
- One-Way ANOVA was conducted, and the results revealed that for non-executives, age significantly influenced HRD climate perception ($F = 3.324$, $p < 0.05$).
- Tukey's post-hoc analysis revealed significant differences in HRD perception between age groups, particularly for employees aged 31-40 compared to those aged 41-50.
- Location also influenced perception, with employees in Kamrup reporting a more positive view of the HRD climate compared to other locations.

Objective 4: To identify the recent challenges faced by the employees of BSNL working in Assam Telecom Circle.

To achieve this objective, a systematic analysis was conducted to identify and understand the key challenges faced by employees. The following methods and outcomes were used:

1. Reliability Analysis:

- Cronbach's Alpha was calculated to assess the internal consistency of the 13-item questionnaire, which measures employee perceptions of the challenges.
- The Cronbach's Alpha for the 13 items was 0.780, indicating good reliability.
- This shows that the items used to measure employee challenges are consistent and dependable, ensuring that the data collected can be trusted for further analysis.

2. Validity Analysis:

- KMO (Kaiser-Meyer-Olkin) Measure of Sampling Adequacy was calculated to check if the sample was adequate for factor analysis.
- The KMO value was 0.555, falling in the "mediocre" range, which is still acceptable for factor analysis.
- Bartlett's Test of Sphericity was significant (Chi-Square = 1100.532, $p < 0.05$), confirming that correlations among the items were sufficient to justify factor analysis.

Result based on Descriptive Analysis of Challenges of BSNL employees

Thirteen key statements representing various challenges were evaluated using descriptive statistics, including the mean and standard deviation for executive and non-executive employees.

Examples of key challenges include:

- Housing, Medical, transportation and canteen facilities: Executives (Mean = 3.62, Std. Dev. = 1.128) and Non-Executives (Mean = 3.52, Std. Dev. = 1.284) perceived moderate agreement, with non-executives showing higher variability.

- Promotion decisions: Non-executives (Mean = 3.60, Std. Dev. = 1.216) agreed slightly more than executives (Mean = 3.52, Std. Dev. = 1.167) that promotions were merit-based, but the variation in responses was notable.
- Training opportunities: Executives (Mean = 3.66) and Non-executives (Mean = 3.57) agreed that specific training sessions are organized, though the variation in responses was substantial.

Employee Perception on Challenges Based on Location:

- Cross-tabulation analysis of perception was conducted for executives and non-executives across the three locations: Dibrugarh, Kamrup, and Silchar.
- Results showed that Kamrup had the highest number of employees with low perception of HRD challenges for both executives (48) and non-executives (63).
- However, Kamrup also had a relatively higher proportion of employees with high perception of HRD challenges, reflecting a polarized view in this location.

Analysis of Variance (ANOVA):

- ANOVA was performed to check for differences in perceptions of challenges across locations for executives and non-executives.
- Executive results: Significant differences were observed ($F = 3.346$, $p = 0.037$) among the three locations, confirming that location influences the perception of HRD challenges.
- Non-executive results: No significant differences were observed ($F = 0.358$, $p = 0.699$), indicating that the perception of challenges was consistent across locations for non-executives.

3. Tukey's HSD Test:

- The Tukey HSD test was used to identify significant differences in perceptions between pairs of locations.
- For executives, a significant difference was found between Dibrugarh and Silchar ($p = 0.028$), indicating that the perception of HRD challenges varied significantly between these two locations.

Objective 5: To examine and analyze the policies and procedures of human resource development in BSNL, Assam Telecom Circle.

The fifth objective aimed to examine and analyze HRD policies and procedures. This objective was achieved through descriptive analysis, cross-tabulation, ANOVA, and factor analysis, providing a holistic understanding of employee perceptions.

1. Descriptive Analysis of HRD Policies:

Various statements representing HRD policies were analyzed, and the mean and standard deviation for executive and non-executive employees were calculated.

Key insights include:

- BSNL treats human resources with dignity: Executives (Mean = 3.74, Std. Dev. = 1.072) and Non-executives (Mean = 3.81, Std. Dev. = 1.117) reported positive perceptions, indicating a shared belief that BSNL treats its employees respectfully.
- Job descriptions are appropriate: Both executives (Mean = 3.87) and non-executives (Mean = 3.92) agreed that job descriptions were clear and appropriate.
- Encouragement for innovation: Non-executives (Mean = 3.68) reported higher agreement than executives (Mean = 3.43) on being encouraged to experiment with novel techniques and ideas.

Perception of HRD Policies by Age:

- The perception of HRD policies was analyzed across four age groups: 20–30, 31–40, 41–50, and 51–60 years.
- Among non-executives, the 20–30 age group showed the highest positive perception (37 out of 133), while the 31–40 age group reported the highest low perception (67 out of 157).
- Similar trends were observed for executives, where the 31–40 age group displayed the highest low perception (49 out of 123), while

younger employees (20–30 years) showed the most positive perception.

Perception of HRD Policies by Location:

- The perception of HRD policies was analyzed for executives and non-executives across Dibrugarh, Kamrup, and Silchar.
- The highest number of employees with low perception for both executives (48) and non-executives (63) was recorded in Kamrup, indicating location-specific dissatisfaction with HRD policies.
- However, Kamrup also had a higher number of employees with a high perception of HRD policies, showing that employee experience with HRD policies is diverse in this location.

Perception of HRD Policies by Experience:

- The perception of HRD policies was categorized by experience levels: 0–5, 5–10, 10–20, and over 20 years.
- Employees with 5–10 years of experience had the highest low perception (38 for executives, 44 for non-executives), suggesting that mid-level experience employees perceive HRD policies more negatively.
- Employees with over 20 years of experience reported fewer negative perceptions, indicating that longer-tenure employees have a more positive or neutral view of HRD policies.

Factor Analysis of HRD Policies:

- Factor analysis was conducted to identify the underlying dimensions of HRD policies for executives and non-executives.
- KMO (Kaiser-Meyer-Olkin) Measure was 0.683 for executives and 0.633 for non-executives, indicating adequate sampling for factor analysis.

- Three key factors were extracted for both executives and non-executives, explaining 52.34% of the variance for executives and 51.29% for non-executives.
- Top contributing variables for executives were:
 - Q46: Accurate job description (Loading = 0.797)
 - Q47: Encouragement for innovation (Loading = 0.721)
- Top contributing variables for non-executives were:
 - Q44: Conducive atmosphere for skill development (Loading = 0.708)
 - Q45: Employee well-being measures (Loading = 0.656)

6.4 VALIDITY OF HYPOTHESIS TESTING

Hypothesis 1 (H1)

Statement of Hypothesis:

H1: There is a significant contribution of ‘General Climate’ in the overall HRD climate of BSNL.

Test Methodology:

1. Grouping of Constructs/Dimensions:

- The dimension of **General Climate** was examined to understand its contribution to the overall HRD climate of BSNL.
- Seven key items from the questionnaire were included to measure employee perceptions regarding the General Climate.

Statistical Test Used:

- **Descriptive Analysis:** Mean and standard deviation were calculated to understand how employees (Executives and Non-Executives) perceive the General Climate.
- **Correlation Analysis:** Used to determine the strength of the relationship between the General Climate and the overall HRD climate.
- **Regression Analysis:** Employed to evaluate the extent to which the General Climate influences the overall HRD climate.

2. Results:

- The **overall mean score** for General Climate was **3.62 for Non-Executives** and **3.56 for Executives**, indicating a moderately favorable perception for both groups.

Correlation Analysis:

- The correlation coefficient for Executives was **0.636** ($p = 0.000$), showing a moderate to strong positive relationship with the overall HRD climate.
- For Non-Executives, the correlation coefficient was **0.967** ($p = 0.000$), indicating a very strong positive relationship.

Regression Analysis:

- For Executives, the R^2 value was **0.405**, meaning that **40.5% of the variance in the overall HRD climate** can be explained by the General Climate for executives.
- For Non-Executives, the R^2 value was **0.485**, meaning that **48.5% of the variance in the overall HRD climate** can be explained by the General Climate for non-executives.

Decision on Hypothesis:

- The findings from the **correlation analysis** ($r = 0.636$ for executives, $r = 0.967$ for non-executives) and **regression analysis** ($R^2 = 0.405$ for executives, $R^2 = 0.485$ for non-executives) suggest that the General Climate significantly contributes to the overall HRD climate.
- Therefore, the null hypothesis (**H1: There is no significant contribution of General Climate in the overall HRD climate of BSNL**) is **rejected**.
- It can be concluded that the General Climate has a **significant and positive contribution to the overall HRD climate** for both executive and non-executive employees.

Hypothesis 2 (H2)

Statement of Hypothesis:

H2: There is a significant contribution of OCTAPAC culture in the overall HRD climate of BSNL.

Test Methodology:

1. Grouping of Constructs/Dimensions:

- The concept of **OCTAPAC Culture** was divided into the following key components:
 - **Openness**
 - **Confrontation**
 - **Trust**
 - **Autonomy**
 - **Proactivity**
 - **Authenticity**
 - **Collaboration**
 - **Experimentation**

- Data was collected using items from the questionnaire that assessed these values.

2. Statistical Test Used:

- **Descriptive Analysis:** Mean and standard deviation were calculated to measure how well employees perceive each of the OCTAPAC components.
- **Correlation Analysis:** Measured the relationship between the OCTAPAC culture and the overall HRD climate.
- **Regression Analysis:** Used to quantify the contribution of OCTAPAC culture to the overall HRD climate.

3. Results:

Correlation Analysis:

- For Executives, the correlation coefficient was **0.923** ($p = 0.000$), indicating a very strong positive relationship with the overall HRD climate.

- For Non-Executives, the correlation coefficient was **0.783** ($p = 0.000$), indicating a strong positive relationship.

Regression Analysis:

- For Executives, the R^2 value was **0.853**, meaning that **85.3% of the variance in the overall HRD climate** can be explained by the OCTAPAC culture for executives.
- For Non-Executives, the R^2 value was **0.613**, meaning that **61.3% of the variance in the overall HRD climate** can be explained by the OCTAPAC culture for non-executives.

Decision on Hypothesis:

- The results from the **correlation analysis** ($r = 0.923$ for executives, $r = 0.783$ for non-executives) and **regression analysis** ($R^2 = 0.853$ for executives, $R^2 = 0.613$ for non-executives) provide strong evidence that the OCTAPAC culture contributes significantly to the overall HRD climate.
- Hence, the null hypothesis (**H2: There is no significant contribution of OCTAPAC culture in the overall HRD climate of BSNL**) is rejected.
- It is concluded that **OCTAPAC culture has a significant and positive contribution to the overall HRD climate**, with a more substantial impact on executives compared to non-executives.

Hypothesis 3 (H3)

Statement of Hypothesis:

H3: There is a significant contribution of HRD Mechanism in the overall HRD climate of BSNL.

Test Methodology:

Grouping of Constructs/Dimensions:

- Ten key items from the 38-item questionnaire were included to assess HRD Mechanisms.
- Key areas analyzed include training, career development, welfare, feedback, and guidance from senior employees.

Statistical Test Used:

- **Descriptive Analysis:** Mean and standard deviation were calculated to measure how employees perceive HRD Mechanisms.
- **Correlation Analysis:** Used to measure the relationship between HRD Mechanisms and the overall HRD climate.
- **Regression Analysis:** Conducted to determine the extent to which HRD Mechanisms influence the overall HRD climate.

1. Results:

Correlation Analysis:

- For Executives, the correlation coefficient was **0.813** ($p = 0.000$), indicating a strong positive relationship with the overall HRD climate.
- For Non-Executives, the correlation coefficient was **0.830** ($p = 0.000$), indicating a strong positive relationship.

Regression Analysis:

- For Executives, the R^2 value was **0.660**, meaning that **66% of the variance in the overall HRD climate** can be explained by HRD Mechanisms for executives.
- For Non-Executives, the R^2 value was **0.690**, meaning that **69% of the variance in the overall HRD climate** can be explained by HRD Mechanisms for non-executives.

Decision on Hypothesis:

- The findings from the **correlation analysis** ($r = 0.813$ for executives, $r = 0.830$ for non-executives) and **regression analysis** ($R^2 = 0.660$ for executives, $R^2 = 0.690$ for non-executives) provide strong evidence that HRD Mechanisms contribute significantly to the overall HRD climate.
- Therefore, the null hypothesis (**H3: There is no significant contribution of HRD Mechanism in the overall HRD climate of BSNL**) is rejected.
- It is concluded that **HRD Mechanisms significantly contribute to the overall HRD climate**, with a slightly higher impact on non-executives than executives.

Hypothesis 4 (H4)

Statement of Hypothesis:

H4: There is no significant difference in the perception of employees regarding the HRD Climate with respect to their demographic profile (Gender, Age, Education, Experience, and Income).

Test Methodology:

1. Grouping of Constructs/Dimensions:

- The perception of the HRD Climate was assessed for both **Executive and Non-Executive** employees.
- The following demographic variables were analyzed for their influence on HRD Climate perception:
 - **Gender**
 - **Age**
 - **Education**
 - **Experience**
 - **Income**

Statistical Test Used:

- **Independent Sample t-test:** Used to assess differences in perception based on **Gender**.
- **ANOVA (Analysis of Variance):** Used to analyze differences in perception for **Age, Education, Experience, and Income**.
- **Tukey's HSD Test:** Used for post-hoc analysis to identify specific group differences in perception.

Results:

Gender:

- **t-test for Non-Executives:** $p = 0.448$ ($p > 0.05$)
- **t-test for Executives:** $p = 0.815$ ($p > 0.05$)
- **Decision:** The p-values for both executive and non-executive employees are greater than 0.05, indicating no significant difference in HRD Climate perception based on gender.

Age:

- **ANOVA for Non-Executives:** $F = 3.324$, $p = 0.020$ ($p < 0.05$)
- **ANOVA for Executives:** $F = 1.112$, $p = 0.345$ ($p > 0.05$)

Tukey's Test (Non-Executives):

- Significant difference observed between **31-40 years** and **41-50 years** age groups, with $p = 0.011$ ($p < 0.05$).
- No significant differences in perception were observed for other age group comparisons.

Decision: The perception of HRD Climate is significantly different for **Non-Executive employees** across age groups, particularly between **31-40 years** and **41-50 years**. For **Executives**, there is no significant difference in perception of HRD Climate based on age.

Education:

- **ANOVA for Non-Executives:** $F = 0.794$, $p = 0.530$ ($p > 0.05$)
- **ANOVA for Executives:** $F = 0.890$, $p = 0.470$ ($p > 0.05$)

Tukey's Test:

- No statistically significant differences in HRD Climate perception were observed for any educational qualification comparisons for both executives and non-executives.

Decision: There is **no significant difference** in the perception of HRD Climate based on the educational qualifications of employees.

Experience:

- **ANOVA for Non-Executives:** $F = 0.754$, $p = 0.521$ ($p > 0.05$)
- **ANOVA for Executives:** $F = 1.101$, $p = 0.349$ ($p > 0.05$)

Tukey's Test:

- No statistically significant differences in HRD Climate perception were observed for any experience-level comparisons for both executive and non-executive employees.

Decision: There is **no significant difference** in the perception of HRD Climate based on work experience for both executive and non-executive employees.

Income:

- **ANOVA for Non-Executives:** $F = 0.433$, $p = 0.785$ ($p > 0.05$)
- **ANOVA for Executives:** $F = 1.006$, $p = 0.345$ ($p > 0.05$)

Tukey's Test:

- No statistically significant differences in HRD Climate perception were observed for any pairwise comparisons of income brackets for both executive and non-executive employees.

Decision: There is **no significant difference** in the perception of HRD Climate based on income for both executive and non-executive employees.

Decision on Hypothesis 4:

- The perception of HRD Climate is significantly influenced by **Age** for **Non-Executive employees**, specifically between the **31-40 and 41-50 age groups**.
- For the demographic variables **Gender, Education, Experience, and Income**, there is **no significant difference** in the perception of HRD Climate for both Executive and Non-Executive employees.
- Therefore, the null hypothesis (**H4: There is no significant difference in the perception of employees regarding HRD Climate with respect to their demographic profile**) is **partially rejected**.

Hypothesis 5 (H5)

Statement of Hypothesis:

H5: There is no significant difference in the perception of employees regarding HRD Climate across the select units of the study (Dibrugarh SSA, Kamrup SSA, and Silchar SSA).

Test Methodology:

1. Grouping of Constructs/Dimensions:

- Perception of HRD Climate was assessed for both **Executive and Non-Executive** employees at the three select units of BSNL:
 - **Dibrugarh SSA**
 - **Kamrup SSA**
 - **Silchar SSA**

Statistical Test Used:

- **ANOVA (Analysis of Variance):** Used to analyze differences in perception of HRD Climate for employees across the three units.
- **Tukey's HSD Test:** Used for post-hoc analysis to identify specific differences in perception between the units.

Results:

1. ANOVA:

- **ANOVA for Non-Executives:** $F = 2.654$, $p = 0.072$ ($p > 0.05$)
- **ANOVA for Executives:** $F = 0.049$, $p = 0.952$ ($p > 0.05$)

Tukey's Test:

- For Non-Executives, the difference in perception between **Kamrup and Silchar** had a p-value of **0.059**, which is close to the 0.05 threshold but not statistically significant.
- No other significant differences were observed in perception between the three locations for both Executive and Non-Executive employees.

Frequency Analysis:

For Non-Executives:

- Employees from **Kamrup** have the highest number of employees with **moderate and high perception**.
- Employees from **Silchar** have the highest number of employees with **low perception**, indicating relative dissatisfaction with the HRD Climate.

For Executives:

- The largest number of employees with **low perception** is from **Kamrup**, while the highest number of employees with **high perception** is from **Dibrugarh**.

Decision on Hypothesis 5:

- The **ANOVA results** ($p > 0.05$) for both executive and non-executive employees suggest that there is **no significant difference** in perception of HRD Climate across the locations **Dibrugarh, Kamrup, and Silchar**.
- The **Tukey's Test** for Non-Executives indicated a borderline significant difference between **Kamrup and Silchar** ($p = 0.059$). Although it is not

statistically significant at the 0.05 level, it suggests a potential difference worth exploring in future research.

- Therefore, the null hypothesis (**H5: There is no significant difference in the perception of employees regarding HRD Climate in the select units of the study**) is **accepted**, as there is no statistically significant difference.

Hypothesis 6 (H6)

Statement of Hypothesis:

H6: There is no significant difference in the recent challenges faced by the employees in the select units of the study (Dibrugarh SSA, Kamrup SSA, and Silchar SSA).

Test Methodology:

1. Grouping of Constructs/Dimensions:

- The perception of recent challenges faced by employees of BSNL was assessed for both **Executive and Non-Executive** employees.
- The analysis focused on the following **select units of the study**:
 - **Dibrugarh SSA**
 - **Kamrup SSA**
 - **Silchar SSA**
- A total of **13 items** were used to measure the perception of challenges, as outlined in the **Descriptive Statistics Table**. These items covered topics such as job rotation, communication, training, and learning opportunities.

2. Reliability and Validity Assessment:

- **Cronbach's Alpha** was used to check the internal consistency of the questionnaire. The **alpha value of 0.780** indicates **good reliability**, meaning the items used to measure challenges are internally consistent and reliable.
- **KMO and Bartlett's Test** was conducted to assess the adequacy of the data for factor analysis.
 - **KMO value = 0.555**, which is considered **mediocre but acceptable**.

- Bartlett's Test of Sphericity was significant ($\chi^2 = 1100.532$, $p < 0.05$), indicating that the data is suitable for factor analysis.

Statistical Test Used:

- **ANOVA (Analysis of Variance):** Used to analyze differences in perceptions of recent challenges faced by employees at the three units.
- **Tukey's HSD Test:** Used for post-hoc analysis to identify specific differences in perception between units.

Results:

1. Reliability and Validity:

- **Cronbach's Alpha = 0.780**, indicating **good internal consistency** for the 13 items used to measure the recent challenges faced by employees.
- **KMO = 0.555** and **Bartlett's Test ($p < 0.05$)** confirm the suitability of the data for factor analysis, validating that the survey items measure the same underlying construct.

2. Descriptive Statistics:

- The mean scores for the perception of challenges faced by executives and non-executives across 13 statements were relatively consistent, with executive scores ranging from **3.33 to 3.76** and non-executive scores ranging from **3.34 to 3.65**.
- Both executive and non-executive employees perceive challenges related to **effective communication, promotion fairness, and training opportunities**.

3. Cross-Tabulation:

Executive Employees:

- In **Dibrugarh**, 32 executives exhibit low perception, 35 moderate perception, and 19 high perception regarding challenges.
- In **Kamrup**, 34 executives exhibit low perception, 52 moderate perception, and 36 high perception.
- In **Silchar**, 16 executives exhibit low perception, 37 moderate perception, and 28 high perception.

Non-Executive Employees:

- In **Dibrugarh**, 46 non-executives exhibit low perception, 40 moderate perception, and 43 high perception regarding challenges.
- In **Kamrup**, 63 non-executives exhibit low perception, 48 moderate perception, and 47 high perception.
- In **Silchar**, 48 non-executives exhibit low perception, 38 moderate perception, and 43 high perception.

4. ANOVA:

ANOVA for Executives:

- **F = 3.346, p = 0.037** ($p < 0.05$)
- This indicates a statistically significant difference in perceptions of challenges faced by executives across the three units (Dibrugarh, Kamrup, and Silchar).

ANOVA for Non-Executives:

- **F = 0.358, p = 0.699** ($p > 0.05$)
- This indicates that there is **no statistically significant difference** in perceptions of challenges faced by non-executives across the three units.

5. Tukey's HSD Test:

Executive Employees:

- **Dibrugarh vs. Kamrup:** Mean Difference = -0.168, $p = 0.254$ ($p > 0.05$)
- **Dibrugarh vs. Silchar:** Mean Difference = **-0.299**, $p = 0.028$ ($p < 0.05$)
- **Kamrup vs. Silchar:** Mean Difference = -0.132, $p = 0.440$ ($p > 0.05$)
- The test reveals a **statistically significant difference** in perceptions of challenges between executives in **Dibrugarh and Silchar**, while the other location pairs do not show significant differences.

Non-Executive Employees:

- **Dibrugarh vs. Kamrup:** Mean Difference = 0.078, $p = 0.711$ ($p > 0.05$)
- **Dibrugarh vs. Silchar:** Mean Difference = 0.016, $p = 0.988$ ($p > 0.05$)
- **Kamrup vs. Silchar:** Mean Difference = -0.063, $p = 0.803$ ($p > 0.05$)
- The test indicates that there is **no significant difference** in the perception of challenges faced by non-executive employees across the three units.

Decision on Hypothesis 6:

- The **ANOVA results** ($p = 0.037$ for executives, $p = 0.699$ for non-executives) and **Tukey's HSD test** indicate that there is a **statistically significant difference in the perception of challenges faced by executive employees across Dibrugarh, Kamrup, and Silchar**, particularly between **Dibrugarh and Silchar**.
- For **non-executive employees**, no significant difference is observed in perceptions of challenges across the three units.
- Therefore, the null hypothesis (**H6: There is no significant difference in the recent challenges faced by employees in the select units of the study**) is:
- **Rejected for Executive Employees.**
- **Accepted for Non-Executive Employees.**

Table 6.1: Summary of Hypotheses Validation

Hypothesis	Hypothesis Statement	Statistical Test Used	Results	Decision
H1	There is a significant contribution of ‘General Climate’ in the overall HRD climate of BSNL.	Correlation and Regression	Executives: $r = 0.636$, $R^2 = 0.405$ ($p < 0.05$) Non-Executives: $r = 0.967$, $R^2 = 0.485$ ($p < 0.05$)	Rejected (Significant contribution)
H2	There is a significant contribution of OCTAPAC culture in the overall HRD climate of BSNL.	Correlation and Regression	Executives: $r = 0.923$, $R^2 = 0.853$ ($p < 0.05$) Non-Executives: $r = 0.783$, $R^2 = 0.613$ ($p < 0.05$)	Rejected (Significant contribution)
H3	There is a significant contribution of HRD Mechanism in the overall HRD climate of BSNL.	Correlation and Regression	Executives: $r = 0.813$, $R^2 = 0.660$ ($p < 0.05$) Non-Executives: $r = 0.830$, $R^2 = 0.690$ ($p < 0.05$)	Rejected (Significant contribution)

			0.05)	
H4	There is no significant difference in the perception of employees regarding HRD Climate with respect to their demographic profile (Gender, Age, Education, Experience, and Income).	t-test, ANOVA, Tukey's HSD	Gender: $p > 0.05$ (No difference for both groups) Age: $p = 0.020$ (Significant for Non-Executives) Education: $p > 0.05$ (No difference) Experience: $p > 0.05$ (No difference) Income: $p > 0.05$ (No difference)	Partially Rejected (Age significantly affects Non-Executive perceptions)
H5	There is no significant difference in the perception of employees regarding HRD Climate in the select units of the study (Dibrugarh SSA, Kamrup SSA, and Silchar SSA).	ANOVA, Tukey's HSD	Executives: $p = 0.037$ ($p < 0.05$) Significant difference between Dibrugarh and Silchar ($p = 0.028$) Non-Executives: p	Partially Rejected (Significant difference for Executives, not for Non-Executives)

			= 0.699 ($p > 0.05$) (No significant difference)	
H6	There is no significant difference in the recent challenges faced by employees in the select units of the study (Dibrugarh SSA, Kamrup SSA, and Silchar SSA).	ANOVA, Tukey's HSD	Executives: $p = 0.037$ ($p < 0.05$) Significant difference between Dibrugarh and Silchar ($p = 0.028$) Non-Executives: $p = 0.699$ ($p > 0.05$) (No significant difference)	Partially Rejected (Significant difference for Executives, not for Non-Executives)

6.5 The major findings of the study

- It is observed that the employees are given substantial importance and humanly treatment by the top management but the overall quality of work life and welfare measure provided to the employees of BSNL are found to be average and there is a fair scope of improving it.
- The overall status of the of the organizational development is turned out to be very low in BSNL at both the level of employees i.e. executive and non-executive.
- Training and development practices are good in BSNL especially at non-executive level. Employees of the organization have been seen serious regarding the adequate help they have been provided at work. Management need to work upon conducting appropriate training programs according to the genuine needs of the employees.
- In the organization, at non-executive level, the employees are satisfied with the training and development measures provided to them but the organization may not reward the employees for their performance.
- The practices of motivating and encouraging the level of participation among employees is found average especially at non-executive level.
- The BSNL has formal training programs and HRD mechanisms, but the coverage, frequency and relevance (to new technologies/customer oriented skills) are inconsistent across circles/SSAs.
- OCTAPACE cultural measures in BSNL found substantial variations in HRD Climate across SSAs. Participative culture, openness and trust, ability to experiment score better, HRD initiatives produced stronger results.

6.6 CONCLUSION

After examining the findings and observations from the present study, it can be concluded that there exists a positive HRD climate in BSNL, Assam Telecom Circle, with well-structured HRD policies and practices. The employees of the organization are aware of and engaged with the HRD mechanisms in place, with varying degrees of satisfaction observed across different categories of employees. The study reveals that General Climate, HRD Mechanism, and OCTAPAC Culture are the key dimensions that significantly shape the perception of HRD climate within the organization. It was also observed that employees perceive a strong relationship between these HRD practices and their overall satisfaction, engagement, and development within the organization.

The results further suggest that the demographic profile of employees, such as age, significantly influences their perception of HRD climate, particularly for non-executive employees. While gender, education, experience, and income had no significant impact on the perception of HRD climate, age emerged as a critical determinant, especially for non-executives, where significant differences were observed between employees aged 31-40 and 41-50 years. These findings highlight the need for age-specific HR interventions to improve employee satisfaction and address differences in expectations across age groups.

Another key finding from the study was the impact of location on employee perception of HRD climate. For executive employees, significant differences in HRD climate perception were observed across the three units of Dibrugarh, Kamrup, and Silchar, with a notable distinction between Dibrugarh and Silchar. This indicates that location-specific challenges exist for executives, requiring tailored HR interventions for the specific needs of each unit. For non-executive employees, no significant differences in perception were found across the three units, suggesting that non-executives have a more consistent experience of HRD climate across locations.

The study also identified several key challenges faced by employees. Issues related to job rotation, training, communication, and performance appraisal were highlighted as areas requiring improvement. The findings show that both

executive and non-executive employees encounter similar challenges, but executives in Dibrugarh and Silchar face unique challenges, as indicated by significant differences in their perception of HRD climate. The Cronbach's Alpha value of 0.780 for the 13-item questionnaire demonstrates good internal consistency, confirming that the items reliably measure employee perceptions and challenges. The KMO value of 0.555 and the significant result of Bartlett's Test ($p < 0.05$) further validate the adequacy of the data for factor analysis.

The results of the study demonstrate that the proposed hypotheses were statistically tested, and significant results were obtained. The General Climate, HRD Mechanism, and OCTAPAC Culture were found to have a strong impact on the HRD climate of BSNL. In addition, the perception of HRD climate was significantly influenced by age and location for specific categories of employees. However, other demographic factors such as gender, education, experience, and income did not show significant differences in perception. The analysis of employee perceptions of challenges revealed that certain units, particularly Dibrugarh and Silchar, require tailored interventions to enhance the HRD climate for executive employees.

The overall findings of the study provide evidence that BSNL, Assam Telecom Circle, maintains a congenial HRD climate, characterized by positive employee engagement, transparent HRD mechanisms, and a growth-oriented work culture. The presence of strong HRD practices has contributed to employee satisfaction and facilitated effective human resource development. To maintain this positive environment and further strengthen HRD practices, location-specific interventions for executives and age-specific training programs for non-executives are recommended.

These insights emphasize the need for customized HR strategies and continuous improvement of HRD practices to address employee-specific and unit-specific challenges. By focusing on the areas identified in this study, BSNL can enhance employee engagement, satisfaction, and overall organizational performance, thereby creating a more dynamic, inclusive, and development-oriented HRD climate.

6.7 Suggestions and Recommendations

- Develop and implement focused training programs that are tailored to the current telecommunication environment and specific skills required. Employee competency and response to new technologies would be developed this way.
- To make the workplace open and involve decision-making, employees tend to contribute in a positive manner. Their morale and output would increase this way.
- Make policies flexible to accommodate work arrangements and initiatives aimed at mental well-being. A healthy and balanced environment at work results in fewer burnouts and increased employee satisfaction and productivity in general.
- Invest in leadership training and ensure that there is always an effective pipeline of leaders. Strong leadership is considered key in facilitating the navigation of challenges as well as motivating employees during various stages of change.
- Focus first on initiatives concerning physical and mental wellness. The provision of wellness programs increases employee satisfaction, reduces absenteeism, and leads to a healthier workplace culture.
- Create an environment that encourages continuous learning and keeps opportunities for professional development open. Employees will view such a culture as learner-friendly and kept current, thus making them better equipped to stay innovative and adaptive in the organization.
- Regular surveys and feedback to ascertain the level of employee satisfaction with the organizational climate. With continuous feedback, Human Resource strategies have direction and can be adjusted in time to ensure that they actually meet employees' needs and serve the organization's best interests.
- In BSNL, the management should emphasize on the present personal policies and includes all those matters which affect the employees and govern their services, such as trainings, promotions, allowances, welfare measures etc.

- The managerial autonomy of BSNL should be preserved through greater delegation of power and authority.
- Superiors should guide their juniors for the career growth and advancement. Top management should make such policies which ensures the employees development and make sure that the employees are aware with the policies so formulated.

6.8 Implication of the Study

The study "Human Resource Development Climate and Emerging Challenges of BSNL: A Study in Assam" has extremely significant implications for the strategic direction of the organization. It underlines the need for BSNL to reform its human resource practices to cope efficiently with the emerging challenges in the telecom sector. Looking ahead, BSNL can face these telecommunications technological changes by moving its human resource development efforts towards an improved form of training and development programs for its workforce. The study further emphasizes that a positive organizational climate is important for the engagement and retention of employees, especially at such transitional periods. Results in the present study have shown that building leadership capabilities and implementing workable performance management systems will help address operational challenges. Attention to employee well-being and work-life balance also seem to reduce turnover while enhancing job satisfaction. All these lessons together must remind BSNL to proactively develop its human resources so that it can compete and sustain its future growth.

6.9 Limitations and Challenges

Sample Size

The study was limited by the small sample that may not generalize the results. A smaller population cannot represent the wide variety of employee demographics and experiences in BSNL.

Area of the Study: The present study has been conducted in Assam Telecom Circle. As BSNL is a large organization, the result may not be generalized to the whole of the country.

External Factors

Government policies and market competition can be external, so it may not be able to comprehend all such factors in the study, hence limiting contextual understanding.

Limited Scope

The study does not consider various dimensions of human resource development, such as international HR practices or advancement in technology, which might be missing aspects that could impact the overall HR climate.

6.10 Future Research Directions

- Analyze studies wherein BSNL is compared to other telecom operators to understand appropriate HR development practices. Such studies might refer to strategies and benchmarks that worked for other organizations and can be inducted for BSNL.
- Examine the impact of newer technologies like AI and machine learning are having on the areas of HR within BSNL. This research may investigate how technology changes training practices, employee engagement, and performance management practices for BSNL.
- Analyze specific employee well-being initiatives and identify whether they enhance job satisfaction and productivity. Future studies can identify which of these programs would benefit BSNL employees.
- Examine the dynamics of organizational culture and interpret how these influence HRD practices. Knowledge of the impact of cultural dynamics on employee behavior and other HR policies allows customized and effective strategies.

- Study the best practices of change management within BSNL during times of change. Knowledge of how employees have reacted and how they are accommodated could help in a smoother transition in HR practices.
- Develop innovative measurement metrics for measuring employee engagement and employee satisfaction which would be industry-specific for the telecom company. This study can lead to identifying some more precise details about the effectiveness of HR interventions at BSNL.
- How can BSNL leverage its largest rural legacy and public sector mandate to deliver digitally inclusive outcomes in the 5G era and what HRD and organizational changes are needed.
- Impact of revival packages, restructuring and new strategic direction on employee morale and performances.

QUESTIONNAIRE

Dear Sir/Madam,

I am **FAZLUL KARIM**, a Ph.D. research scholar of the Department of Commerce, Mizoram University, request you to kindly spare a few minutes of your valuable time in filling up the questionnaire. The information gathered through the questionnaire will be used for preparing the thesis titled “**Human Resource Development Climate and Emerging Challenges of BSNL: A Case Study in Assam**” for the fulfillment of a **Ph.D.** degree. I assure you that the information collected from you will be used only for academic purposes. Your kind co-operation will be highly appreciated.

Thanking you.

Part-I

Demographic Profile of the respondents

Name of the respondent:
(optional).....

1. Gender:

Male	Female

2. Designation:

Executive	Non-Executive

3. Age Group:

20-30 Years	31-40 years	41-50 years	51-60 years

4. Marital status:

Married	Single

5. Educational Qualification:

10 th Pass	10+2 Pass	Graduation	Post-Graduation	Others

6. Salary:

20000-30000	30001-40000	40001-50000	50001-60000	Above 60000

7. Job experience:

0- 5 years	5-10 years	10-20 years	Above 20 years

Part-B

Information about HRD Climate

This part of the questionnaire contains 38 statements describing the HRD climate of an organization. Please give your assessment of the HRD climate in your organization by rating your organization on each statement using a 5-point scale. A rating of 5 indicates that the statement is almost always true with your organization; a rating of 4 indicates that the statement is mostly true; a rating of 3 indicates that the statement is sometimes true; a rating of 2 indicates that the statement is rarely true; a rating of 1 indicates that the statement is not at all true about your organization.

5 = Almost always true

4 = Mostly true

3 = Sometimes true

2 = Rarely true

1 = Not at all true

Please tick to the relevant statement, which is considered most appropriate as per your perception.

SL NO	Statement	5	4	3	2	1
General Climate – Top Management Support for HRD						
1	The top management of the organization goes out of its way to make sure that employees enjoy their work.					
2	The top management believes that human resources are an extremely important resource and that they have to be treated more humanly.					
3	The development of the subordinates is seen as an important part of their job by the managers or officers here.					
4	The personnel policies in this organization facilitate employee development.					
5	The top management is willing to invest a considerable part of their time and other resources to ensure the development of the employees.					
6	Senior officers or executives in this organization take an active interest in their juniors and help them learn their job.					
7	The psychological climate in this organization is very conducive to any employee interested in developing himself by acquiring new knowledge and skills.					
HRD Mechanism: Implementation of HRD Sub-systems						
8	People lacking competence in doing their jobs are helped to acquire competence rather than being left unattended.					
9	Seniors guide their juniors and prepare them for future responsibilities/roles they are likely to take up.					

10	Promotion decisions are based on merit rather than favoritism.					
11	There is a mechanism in this organization to reward any good work done or any contribution made by employees.					
12	The weaknesses of employees are communicated to them in a non-threatening way.					
13	When behavior feedback is given to employees, they take it seriously and use it for development.					
14	Employees are sponsored for training programs based on genuine training needs.					
15	Career opportunities are pointed out to juniors by senior officers in the organization.					
16	This organization ensures employee welfare to such an extent that the employees can save a lot of their mental energy for work purposes.					
17	Job rotation in this organization facilitates employee development.					
OCTAPAC Culture						
	<i>OPENNESS (5 Items)</i>					
18	Employees in this organization are very informal and do not hesitate to discuss their problems with their supervisors.					
19	When an employee does good work, his supervisor takes special care to appreciate it.					
20	People in this organization do not have any fixed mental impressions about each other.					
21	Employees are not afraid to express or discuss their feelings with their superiors.					
22	Employees are not afraid to express or discuss their feelings with their subordinates.					

	COLLABORATION (3 Items)					
23	People in this organization are helpful to each other.					
24	Team spirit is of high order in this organization.					
25	The organization's plans are made known to the managerial staff to help them develop their juniors and prepare them for the future.					
	TRUST (3 Items)					
26	Managers in this organization believe that employee behavior can be changed and people can be developed at any stage of their life.					
27	When an employee makes a mistake, his supervisors treat it with understanding and help him to learn from such mistakes rather than punishing him or discouraging him.					
28	People trust each other in this organization					
	AUTHENTICITY (3 Items)					
29	Performance appraisal reports in our organization are based on objective assessment and adequate information and not on favoritism.					
30	When employees are sponsored for training, they take it seriously and try to learn from the programs they attend.					
31	Employees returning from training programs are given opportunities to try out what they have learned.					
	PROACTIVITY (1 Item)					
32	The top management of this organization makes efforts to identify and utilize the potential of the employees.					
	AUTONOMY (3 Items)					

33	Employees are encouraged to take initiative and do things on their own without having to wait for instructions from supervisors.					
34	Delegation of authority to encourage juniors to develop handling higher responsibilities is quite common in this organization.					
35	When seniors delegate authority to juniors the juniors use it as an opportunity for development.					
	CONFRONTATION (2 Items)					
36	Employees in this organization take pains to find out their strengths and weaknesses from their supervising officers or colleagues.					
37	When problems arise, people discuss these problems openly and try to solve them rather than keep accusing each other behind the back.					
	EXPERIMENTATION (1 Item)					
38	Employees are encouraged to experiment with new methods and try out creative ideas.					
Analyze the policies and procedures of human resource development in BSNL						
39	All the employees are aware of all the policies of Human Resource Development in the organization					
40	BSNL is prepared to devote a significant portion of its time and other resources to staff development.					
41	You are aware about your organizations career planning and development.					
42	The psychological atmosphere at BSNL is very friendly to an individual interested in growing personally via the acquisition of new information and skills.					
43	When developing personnel policies, the					

	development of human resources is considered.					
44	The BSNL atmosphere is conducive to the development of new skills and knowledge by workers.					
45	Employee wellbeing measures are designed in such a way that workers may save a significant amount of mental energy for work-related activities.					
46	The BSNL has an appropriate job description.					
47	BSNL are encouraged to experiment with novel techniques and novel ideas.					
challenges faced by the employees of BSNL working in Assam						
48	Social circumstances inside the organization are suitable for the employees of BSNL.					
49	If any employee commits mistakes, superiors help the employee in rectification of that mistake and gives feedback to employee to learn from the mistake.					
50	There is an open communication system among employees, superiors, supervisions and subordinates and nobody hesitate in expressing their views on discussing their feeling.					
51	Are you satisfied and comfortable with the working condition of the organization					
52	There is a well-developed human resource information system in the organization.					
53	Promotion decisions are made based on the promoted individual's abilities, not based on favoritism.					
54	Recreational welfare services like sports, library, indoor games, reading hall etc. are provided by the organization.					

55	Weaknesses of employees are communicated to them in a non-threatening way.					
56	In the organization, a specific procedure is followed in taking disciplinary action.					
57	The organizational training program are evaluated and improved based on need time to time.					
58	Housing, Medical, transportation and canteen facilities are satisfactory in the organization.					
59	Employee Grievances are handled promptly.					
60	When something unexpected occurs at work, do you generally know who to contact for assistance?					

Signature of the respondent

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List of Publication

1. **Karim, F., Singh, N.R.**, (2024). Examining Employee Perceptions of HRD Climate in BSNL's Assam Telecom Circle: A Quantitative Study. *Journal of Educational Administration: Theory and Practice*, 30(03), 2007-2014. ISSN:2148-2403
2. **Karim, F., Singh, N.R.**, (2024). Development of Human Resources BSNL's Recent Struggles and the Current Climate: An Examination of the Assam Telecom Circle: *International Journal of Creative Research Thoughts (IJCRT)*, 12(3) 504-512, ISSN:2320-2882.
3. **Karim, F., Singh, N.R.**, (2024). "Examining Human Resource Development in three Different Secondary Switching Areas of BSNL: A Case of BSNL in Assam Telecom Circle" submitted to the journal 'American Review of Political Economy' for publication.

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1. Presented a paper on the topic "Development of Human Resources BSNL's Recent Struggles and the Current Climate: An Examination of the Assam Telecom Circle" at the International Conference 'New Era of social Responsibility, Sustainability and Innovations held on March 4th -6th ,2024 held at Mizoram university,
2. Presented a paper on the topic "Examining Human Resource Development Approaches amidst Climate Shifts: A Case Study of BSNL in Assam Telecom Circle" at the conference 'Digitalization and Innovation for Sustainable Eco-System of Business' held on 19th October, 2024 at Tumkur University, Organized by Department of Studies and Research in Business Administration.

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DEPARTMENT : **COMMERCE**

TITLE OF THESIS : **Human Resource Development Climate
and Emerging Challenges of BSNL: A
Case Study in Assam**

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ABSTRACT

HUMAN RESOURCE DEVELOPMENT CLIMATE AND EMERGING CHALLENGES OF BSNL: A CASE STUDY IN ASSAM

**AN ABSTRACT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY**

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**DEPARTMENT OF COMMERCE
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INFORMATION SCIENCES**

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**HUMAN RESOURCE DEVELOPMENT CLIMATE AND EMERGING
CHALLENGES OF BSNL: A CASE STUDY IN ASSAM**

BY

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Submitted

**In partial fulfillment of the requirement of the Degree of Doctor of Philosophy
in Commerce of Mizoram University, Aizawl.**

ABSTRACT

Introduction

Human Resource Management (HRM) is quickly gaining prominence in today's world. HRM has become a key strategic instrument used by firms to create and maintain a competitive advantage in the commercial and public sectors. Businesses have also begun to recognize that the only way to obtain a competitive edge is to manage human resources, yet it is crucial to note that all organizations, particularly those in the manufacturing industry, are currently facing numerous human resource (HR) issues. Human resource difficulties for industries refer to internal & external challenges relating to the industry's regular framework. Without conquering the HR challenges, firms would struggle to thrive in today's competitive environment. The most significant HR difficulties for the sector are adhering to best practices and developing the best model for attracting and maintaining competent people who conduct the organization's mandate. The study aims to analyze the different dimensions of the Human Resource Development (HRD) climate in BSNL, Assam Telecom Circle. The study also aims to assess the employee's perception of the existing Human Resource Development (HRD) climate of BSNL, Assam Telecom Circle.

The study is conducted in Assam Telecom Circle of BSNL. The targeted population of the study consists of all the employees working in Dibrugarh, Kamrup (Guwahati), and Silchar SSA of BSNL in Assam Telecom Circle. The "sample size" of the study is 705 from the 3 selected SSAs (215 from Dibrugarh, 280 from Kamrup, and 210 from Silchar). A random sampling technique is used in this study. The study collects data from both the primary and secondary sources. The study uses MS – Excel and SPSS as statistical tools. The researcher used Arithmetic Mean, Standard deviation, ANOVA, Correlation, T-test, and Regression as statistical techniques. The results of this study give practical advice for organizational improvement and add to a thorough knowledge of HRD inside BSNL's Assam Telecom Circle. The General environment, OCTAPAC culture, and HRD

Mechanism all have a significant impact on how the HRD environment is shaped overall.

Chapter Plan

The present study has been structured and presented in the form of the following 6 chapters.

Chapter 1: Introduction

Chapter 2: Review of Literature

Chapter 3: Profile of the Bharat Sanchar Nigam Limited (BSNL)

Chapter 4: HRD Climate of BSNL, Assam Telecom Circle

Chapter 5: HR Policy and Challenges of BSNL

Chapter 6: Summary of Findings, Suggestions and Conclusions

Reference

The chapters in the study are summarized as follows:

Chapter 1: Introduction

The introduction chapter is very crucial in any research since it frames the foundation for the reminder of the work. Hence the introduction chapter in this research highlights the different important aspects related to this study such as the background of the study, rationale of the study, importance of the study, objective of the study, hypotheses of the study, research questions, the expected contribution of the study. The methodology and the research design of the are mentioned in the chapter.

Human Resource Development

T.V. Rao (1990) has defined the term Human Resource Development (HRD) and his definition is widely known as national definition of HRD as far as organizational context is concern. He defined as, “HRD is a process in which the employees of an organization are continuously helped in a planned way to:

- (a) Acquire or sharpen capabilities required to perform various functions associated with their present or expected future goals.
- (b) Develop their general capabilities as individuals and discover and exploit their own inner potentials for their own organizational purposes.
- (c) Develop an organizational culture in which superior-subordinate relationship, teamwork and collaborations among sub units are strong and contribute to the professional wellbeing, motivation of employees”.

HRD Climate

Human Resource Development (HRD) Climate is an integral part of organizational climate. It is defined as the perception of employees towards the HR development environment and process of an organization. The HR Development climate of any organization has the following characteristic or tendency (Rao T V and Abraham E S J, 1986).

- The organization must have a tendency at all levels from top management to lower-level management to treat the employees as the most important asset.
- The management of any organization must have a perception that the development of competencies among employees is job of every supervisor or manager.
- The management must have a faith in the capability of employees to change and acquire new knowledge at any stage of life.
- The management of the organization produce a tendency of open communication and discussion with the employees rather than being secretive.
- The management should encourage its employees to take risk and experiment new things.

Elements of HRD Climate

General Climate:

The General Climate of HRD of an organization deals with the importance given to human resources development in general by the top-level management and the line managers. It is the attitude and behavior of supervisors towards employee

development. The general climate deals with what the bosses of top management are doing regarding the employee development rather than saying. It focuses the actual support needed by the employee for their development

HRD Mechanism/ Sub-System:

The items dealing with HRD such as performance appraisal, potential appraisal, career planning, employee welfare promotion, transfer, feedback counselling, organizational development, rewards, quality circle, assignment group, motivation, leadership, etc. are the sub-system of HRD and the success of an organization depends on the successful implementation of these subsystem. These sub-systems are known as HRD Mechanism.

OCTAPACE Culture:

OCTAPACE is the acronym for Openness, Collaboration, Trust, Authenticity, Proactivity, Autonomy, Confrontation and Experimentation. It refers to degree of openness, collaboration, trust, authenticity, proactivity, autonomy, confrontation and experimentation in the organization. The elements in OCTAPACE culture examine the organization whether it is in favor of creativity and innovation or not. A punishment oriented and autocratic environment do not encourage critical thinking, innovation and creativity. The development of employee only possible in a congenial work environment where freedom of expression and experimentation is possible.

Research Methodology

The present study attempts to assess the HRD Climate and policies prevailing in BSNL Assam Telecom Circle. It also describes the study's conceptual framework and research methods. The research methods and related terms like concept of research, research technique, as well as the objectives and hypotheses of the study has been discussed. The study briefly includes categories of data, sampling, research area, number of participants, and data-gathering methods and methodologies. The research design and conceptual design, which introduces the essential concepts of research, are also significant aspects of the study.

Significance of the study

The present study is of great significance as it ascertains the HRD Climate of BSNL, Assam Telecom Circle. BSNL is one of the largest public sector undertakings in India. The assessment of the HRD climate and human development policies will be of immense help to the organization in particular and the government in general so that the government can formulate sound HRD policies. The study with a large sample size of 705 respondents provides scope to find out the views of different categories of employees how they differ on the issue relating to HRD Climate in the organization. The present study will help to provide scope for implementing changes in the policies relating to Human Resource Development Climate in the organization. The study will also helps the future research in the communication sector in the country.

Independent variables

In innovative research, the independent parameter would be changed or altered to investigate its consequences. Because it is unaffected by the other research variables, it is known as an “independent variable.” These expressions are frequently used in statistical data to assess how well an independent variable change may predict or characterize variance in the dependent variables. An independent variable in experimental research is a variable that is manipulated or adjusted to investigate its effects. It is called “independent” because it is unaffected by any other study variables. The “independent variables” in the study are “Human Resource Development Climate”.

Dependent variables

The dependent variable is the one that is assessed during operation and changes as a result of it. The dependent parameter reacts to the independence component. It becomes dependent when it is reliant on the “independent variable. A “dependent variable” changes in response to a change in an “independent variable”. In statistics, dependent variables are often referred to as response variables. The Dependent variable in this study is Top Management support, HRD Mechanism, OCTAPACE

Culture, company's HR policy and challenges faced by the employees in the organization.

Objective of the study

The main objective of the study is to examine the "Human Resource Development Climate and the challenges faced by BSNL employees based on an empirical survey. The study also attempts to find out the HR policies of BSNL. The specific objectives of the study are:

- a) To study the demographic profile of the employees working in BSNL Assam Telecom Circle.
- b) To analyze the different dimensions of Human Resource Development (HRD) climate in BSNL, Assam Telecom Circle.
- c) To assess the employee's perception on existing Human Resource Development (HRD) climate of BSNL, Assam Telecom Circle.
- d) To identify the recent challenges faced by the employees of BSNL working in Assam Telecom Circle.
- e) To examine and analyze the policies and procedures of human resource development in BSNL, Assam Telecom Circle.

1.8 Hypothesis of the study

H1: There is a significant contribution of 'General Climate' in the overall HRD climate of the BSNL.

H2: There is a significant contribution of the OCTAPAC culture in the overall HRD climate of the BSNL.

H3: There is a significant contribution of 'HRD Mechanism' in the overall HRD climate of the BSNL.

H4: There is no significant difference in the perception of employees regarding HRD Climate with respect to their demographic profile (Gender, Age, Education, Experience, and Income).

H5: There is no significant difference in the perception of employees regarding HRD climate in the select units of the study (Dibrugarh SSA, Kamrup SSA and Silchar SSA).

H6: There is no significant difference of recent challenges face by the employees in the select units of the study (Dibrugarh SSA, Kamrup SSA and Silchar SSA).

1.9 Research Design and Methodology

Research Design

This research is exploratory in nature and the primary data was collected from the employees of BSNL working in Assam Telecom Circle. The data collected through a well-developed questionnaire based on Likert's Scale. The HRD Climate and HR policies of the organization are analyzed. The design of the study exclusively depends on the primary data collected from the employees of three different SSAs in Assam, Telecom Circle.

1.9.1 Study Area

The study was conducted in Assam Telecom Circle of BSNL. There are three telecom circle of BSNL in Northeast of India. These are "Assam Telecom Circle, Northeast I and Northeast II". Assam telecom circle has seven "Secondary Switching Areas" (SSAs) (Bongaigaon, Dibrugarh, Jorhat, Kamrup, Nagaon, Silchar and Tezpur), "Northeast I Telecom Circle" has three SSAs (Meghalaya, Mizoram, and Tripura) and the "Northeast II Circle" has three SSAs (Nagaland, Manipur, and Arunachal Pradesh).

Targeted Population

The "target population" is the group from which the intervention may get studied and conclusions drawn. When performing cost-effectiveness research, the characteristics of the target population and any subgroups should be specified in detail. The target population refers to the whole group of individuals from which a sample may be drawn. The sample is made up of the individuals who take part in the study. Participating individuals are referred to as "participants". The targeted population of

the study consists of all the employees working in Dibrugarh, Kamrup (Guwahati) and Silchar SSA of BSNL in Assam Telecom Circle.

Table 1: Target population of employees under Assam Telecom Circle.

Name of the SSA	Number of employees								Total
	Executive				Non Executive				
	Group A		Group B		Group C		Group D		
	Male	Female	Male	Female	Male	Female	Male	Female	
Dibrugarh	17	8	53	17	173	61	57	29	415
Jorhat	8	5	51	6	131	26	69	18	314
Kamrup (Guwahati City)	26	3	121	14	302	114	210	72	862
Nagaon	7	6	59	6	147	51	71	23	370
Bongaigaon	7	1	39	9	97	43	61	26	283
Tezpur	8	4	67	11	150	41	53	33	367
Silchar	8	4	55	17	171	71	56	15	397

Source: collected from office record of BSNL, Assam

1.9.2 Sample of the study

The “sample size” of the study is 705 from the 3 selected SSAs (215 from Dibrugarh, 280 from Kamrup and 210 from Silchar). The sample size from three different SSAs (Secondary Switching Areas) has been selected based on Krejcie and Morgan (1970) sample size table. The sample distribution is given in the following table:

Table 2: Sample size of the Study

Name of the SSA	Executive	Non-Executive	Total	Sample Size
Dibrugarh	95	320	415	215
Kamrup	164	698	862	280
Silchar	84	313	397	210
Total	343	1331	1674	705

Source: Prepared by the researcher.

1.9.3 Sampling Technique

The researcher selected the sample from the population using Random Sampling Technique. For each SSA, random sample has been drawn using Krejcie and Morgan (1970) formula. For Dibrugarh, total population is 415 and 215 has been selected as sample as per the table. For Kamrup, total population is 862 and 280 has been selected as sample as per the table. For Silchar, total population is 397 and 210 has been selected as sample as per the table. Random number generated by using excel and then collected data from the respondents.

Primary data:

A primary data source is an original source of data that was gathered directly for a specific study aim or activity for the first time. A standard questionnaire is used to gather the primary data. The “questionnaire” comprises of two parts. The first part comprises of respondents' demographic profiles. The second section of the questionnaire includes the “HRD Climate Questionnaire” created by Rao and Abraham (1990) at “The Centre for HRD”, “Xavier Labour Relation Institute” (XLRI), India. The 38-item HRD climate questionnaire employs a five-point Likert's scale. The researcher added another two dimensions in the questionnaire such as HR Policy and Challenges of BSNL employees to gather information.

Statistical Tools and Techniques

Statistical tools refer to the methods, techniques, and software used to collect, analyze, interpret and present data. The statistical tools help researchers, data analyst,

data scientist to extract insights, identify patterns and make informed decision from the data. The different statistical tools used in this research are Excel, SPSS etc.

The study included several statistical techniques, such as Arithmetic Mean, Standard Deviation, ANOVA, Correlation, T-test, and Regression are used to conduct the research.

Chapter 2: Review of Literature

The literature review provides a conceptual framework for the intended research and recommends procedures, processes, data sources, and statistical measures that would be most useful in addressing the problem selected for this inquiry. The researcher's basis for developing their hypothesis is obtained from examining pertinent literature. In academia, "literature" starts with an initial writing on a subject that critically evaluates the information gathered from primary sources to further earlier studies. The quality of several different research outputs such as encyclopedias, academic papers, research journals, reports, periodicals, and online resources created by subject-matter specialists is evaluated in a literature review, which is a written document.

Some of the important Literature are given bellow:

Nadler L, (1973) Introduced the term HRD in his book “Developing Human Resources”. The author provided a conceptual umbrella under which the field began uniform using the three-fold notion of education, training and development. The term HRD was earlier known as personnel management which started to ceased by 1980s (Rao, 1982). The other experts like Inglis 1980, had predicted that by the end of 1980s, the traditional personnel function would obsolete and replace it by human resource development (HRD) come into existence as an emerging concept. He also asserted that the traditional confidential method of reporting will be replaced by process of utilization-oriented methods.

Hassan, A. et al. (2006) assessed how employees perceived “Human Resource Development (HRD)” practices, determined whether ISO certification affects the HRD system in any positive ways, and investigated the impact of HRD practices on the environment for employee development and quality orientation within the

workplace. The findings showed significant inter-organizational variations in HRD practices. Employee reviews were modest overall, though. Comparatively speaking, ISO-certified businesses achieved better means in several HRD aspects. Organizations with improved information systems, reward and recognition programs, and systems for learning, training, and development encouraged the growth of human resources. “Career management, productivity guidance and growth, role efficacy, and reward and recognition systems” all indicated quality orientation. Researchers and HR professionals can utilize the findings to raise management issues and advocate for better HRD systems and practices.

Chapter 3: Profile of the Bharat Sanchar Nigam Limited (BSNL)

Bharat Sanchar Nigam Limited (BSNL)

On September 15, 2000, BSNL was formed by the merging of two Indian telecom firms. When it was created on October 1, 2000, it took over the old Central Government department of Telecom Services (DTS) and Telecom Operations' business of providing telecommunications services and network management (DTO). Only Delhi & Mumbai are exempt from the company's countrywide telecommunications services. It is an owned subsidiary of the Indian government with a total paid-up amount of Rs. 12,500 crores (Rs. 5,000 crores equity & Rs. 7,500 crores preference share capital). In the fiscal year 2020-21, there was a net gain of Rs.18, 595 crores.

The government of India renamed the Department of Telecommunications Bharat Sanchar Nigam Limited on October 1, 2000. (BSNL). BSNL, India's largest public-sector project, and the country's largest telecommunications business have changed throughout the years. A total of around forty-five million phone lines serves 5,000 communities, and there are more than 35 million cell phone connections. BSNL, India's largest telecommunications provider, offers a wide range of products and services, including landline, mobile (GSM & CDMA), Internet, and long-distance (except Delhi & Mumbai). BSNL's network will be expanded as part of the company's Twelfth Five-Year Plan (2007-2012). By March 2012, the goal is to have a mobile phone density of 19.9 per one hundred people. BSNL and Bharti Airtel are

now battling to be the nation's third-largest GSM provider, according to most sources. BSNL is also the country's largest Internet services operator, accounting for 21percent of all Internet users in India.

2.3.1 Vision:

- Be the leading telecom service provider in India with global presence.
- Create a customer focused organization with excellence in customer care, sales and marketing.
- Leverage technology to provide affordable and innovative telecom. Services/products across customer segments.

2.3.2 Mission:

- Be the leading telecom service provider in India with global presence.
- Becoming the most trusted, preferred and admired telecom brand.
- Providing reliable telecom services that are value for money.
- Generating value for all stakeholders – employees, shareholders, vendors & business associates.
- Excellence in customer service -friendly, reliable, time bound, convenient and courteous service.
- Offering differentiated products/services tailored to different service segments.
- Developing a marketing and sales culture that is responsive to customer needs.
- Maximizing return on existing assets with sustained focus on profitability.

BSNL REVIVAL PLAN 2019:

Keeping in view the downfall performance of Bharat Sanchar Nigam Limited (BSNL) for the past six years, The Government of India announced revival plan to take control and stabilize the state-owned organization. The main components of the BSNL revival plan are given bellow:

- Voluntary Retirement Scheme (VRS-2019) for employees of age 50 years and above.
- Full cost of the Spectrum.

- Allotment of 4 G Spectrum & Full cost of the Spectrum
- Government support for Sovereign Guarantee Bonds
- BSNL Asset Monetization Scheme
- The merger of BSNL & MTNL

Voluntary Retirement Scheme (VRS-2019) to employees:

The government of India announced on 23rd October 2019 the revival package of BSNL & MTNL, in which the employees who completed 50 years of age are eligible for opting for VRS. Under this, ex-gratia of Rs.17,169 crore was allotted to meet the expenses towards pension, gratuity, and Commutations as 92,500 employees of BSNL and MTNL opted for VRS nearly 8500 crores will be saved annually towards salaries. From BSNL 78,235 employees opted for VRS. Those who opted VRS will receive 100% to 125% of the salary for the remaining service to a maximum of 42 months.

Table 3: BSNL All India employee final VRS Data

	Total Employees	Group A	Group B	Group C	Group D	I/W
Total Employees	153786	7211	37785	86757	21390	643
VRS Eligible Employees	104471	5661	11971	71007	15302	530
VRS Taken Employees	78569	4295	9010	54994	9936	334
VRS Not Taken Employees	25902	1366	2961	16013	5366	196
Remaining employees in BSNL	75217	2916	28775	31763	11454	309
Remaining 59+ age Employees	6947	304	597	5267	720	59
Remaining 58+ age Employees	1456	49	96	1095	196	20
Remaining 57+ age Employees	1534	39	112	1121	249	13
Remaining 56+ age Employees	1543	52	107	1071	305	8
Remaining 55+ age Employees	2031	55	142	1409	415	10
Remaining 54+ age Employees	2343	85	158	1475	611	14

Remaining 53+ age Employees	2471	117	249	1423	666	16
Remaining 52+ age Employees	2448	190	356	1211	678	13
Remaining 51+ age Employees	2437	221	490	989	719	18
Remaining 50+ age Employees	2402	234	592	852	706	18
Remaining 50year 1day Age on dtd 31-01-2020 Employees	300	20	62	110	101	7
Total remaining 50+ Age to 60 Year Age Employees	25912	1366	2961	16023	5366	196
Total remaining 58+ year Age to 60 Year Age Employees	8403	353	693	6362	916	79
VRS Withdrawn Count	5237					

Source: BSNL executive Association web site www.sneachq.in.

Chapter 4: HRD Climate of BSNL, Assam Telecom Circle

Introduction

In the present chapter, attempt has been made to statistically explore the collected primary data through questionnaire. The main aim of this chapter is empirically and statistically investigate the impacts that various Human Resource Development (HRD) dimensions such as top management support, HRD mechanism or sub-systems have on the perception of the employees in the select organization. The data relating to demographic factors like gender, age, salary, education, experience, designation, income, etc. are analyzed. The main purpose and aim of this chapter to empirically investigate the employee's perception on HRD Climate of Bharat Sanchar Nigam Limited (BSNL). The researchers investigate the three important dimensions of HRD climate in this chapter. The dimensions are General Climate, HRD Mechanism and OCTAPACE Culture.

The researchers also analyse and compares the perception of employees with respect to their demographic variables such as age, gender, designation, educational qualification, experience and the location of their job. The different statistical

techniques mentioned in the introduction chapter are used in this chapter of the thesis.

Data Analyses

Reliability and Validity Test

Reliability Test

Cronbach's Alpha is a commonly used reliability index, with values ranging from 0 to 1. A higher value indicates greater internal consistency among the items in the questionnaire. Typically, a Cronbach's Alpha value above 0.7 is considered acceptable, while values above 0.8 are deemed good, and values above 0.9 reflect excellent reliability.

<i>Number of Items</i>	Cronbach's Alpha for Executive	Cronbach's Alpha for Non-Executive
38	0.795	0.780

Validity Test:

The validity test was performed using two key measures: the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. These tests are crucial for assessing the suitability of the data for factor analysis, which examines the construct validity of the questionnaire.

According to Hutcheson and Safroniou (1999): 0.5-0.7: Mediocre, 0.7-0.8: Good, 0.8-0.9: Great and Above 0.9: Superb.

KMO and Bartlett's Test		Non-Executive	Executive
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.641	.640
Bartlett's Test of Sphericity	Approx. Chi-Square	4665.603	4665.603
	df	703	703
	Sig.	.000	.000

Source: Primary data compiled and computed by researcher.

Objective 1: To study the demographic profile of the employees working in BSNL Assam Telecom Circle.

The total number of employees considered in the study is 705. These employees are categorized into two main designations: Executives and Non-Executives. Out of the total, 416 employees (59%) hold non-executive positions, while 289 employees (41%) are in Executive. The researcher analyzed the demographic variables to get the result for the first objectives. The different demographic variables are gender, age, salary, job experience, location of their job, educational qualification etc.

Table 4: Comparative Demographic Profile of Executive and Non-Executive Employees at BSNL Assam Telecom Circle

Variable	Executive (N = 289)			Non-Executive (N = 416)	
	Category	Frequency	Percentage (%)	Frequency	Percentage (%)
Gender	Female	117	40.5	178	42.8
	Male	172	59.5	238	57.2
Age	20–30 years	85	29.4	105	25.2
	31–40 years	116	40.1	158	38.0
	41–50 years	44	15.2	85	20.4
	51–60 years	44	15.2	68	16.3
Marital Status	Married	151	52.2	228	54.8
	Single	138	47.8	188	45.2
Education	10th Pass	66	22.8	89	21.4
	10+2 Pass	74	25.6	122	29.3
	Graduation	95	32.9	115	27.6
	Post-Graduation	48	16.6	81	19.5
	Others	6	2.1	9	2.2
Salary (Monthly)	20,000–30,000	42	14.5	58	13.9
	30,001–	69	23.9	98	23.6

	40,000				
	40,001– 50,000	77	26.6	115	27.6
	50,001– 60,000	61	21.1	83	20.0
	Above 60,000	40	13.8	62	14.9
Job Experience	0–5 years	68	23.5	105	25.2
	5–10 years	91	31.5	117	28.1
	10–20 years	92	31.8	140	33.7
	Above 20 years	38	13.1	54	13.0
Location	Dibrugarh	86	29.8	129	31.0
	Kamrup	122	42.2	158	38.0
	Silchar	81	28.0	129	31.0

Source: Primary data compiled and computed by researcher.

Objective 2: To analyze the different dimensions of Human Resource Development (HRD) climate in BSNL, Assam Telecom Circle

H1: There is a significant contribution of ‘General Climate’ in the overall HRD climate of the BSNL.

H2: There is a significant contribution of the OCTAPAC culture in the overall HRD climate of the BSNL.

H3: There is a significant contribution of ‘HRD Mechanism’ in the overall HRD climate of the BSNL.

To assess the HRD climate in BSNL, the researcher used standard and structured questionnaire developed by Rao and Abraham (1986), and in that questionnaire, there are three dimensions such as General Climate, HRD Mechanism and OCTAPACE Culture.

General HRD Climate

To assess the General HRD Climate in BSNL, Assam Telecom Circle, seven items were selected from the questionnaire. The responses from the sample employees were collected, calculated, and presented in the following table.

Table 5: Descriptive Statistics of General Climate with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
1. The top management of the organization goes out of its way to make sure that employees enjoy their work.	3.87	1.104	3.94	1.099
2. The top management believes that human resources are an extremely important resource and that they have to be treated more humanly.	3.72	1.055	3.56	1.123
3. The development of the subordinates is seen as an important part of their job by the managers or officers here.	3.47	1.159	3.35	1.058
4. The personnel policies in this organization facilitate employee development.	3.29	1.202	3.27	1.155
5. The top management is willing to invest a considerable part of their time and other resources to ensure the development of the employees.	3.46	1.235	3.36	1.273
6. Senior officers or executives in this organization take an active interest in their juniors and help them learn their	3.88	1.271	3.89	1.290

job.				
11. The psychological climate in this organization is very conducive to any employee interested in developing himself by acquiring new knowledge and skills.	3.64	1.124	3.53	1.115
Overall Mean Score	3.62		3.56	

Source: Primary data compiled and computed by researcher.

The overall mean score is 3.62 for non-executives and 3.56 for executives, which indicates that the General HRD Climate is perceived as moderately favorable by both groups. However, the scores gravitate toward 3, suggesting that there is substantial scope for improvement in the areas of top management support, investment in employee development, and HR policies that facilitate growth. Executives tend to be slightly more critical in their evaluation than non-executives.

HRD Mechanisms

To assess the implementation of HRD mechanisms in BSNL, Assam Telecom Circle, ten items were selected from the 38-item questionnaire, specifically aimed at measuring the extent to which HRD mechanisms are implemented within the organization.

Table 6: Descriptive Statistics of HRD Mechanisms with respect to Designation of Employees.

Statements	Non-Executive		Executive	
	Mean	Standard Deviation	Mean	Standard Deviation
7. People lacking competence in doing their jobs are helped to acquire competence rather than being left unattended.	3.92	1.164	3.86	1.192
12. Seniors guide their juniors and prepare	3.82	1.213	3.85	1.190

them for future responsibilities/roles they are likely to take up.				
15. Promotion decisions are based on merit rather than favoritism.	3.63	1.239	3.64	1.177
16. There is a mechanism in this organization to reward any good work done or any contribution made by employees.	3.61	1.285	3.63	1.293
21. This organization ensures employee welfare to such an extent that the employees can save a lot of their mental energy for work purposes.	3.64	1.222	3.69	1.172
22. Job rotation in this organization facilitates employee development.	3.67	1.244	3.79	1.178
23. The weaknesses of employees are communicated to them in a non-threatening way.	3.61	1.197	3.63	1.171
24. When behavior feedback is given to employees, they take it seriously and use it for development.	3.55	1.148	3.55	1.120
28. Employees are sponsored for training programs based on genuine training needs.	3.38	1.167	3.49	1.024
36. Career opportunities are pointed out to juniors by senior officers in the organization.	3.54	1.048	3.52	1.054
Overall Mean Score	3.64		3.65	

Source: Primary data compiled and computed by researcher.

The overall mean score for non-executives is 3.64 and for executives is 3.65, showing a very similar perception of the HRD mechanisms. Both groups view the mechanisms as moderately implemented, indicating that while there are positive

practices in place (such as support for skill development and guidance from seniors), there are still areas where improvements can be made, particularly in merit-based promotions, training needs assessment, and reward systems.

OCTAPAC Culture

The OCTAPAC culture consists of eight key values: openness, confrontation, trust, autonomy, proactivity, authenticity, collaboration, and experimentation, which are crucial for fostering Human Resource Development (HRD) within the organization.

OPENNESS

Openness refers to the spontaneous expression and sharing of thoughts, feelings, and feedback without defensiveness. It involves a two-way process of both receiving and giving, whether it relates to ideas, feedback, or emotions. In the context of BSNL, openness means actively encouraging feedback and suggestions from colleagues, customers, and others, while also sharing ideas, information, and feedback without hesitation.

In the study, five items from the 38-item questionnaire specifically address Openness within the organization.

The overall mean score is 3.58 for non-executives and 3.61 for executives, indicating a moderately positive level of openness within the organization. Both groups show a similar perception of openness, with executives slightly rating it higher.

COLLABORATION

Collaboration refers to both offering and seeking help from others, working together to solve problems, and fostering team spirit. The results of effective collaboration include timely assistance, teamwork, experience sharing, enhanced communication, and better resource sharing. Indicators of collaboration may include improved productivity, increased staff involvement, more joint decisions, better resource utilization, and higher-quality meetings. In the study, three items from the 38-item questionnaire specifically focus on Collaboration within the organization.

The overall mean score for non-executives is 3.63 and for executives is 3.60, indicating a moderate level of collaboration within the organization. Both groups of employees have similar perceptions regarding collaboration, with slightly higher satisfaction in the way organizational plans are communicated for employee development. The results indicate that while there is a positive level of collaboration in terms of helpfulness, team spirit, and communication of plans.

TRUST

Trust in the context of an organization is not used in a moral sense but is demonstrated through maintaining the confidentiality of information shared by others and ensuring it is not misused. It also involves the assurance that colleagues will provide help when needed and will honor mutual commitments and obligations.

The overall mean score of 3.65 for non-executives and 3.66 for executives suggests a moderately positive trust climate in the organization, but there is still potential for strengthening trust between colleagues and across different levels of hierarchy. The consistency in perceptions between the two groups reflects a shared experience of trust-related practices within the organization.

AUTHENTICITY

Authenticity refers to the alignment between what a person feels, says, and does. It is demonstrated through acknowledging one's own mistakes and openly sharing feelings without reservation. Authenticity is closely related to openness and leads to clearer, less distorted communication within an organization.

The overall mean scores of 3.63 for non-executives and 3.6 for executives suggest that employees perceive a moderate level of authenticity in the organization's processes, especially concerning performance appraisals and the seriousness of training. However, the lower scores related to opportunities for applying training indicate that this is an area where the organization could focus efforts to improve.

PROACTIVITY

Proactivity refers to taking the initiative, planning ahead, and engaging in preventive actions, while considering the potential outcomes of various alternatives before

taking action. Unlike reactive behavior, where actions are in response to external events, proactive behavior is independent and self-initiated.

For the Proactivity dimension, the data shows that both non-executive and executive employees perceive the top management's efforts to identify and utilize employee potential at a fairly similar level. The non-executive group has a mean score of 3.61, while the executive group has a slightly lower mean score of 3.58. These mean scores indicate a moderate level of proactive behavior in the organization, with room for improvement in identifying and leveraging employee capabilities more effectively.

AUTONOMY

Autonomy refers to the ability and freedom to plan and act independently within one's area of responsibility. It involves respecting and promoting individual and role-based autonomy, fostering mutual respect, and encouraging employees to take on responsibility and show initiative.

The overall mean score for non-executives and executives 3.53 and 3.57 respectively, which shows very close overall perceptions of autonomy, reflecting moderate levels of autonomy in the organization. These scores indicate that while some autonomy is given, there is potential for further enhancing autonomy by encouraging more initiative and development opportunities for both groups.

CONFRONTATION

Confrontation refers to the act of directly addressing problems rather than avoiding them. It entails a thorough analysis of interpersonal issues and involves embracing challenges. While the term "confrontation" may carry negative connotations, it should be understood in the context of both confrontation and exploration—actively facing a problem and collaboratively seeking solutions with others.

The overall mean score for non-executives is 3.61, while executives have a mean score of 3.54. Both scores suggest a moderate level of confrontation and openness in addressing issues, but the non-executives appear to have a slightly more favorable view on these aspects.

EXPERIMENTATION

Experimentation involves utilizing and promoting innovative approaches to problem-solving, leveraging feedback for improvements, and encouraging creativity. Often, we become so focused on our daily responsibilities that we rely solely on traditional, tried-and-true methods to address challenges. While these familiar approaches can save time and energy, they may also prevent us from recognizing the benefits of exploring new solutions. Under pressure, our inclination to adopt alternative strategies diminishes, as the perceived risks associated with change may seem too high, particularly for complex problems that require fresh perspectives for resolution.

The overall mean score for non-executive and executive are 3.73 and 3.83 which are relatively high, indicating a positive perception of encouragement to experiment and innovate within the organization. This suggests that employees feel supported in trying out new methods and creative ideas, which is essential for fostering a culture of experimentation and innovation.

CORRELATION ANALYSIS

To analyze the significant contributions of the General Climate, HRD Mechanisms, and OCTAPAC Culture to the overall HRD climate, correlation analysis was performed. For this each factor was converted into a score using the formula:

$$Score = \frac{Sum\ of\ items}{No.\ of\ items}$$

This approach allowed for a clearer comparison between the various factors and their impact on the overall HRD climate.

Table 7: Correlation Analysis with respect to Designation of Employees.

Dependent Factor	Independent Factors	Executive (Correlation and sig value)	Non-Executive (Correlation and sig value)
Overall HRD Climate	General Climate	0.636 (Sig: 0.000)	0.967 (Sig: 0.000)

	HRD Mechanisms	0.813 (Sig: 0.000)	0.830 (Sig: 0.000)
	OCTAPAC Culture	0.923 (Sig: 0.000)	0.783 (Sig: 0.000)

Source: Primary data compiled and computed by researcher.

For executives, the correlation coefficient is **0.636** (p-value: 0.000), indicating a moderate to strong positive relationship with the overall HRD climate. This suggests that improvements in the General Climate are associated with enhancements in the overall HRD climate among executives. On the other hand, for non-executives, the correlation coefficient is **0.967** (p-value: 0.000), demonstrating a very strong positive relationship. This implies that non-executives experience a more significant impact from the General Climate on their perception of the overall HRD climate compared to executives.

REGRESSION ANALYSIS

Following the correlation analysis, regression analysis will be utilized to quantitatively assess the contribution of each factor to the overall HRD climate. This analysis will help establish the degree of influence that each independent variable (General Climate, HRD Mechanisms, and OCTAPAC Culture) has on the dependent variable (Overall HRD Climate). The results will offer a deeper understanding of the relationships among these variables and provide actionable insights for enhancing HRD practices within BSNL, Assam Telecom Circle.

Table 8: Regression Analysis with respect to Designation of Employees.

Factor	Executive		Non-Executive	
	R ²	Sig.	R ²	Sig.
General Climate	0.405	0.000	0.485	0.000
HRD Mechanisms	0.660	0.000	0.690	0.000
OCTAPAC	0.853	0.000	0.613	0.000

Culture				

Source: Primary data compiled and computed by researcher.

General Climate explains 40.5% of the variance in the overall HRD Climate for executives, with a significant relationship (Sig = 0.000). On the other hand, in non-executive general climate explain 48.5% of the variance for non-executives, indicating a stronger influence compared to executives, also with a highly significant relationship (Sig = 0.000). The results confirm that General Climate significantly impacts the overall HRD climate for both executive and non-executive employees. For non-executives, General Climate explains 48.5% of the variance in HRD climate, slightly higher than for executives (40.5%). This supports H1, indicating that the general perception of management's approach to HR and organizational climate is crucial, particularly for non-executive employees

Objective 3: To assess the employee's perception on existing Human Resource Development (HRD) climate of BSNL, Assam Telecom Circle.

H4: There is no significant difference in the perception of employees regarding HRD Climate with respect to their demographic profile (Gender, Age, Education, Experience and Income)

H5: There is no significant difference in the perception of employees regarding HRD climate in the select units of the study (Dibrugarh SSA, Kamrup SSA and Silchar SSA)

To assess the perception of the respondents about the HRD Climate in BSNL, the researcher performed cross tabulation based on the response provided by the respondents in Likert Scale questionnaire for both Executive and non-executive respondents. In the table, the researcher showed the High, Low and Moderate level of employee perception with regard to HRD climate in the organization. The researcher showed the perception of the employees with regard to their demographic variables.

To further assess whether there is a significant difference in the perception of the HRD climate, Independent Sample t-tests and One-Way ANOVA were applied.

Table 9: ANOVA table for different demographic profile Based on Designation of Employee

Factors	Non-Executive		Executive	
	F value	Sig	F value	Sig
Age	3.324	0.020	1.112	0.345
Income	0.433	0.785	1.006	0.345
Education	0.794	0.530	0.890	0.470
Experience	0.754	0.521	1.101	0.349
Location	2.654	0.072	0.049	0.952

Source: Primary data compiled and computed by researcher.

1. **Age:** The ANOVA results indicate that there is a significant difference in the perception of HRD climate based on age among non-executive employees, as evidenced by an F-value of 3.324 and a significance level of 0.020. This provides sufficient evidence to reject the null hypothesis, suggesting that age influences the perception of HRD climate for this group. In contrast, for executive employees, the F-value is 1.112 with a significance level of 0.345, leading to the acceptance of the null hypothesis. This indicates that, within the executive group, there is significant difference in perception based on age.
2. **Income:** The analysis of income reveals that both non-executive and executive employees exhibit significant differences in their perception of HRD climate. The F-values for non-executive and executive employees are 0.433 and 1.006, respectively, with significance levels of 0.785 and 0.345. These results provide sufficient evidence to accept the null hypothesis for both groups, indicating that income significantly affect the perception of HRD climate among the employees.
3. **Education:** Regarding educational qualifications, the F-values are 0.794 for non-executive employees and 0.890 for executive employees, with significance levels of 0.530 and 0.470, respectively. Both sets of results indicate sufficient evidence to accept the null hypothesis, suggesting that

there is significant difference in perception of HRD climate based on educational qualifications for either group.

4. **Experience:** The findings for experience show F-values of 0.754 for non-executive employees and 1.101 for executive employees, with significance levels of 0.521 and 0.349, respectively. These results further support the acceptance of the null hypothesis, indicating that experience significantly impact the perception of HRD climate for either category of employees.
5. **Location:** In terms of location, the F-value for non-executive employees is 2.654, with a significance level of 0.072, which suggests a borderline effect but does not reach statistical significance at the 0.05 level. Therefore, while there may be some differences in perception based on location, it is not statistically significant. For executive employees, the F-value is 0.049, with a significance level of 0.952, providing strong evidence to accept the null hypothesis, indicating significant difference in perception based on location

Overall, the ANOVA results suggest that demographic factors such as income, education, job experience, and location do not significantly influence the perception of HRD climate among employees at BSNL, Assam Telecom Circle, for both non-executive and executive groups. However, **age does show a significant impact for non-executive employees**, with employees in the 31-40 and 41-50 age groups exhibiting notable differences, while executive employees exhibit no significant differences based on age. Similarly, **location shows no significant differences for either group**, although there is a near-significant trend for non-executives between Kamrup and Silchar, suggesting a potential need for further investigation into regional dynamics. These findings indicate a general consistency in the perception of HRD climate across most demographic factors, but the significant influence of age for non-executives highlights its importance in shaping HRD strategies. Additionally, the lack of significant differences for other factors such as income, education, and job experience suggests that BSNL's HR policies are largely standardized and equitable. Nevertheless, the nuanced trends observed in specific comparisons (e.g., location for non-executives and age differences) emphasize the complexity of

employee perceptions of HRD climate, requiring targeted interventions to address specific demographic needs, particularly for non-executive employees.

Table 10: Independent sample t test table for Gender Based on Designation of Employee

Factor	Non-Executive	Executive
Gender	0.448 (sig.)	0.815 (sig.)

The Independent Sample t-test was conducted to assess whether there are significant differences in the perception of HRD climate based on gender for both non-executive and executive employees.

Chapter 5: HR Policy and Challenges of BSNL

Introduction

In the previous chapter, the data has been analyzed on Human Resource Development Climate. In this chapter, the data has been analyzed on human resource policy and the various challenges of BSNL employees in the organization. In this section, the researcher made an attempt to statistically explore the different HR policies and challenges associated with the employees in BSNL. To take the opinion from the respondents, the researcher designed 9 questions for HR Policy and 13 questions relating to the employee challenges in the organization.

After obtaining the information from the respondents, the researcher processed the information. After the tabulation, the weighted mean score was calculated for each statement for the total response. To get the perception differences among different groups, ANNOVA analysis conducted by the researcher. The researcher also prepares the cross tabulation to show the different level of perception with respect to demographic variables and different location of the study.

Objective 4: To identify the recent challenges faced by the employees of BSNL working in Assam Telecom Circle

To assess the result of the fourth objective, the researcher analyzed 13 nos. of questions based on the challenges of employees. The data collected and analyzed with descriptive statistics.

Table11: Descriptive Statistical analysis statement wise of Challenges of Employees

Statements	Executive		Non-Executive	
	Mean	Std. Deviation	Mean	Std. Deviation
Social circumstances inside the organization are suitable for the employees of BSNL.	3.62	1.128	3.52	1.284
If any employee commits mistakes, superiors help the employee in rectification of that mistake and gives feedback to employee to learn from the mistake.	3.37	1.110	3.44	1.191
There is an open communication system among employees, superiors, supervisions and subordinates and nobody hesitate in expressing their views on discussing their feeling.	3.52	1.014	3.47	1.018
Are you satisfied and comfortable with the working condition of the organization	3.33	1.178	3.34	1.163
There is a well-developed human resource information system in the organization.	3.37	1.195	3.37	1.158
Promotion decisions are made based on the promoted individual's abilities, not based on favoritism.	3.52	1.167	3.60	1.216
Recreational welfare services like sports, library, indoor games, reading hall etc. are	3.33	1.309	3.43	1.286

provided by the organization.				
Weaknesses of employees are communicated to them in a non-threatening way.	3.54	1.080	3.44	1.115
In the organization, a specific procedure is followed in taking disciplinary action.	3.66	1.245	3.57	1.278
The organizational training program are evaluated and improved based on need time to time.	3.66	1.240	3.61	1.299
Housing, Medical, transportation and canteen facilities are satisfactory in the organization.	3.76	.981	3.65	1.058
Employee Grievances are handled promptly.	3.49	1.185	3.59	1.171
When something unexpected occurs at work, do you generally know who to contact for assistance?	3.52	1.259	3.52	1.196

Source: Primary data compiled and computed by researcher.

Analysis of Variance:

ANOVA (Analysis of Variance) is conducted to determine whether there are statistically significant differences in the means of perceptions (low, moderate, and high) across different groups, such as locations (Dibrugarh, Kamrup, Silchar) or job categories (executive and non-executive). It is particularly useful in this context to identify whether employees' perceptions vary significantly based on their work location or designation, which can help in pinpointing specific areas where interventions are needed. By comparing the mean values across multiple groups simultaneously, ANOVA avoids the limitations of multiple pairwise comparisons and provides a robust statistical framework for evaluating differences. If significant differences are identified, post-hoc tests can further reveal which specific groups differ from one another.

Table 12: Overall ANOVA table for location showing the perception among executive and non-executive Employees

Location wise	Executive		Non-Executive	
	F value	Sig.	F value	Sig.
	3.346	0.037	0.358	0.699

The table presents the results of an ANOVA test to examine the differences in perceptions regarding HRD climate across the three locations (Dibrugarh, Kamrup, and Silchar) for both executive and non-executive employees.

Objective 5 To examine and analyze the policies and procedures of human resource development in BSNL, Assam Telecom Circle

Table 13: Descriptive Statistics Statement wise in respect to HR Policies

Statements	Executive		Non-Executive	
	Mean	Std. Deviation	Mean	Std. Deviation
All the employees are aware of all the policies of Human Resource Development in the organization	3.74	1.072	3.81	1.117
BSNL is prepared to devote a significant portion of its time and other resources to staff development.	3.74	1.110	3.74	1.167
You are aware about your organizations career planning and development.	3.39	1.174	3.51	1.089
The psychological atmosphere at BSNL is very friendly to an individual interested in growing personally via the acquisition of new information and skills.	3.69	1.218	3.74	1.214
When developing personnel policies, the development of human resources is considered.	3.38	1.453	3.60	1.432

The BSNL atmosphere is conducive to the development of new skills and knowledge by workers.	3.68	1.120	3.83	1.125
Employee wellbeing measures are designed in such a way that workers may save a significant amount of mental energy for work-related activities.	3.55	1.108	3.64	1.142
The BSNL has an appropriate job description.	3.87	1.173	3.92	1.194
BSNL are encouraged to experiment with novel techniques and novel ideas.	3.43	1.110	3.68	1.127

Source: Primary data compiled and computed by researcher.

The table compares the mean and standard deviation of executive and non-executive employees' perceptions regarding HRD policies and procedures in BSNL, Assam Telecom Circle.

Factor Analysis

Factor analysis was performed to identify the underlying dimensions or constructs influencing the policies and procedures of Human Resource Development (HRD) in BSNL, Assam Telecom Circle. The objective the aim is to examine and analyze HRD policies by reducing a large set of variables (survey items/questions) into a smaller set of factors that explain the observed patterns of correlations. This helps to uncover hidden relationships between variables, group similar items into meaningful categories, and interpret the key themes contributing to employees' perceptions of HRD policies.

Chapter 6: Summery of Findings, Suggestions and Conclusions.

Findings Based on objectives

Objective 1: To study the demographic profile of the employees working in BSNL Assam Telecom Circle.

To achieve this objective, the study collected demographic information from 705 employees of BSNL Assam Telecom Circle. The data was categorized into executive (n=289) and non-executive (n=416) employees. The following demographic variables were analyzed:

1. Gender Distribution:

- Out of 705 employees, 410 (58.16%) were males and 295 (41.84%) were females.
- Among non-executive employees, 57.21% were male, while 42.79% were female.
- Among executives, 59.52% were male, and 40.48% were female.
- The gender distribution highlights that male employees hold a higher proportion of executive roles, while female employees are more prominent in non-executive roles.

2. Age Distribution:

- The age groups were classified as 20-30, 31-40, 41-50, and 51-60 years.
- The largest age group was 31-40 years, representing 38.86% (274 employees) of the total sample.
- Among non-executives, 31-40 years was the largest group (158 employees, 37.98% of non-executives), while the executive category had a similar pattern with 40.14% (116 employees) in the same age range.
- This demographic insight emphasizes that the 31-40 age group forms the core workforce, indicating that mid-career employees hold significant positions in the organization.

3. **Marital Status:**

- The analysis revealed that 53.76% (379) of employees were married, while 46.24% (326) were single.
- Among non-executives, 54.81% were married, and 45.19% were single.
- Among executives, 52.25% were married, and 47.75% were single.
- This distribution suggests that the majority of the workforce is married, potentially reflecting a workforce at a mid-to-late stage in their careers.

4. **Educational Qualification:**

- Employees had diverse educational backgrounds, categorized as 10th Pass, 10+2 Pass, Graduation, Post-Graduation, and Others.
- The most common educational qualifications were Graduation (29.79%, 210 employees) and 10+2 Pass (27.80%, 196 employees).
- Non-executive employees were mostly 10+2 Pass (122 employees, 29.33%), while executives had a larger proportion of graduates (95 employees, 32.87%).
- The educational profile suggests that while a significant portion of non-executive employees have a basic qualification (10+2 Pass), executives generally possess higher qualifications like Graduation and Post-Graduation.

5. **Income Level:**

- Employees were grouped into five salary brackets: ₹20,000-₹30,000, ₹30,001-₹40,000, ₹40,001-₹50,000, ₹50,001-₹60,000, and Above ₹60,000.
- The largest proportion of employees (27.23%) earned in the ₹40,001-₹50,000 range.
- Non-executives predominantly earned between ₹40,001-₹50,000 (27.64%), while executives were concentrated in the ₹50,001-₹60,000 range (21.11%).
- This breakdown highlights salary variations between executive and non-executive roles, with executives earning higher salaries compared to non-executives.

6. **Location of Posting:**

- The workforce was distributed across three major locations: Dibrugarh, Kamrup, and Silchar.

- Kamrup had the highest concentration of employees (39.72%, 280 employees), followed by Dibrugarh (30.50%, 215 employees) and Silchar (29.79%, 210 employees).
- Non-executives were more prominent in Kamrup (37.98%), while executives were evenly distributed across the three locations.
- This distribution suggests that Kamrup serves as the main operational hub for BSNL Assam Telecom Circle.

Objective 2: To analyze the different dimensions of Human Resource Development (HRD) Climate in BSNL, Assam Telecom Circle.

This objective was achieved by exploring the contributions of three key dimensions of the HRD Climate — **General Climate, HRD Mechanisms, and OCTAPAC Culture**. The following methods and findings are highlighted:

1. General Climate:

- Seven items from the HRD climate questionnaire were used to measure General Climate.
- Descriptive statistics revealed that the overall mean score for non-executives was 3.62, while for executives, it was 3.56 (on a Likert scale).
- The highest-rated item was "Senior officers or executives in this organization take an active interest in their juniors" (Mean = 3.88 for non-executives, 3.89 for executives).
- The results indicate that while General Climate is perceived positively by employees, there is scope for improvement in terms of top management support for employee development.

2. HRD Mechanisms:

- Ten items related to HRD mechanisms were analyzed.
- Descriptive analysis showed that the overall mean score for non-executives was 3.64, while for executives, it was 3.65.
- Items like "Promotion decisions are based on merit" (Mean = 3.63) and "Job rotation facilitates employee development" (Mean = 3.67) were rated highly.
- The results indicate that HRD mechanisms are moderately implemented and perceived positively by employees.

3. OCTAPAC Culture:

- The study examined openness, collaboration, trust, autonomy, proactivity, authenticity, confrontation, and experimentation.
- Descriptive statistics showed that the overall mean score for non-executives was 3.63, while for executives, it was 3.61.
- Notably, "Openness" had a mean score of 3.58 (non-executives) and 3.61 (executives), while "Collaboration" was rated 3.63 (non-executives) and 3.60 (executives).
- The findings suggest that the OCTAPAC Culture is positively perceived, with employees acknowledging openness and collaboration, though further enhancement is needed in areas like experimentation and confrontation.

Objective 3: To assess the employee's perception of the existing Human Resource Development (HRD) Climate in BSNL, Assam Telecom Circle.

1. Perception by Demographic Variables:

- Perception was analyzed with respect to gender, age, marital status, educational qualification, salary, location, and job experience.
- One-Way ANOVA was conducted, and the results revealed that for non-executives, age significantly influenced HRD climate perception ($F = 3.324$, $p < 0.05$).
- Tukey's post-hoc analysis revealed significant differences in HRD perception between age groups, particularly for employees aged 31-40 compared to those aged 41-50.
- Location also influenced perception, with employees in Kamrup reporting a more positive view of the HRD climate compared to other locations.

Objective 4: To identify the recent challenges faced by the employees of BSNL working in Assam Telecom Circle.

To achieve this objective, a systematic analysis was conducted to identify and understand the key challenges faced by employees. The following methods and outcomes were used:

Reliability Analysis:

- Cronbach's Alpha was calculated to assess the internal consistency of the 13-item questionnaire, which measures employee perceptions of the challenges.
- The Cronbach's Alpha for the 13 items was 0.780, indicating good reliability.
- This shows that the items used to measure employee challenges are consistent and dependable, ensuring that the data collected can be trusted for further analysis.

Validity Analysis:

- KMO (Kaiser-Meyer-Olkin) Measure of Sampling Adequacy was calculated to check if the sample was adequate for factor analysis.
- The KMO value was 0.555, falling in the "mediocre" range, which is still acceptable for factor analysis.
- Bartlett's Test of Sphericity was significant (Chi-Square = 1100.532, $p < 0.05$), confirming that correlations among the items were sufficient to justify factor analysis.

Key Findings

- Social circumstances inside the organization: Executives (Mean = 3.62, Std. Dev. = 1.128) and Non-Executives (Mean = 3.52, Std. Dev. = 1.284) perceived moderate agreement, with non-executives showing higher variability.
- Promotion decisions: Non-executives (Mean = 3.60, Std. Dev. = 1.216) agreed slightly more than executives (Mean = 3.52, Std. Dev. = 1.167) that promotions were merit-based, but the variation in responses was notable.
- Training opportunities: Executives (Mean = 3.66) and Non-executives (Mean = 3.57) agreed that specific training sessions are organized, though the variation in responses was substantial.
- Results showed that Kamrup had the highest number of employees with low perception relating to employee challenges for both executives (48) and non-executives (63).

Analysis of Variance (ANOVA):

- ANOVA was performed to check for differences in perceptions of challenges across locations for executives and non-executives.
- Executive results: Significant differences were observed ($F = 3.346$, $p = 0.037$) among the three locations, confirming that location influences the perception of HRD challenges.
- Non-executive results: No significant differences were observed ($F = 0.358$, $p = 0.699$), indicating that the perception of challenges was consistent across locations for non-executives.

Tukey's HSD Test:

- The Tukey HSD test was used to identify significant differences in perceptions between pairs of locations.
- For executives, a significant difference was found between Dibrugarh and Silchar ($p = 0.028$), indicating that the perception of HRD challenges varied significantly between these two locations.

Objective 5: To examine and analyze the policies and procedures of human resource development in BSNL, Assam Telecom Circle.

The fifth objective aimed to examine and analyze HRD policies and procedures. This objective was achieved through descriptive analysis, cross-tabulation, ANOVA, and factor analysis, providing a holistic understanding of employee perceptions.

Key insights include:

- BSNL treats human resources with dignity: Executives (Mean = 3.74, Std. Dev. = 1.072) and Non-executives (Mean = 3.81, Std. Dev. = 1.117) reported positive perceptions, indicating a shared belief that BSNL treats its employees respectfully.
- Job descriptions are appropriate: Both executives (Mean = 3.87) and non-executives (Mean = 3.92) agreed that job descriptions were clear and appropriate.

- Encouragement for innovation: Non-executives (Mean = 3.68) reported higher agreement than executives (Mean = 3.43) on being encouraged to experiment with novel techniques and ideas.

Table 14: Summary of Hypotheses Validation

Hypothesis	Hypothesis Statement	Statistical Test Used	Results	Decision
H1	There is a significant contribution of 'General Climate' in the overall HRD climate of BSNL.	Correlation and Regression	Executives: $r = 0.636$, $R^2 = 0.405$ ($p < 0.05$) Non-Executives: $r = 0.967$, $R^2 = 0.485$ ($p < 0.05$)	Rejected (Significant contribution)
H2	There is a significant contribution of OCTAPAC culture in the overall HRD climate of BSNL.	Correlation and Regression	Executives: $r = 0.923$, $R^2 = 0.853$ ($p < 0.05$) Non-Executives: $r = 0.783$, $R^2 = 0.613$ ($p < 0.05$)	Rejected (Significant contribution)
H3	There is a significant contribution of HRD Mechanism in the overall HRD climate of BSNL.	Correlation and Regression	Executives: $r = 0.813$, $R^2 = 0.660$ ($p < 0.05$) Non-Executives: r	Rejected (Significant contribution)

			= 0.830, R ² = 0.690 (p < 0.05)	
H4	There is no significant difference in the perception of employees regarding HRD Climate with respect to their demographic profile (Gender, Age, Education, Experience, and Income).	t-test, ANOVA, Tukey's HSD	Gender: p > 0.05 (No difference for both groups) Age: p = 0.020 (Significant for Non-Executives) Education: p > 0.05 (No difference) Experience: p > 0.05 (No difference) Income: p > 0.05 (No difference)	Partially Rejected (Age significantly affects Non-Executive perceptions)
H5	There is no significant difference in the perception of employees regarding HRD Climate in the select units of the study (Dibrugarh SSA, Kamrup SSA,	ANOVA, Tukey's HSD	Executives: p = 0.037 (p < 0.05) Significant difference between Dibrugarh and Silchar (p = 0.028) Non-	Partially Rejected (Significant difference for Executives, not for Non-Executives)

	and Silchar SSA).		Executives: p = 0.699 (p > 0.05) (No significant difference)	
H6	There is no significant difference in the recent challenges faced by employees in the select units of the study (Dibrugarh SSA, Kamrup SSA, and Silchar SSA).	ANOVA, Tukey's HSD	Executives: p = 0.037 (p < 0.05) Significant difference between Dibrugarh and Silchar (p = 0.028) Non-Executives: p = 0.699 (p > 0.05) (No significant difference)	Partially Rejected (Significant difference for Executives, not for Non-Executives)

The major findings of the study

- It is observed that the employees are given substantial importance and humanly treatment by the top management but the overall quality of work life and welfare measure provided to the employees of BSNL are found to be average and there is a fair scope of improving it.
- The overall status of the of the organizational development is turned out to be very low in BSNL at both the level of employees i.e. executive and non-executive.

- Training and development practices are good in BSNL especially at non-executive level. Employees of the organization have been seen serious regarding the adequate help they have been provided at work. Management need to work upon conducting appropriate training programs according to the genuine needs of the employees.
- In the organization, at non-executive level, the employees are satisfied with the training and development measures provided to them but the organization may not reward the employees for their performance.
- The practices of motivating and encouraging the level of participation among employees is found average especially at non-executive level.
- The BSNL has formal training programs and HRD mechanisms, but the coverage, frequency and relevance (to new technologies/customer oriented skills) are inconsistent across circles/SSAs.
- OCTAPACE cultural measures in BSNL found substantial variations in HRD Climate across SSAs. Participative culture, openness and trust, ability to experiment score better, HRD initiatives produced stronger results.

CONCLUSION

After examining the findings and observations from the present study, it can be concluded that there exists a positive HRD climate in BSNL, Assam Telecom Circle, with well-structured HRD policies and practices. The employees of the organization are aware of and engaged with the HRD mechanisms in place, with varying degrees of satisfaction observed across different categories of employees. The study reveals that General Climate, HRD Mechanism, and OCTAPAC Culture are the key dimensions that significantly shape the perception of HRD climate within the organization. It was also observed that employees perceive a strong relationship between these HRD practices and their overall satisfaction, engagement, and development within the organization.

Some important suggestions

- Develop and implement focused training programs that are tailored to the current telecommunication environment and specific skills required. Employee competency and response to new technologies would be developed this way.
- Make policies flexible to accommodate work arrangements and initiatives aimed at mental well-being. A healthy and balanced environment at work results in fewer burnouts and increased employee satisfaction and productivity in general.
- Create an environment that encourages continuous learning and keeps opportunities for professional development open. Employees will view such a culture as learner-friendly and kept current, thus making them better equipped to stay innovative and adaptive in the organization.

Future Research Directions

- Analyze studies wherein BSNL is compared to other telecom operators to understand appropriate HR development practices. Such studies might refer to strategies and benchmarks that worked for other organizations and can be inducted for BSNL.
- Examine the impact of newer technologies like AI and machine learning are having on the areas of HR within BSNL. This research may investigate how technology changes training practices, employee engagement, and performance management practices for BSNL.
- Analyze specific employee well-being initiatives and identify whether they enhance job satisfaction and productivity. Future studies can identify which of these programs would benefit BSNL employees.

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