

**Impact of Human Resource Practices on
Employees' Performance:
A Study on Pharmaceutical Companies in Goa**

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DECLARATION

I, Ms. Srimati Yeshwant Naik, hereby declare that this thesis represents work which has been carried out by me and that it has not been submitted, either in part or full, to any other University or Institution for the award of any research degree.

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CERTIFICATE

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Ms. Srimati Naik

Dedicated to

My Mother and Father

Mrs. Geeta Yeshwant Naik

and

Mr. Yeshwant B. Naik

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CHAPTER I

INTRODUCTION

Introduction

The process of manufacturing a product or delivering a service is complex and involves several interrelated aspects. For the same, we need human beings as well as machines to perform the aforesaid task. Since ancient times, the role of human beings has been changing constantly before and even after the Industrial Revolution. With the increased use of technology, one can make things straightforward and manageable; however, one cannot avoid or ignore the effective involvement of humans in the entire process. Though the use of machines and automation has increased, the importance of human beings has increased a lot and it is constantly going upwards. The role of humans has now taken a shift from the physical part to the intellectual part.

Human Resource Management includes all practices within an organization that pertain to its employees and their general well-being. Human Resource Management encompasses a range of procedures and guidelines, along with the essential administrative duties that are crucial for managing the organization's workforce. The core principle behind managing human resources is to improve employees' productivity, which subsequently contributes to the overall profitability of the organization.

HRM has historically taken charge of handling and addressing the crucial needs of employees. However, there has been a recent shift in focus toward improving employees morale and efficiency, which in turn promotes the organization's efficiency and profitability. Both large and small businesses have realized the significance of effective HRM. Consequently, they are now concentrating their efforts on this domain to optimize its development potential. It is extremely important to understand that HRM stretches beyond a singular department; rather, it shapes every department within an organization.

Organizations depend on their employees for their success. Organizations require an outstanding workforce and a diverse talent pool to survive in today's fiercely

competitive business environment. Employees are an extremely important asset to an organization.

Human resource strategies play a crucial role in attracting and retaining skilled and talented employees. This, in turn, strengthens the quality of products and services, offering an edge over competitors and ultimately boosting long-term profitability.

Organizations accept that the Caliber of their employees is essential for sustaining resilience and long-term viability in fiercely competitive markets. As an outcome, the worth of employees has considerably increased, triggering organizations to put forth substantial efforts in addressing their needs and maintaining their engagement. Developing employees engagement has become an essential responsibility of an organization.

1.1 Human Resource Management Practices

HRM is all about practices, policies, and different structures firms adopt to take care of the organization's most important resource, i.e., employees or human resources. As per Wright and McMahan, HRM refers to planned HR deployments and activities intended to achieve its goals. More concisely, HRM is about how a firm uses the complete package of practices and policies to achieve effectiveness and better organizational performance.

In the contemporary business environment marked by relentless competition, organizations are compelled to be agile and strategically focused to ensure their survival. The capacity of a firm to endure and prosper is largely dependent on its workforce's caliber, as employees' skills, knowledge, and innovative potential constitute the primary drivers of organizational performance. A capable and talented workforce enhances productivity and enables firms to effectively respond to market pressures and seize emerging opportunities. Conversely, the absence of skilled human capital can significantly undermine competitiveness and long-term sustainability.

Recognizing employees as the most valuable asset, modern organizations emphasize the need to design and implement effective HRM practices. Training and development,

fair compensation, performance appraisal, and employees welfare are crucial for nurturing and retaining talent. By investing in these practices, organizations can strengthen employees commitment, build competencies, and foster a culture of innovation and resilience. Hence, the ability to attract, develop, and retain skilled employees has become a strategic imperative for achieving sustainable growth in today's knowledge-driven economy.

The constructs of HRPs used in this study focus on the five most commonly recognized areas of HRM: training and development, performance appraisal, compensation, health and welfare measures, and employer-employee relations.

1.1.1 Training and Development

Training involves gaining the specific knowledge and abilities required for a particular role or task. It is typically a short-term process aimed at enhancing an employee's existing job performance. This can involve structured training programs, hands-on experience, or personalized guidance.

Development, on the other hand, focuses on an individual's long-term career progression. Generally, it entails learning that extends beyond the present job responsibilities, equipping employees for future roles or career growth opportunities. Development efforts may include observing experienced professionals, receiving mentorship, participating in industry events, or providing continuing education.

The concept of training is often employed in a broad sense to refer to any organizational initiative aimed at promoting employees learning. However, scholars differentiate between training and development. Training is generally more specific in nature, focusing on short-term performance improvements, whereas development emphasizes the enhancement of broader skills and competencies to prepare individuals for future responsibilities (Snell, 2007).

The training literature reflects diverse perspectives. Some scholars define training as an organization's capacity to enhance employees' skills and knowledge for both current and future roles (Guest, 1997), while others view it as a critical factor in motivating employees (Barrett & O'Connell, 2001). Research further states that investing in human

capital development can serve as a sustainable source of competitive advantage (Olson & Schwab, 2004).

Training typically begins with an analysis of employees' existing capabilities, followed by identifying areas that require improvement. In the absence of effective training initiatives, employees may experience skill redundancy, diminished motivation, and reduced productivity, which in turn adversely affect organizational performance. Conversely, a structured training and development system signals that the organization values growth and is committed to enhancing its competitiveness in the marketplace.

Scholars such as Huselid (1995), MacDuffie (1995), and Koch and McGrath (1996) classify training and development as key HRM practices. Although comprehensive training programs are generally associated with positive organizational outcomes, some researchers also highlight potential drawbacks, such as increased employee turnover, particularly when enhanced skills make workers more employable elsewhere.

Overall, training is widely regarded as an investment in human resources, the most valuable asset of an organization. As Knoke and Kalleberg (1994) argue, training equips employees to adapt to changes triggered by technological advancements, market competition, organizational restructuring, and demographic transitions. Broadly, training and development encompass three primary activities: providing instruction, fostering education, and facilitating professional growth. Organizations investing in these initiatives experience improved employee retention, enhanced performance, and greater adaptability. Moreover, such investment expands the employability prospects of employees, thereby benefiting both the individual and the organization (Waterman et al., 1994).

Importance of Training and Development

In this business landscape marked by constant change and global competition, training and development have become integral to effective human resource management (HRM). These initiatives are strategically designed to build long-term capabilities that align with organizational goals and are not confined to improving immediate performance of employees. By equipping the workforce with updated skills, knowledge, and competencies, training and development enhance both individual and organizational effectiveness. Moreover, they foster adaptability, innovation, and

resilience, which are essential for organizations to remain competitive in a rapidly evolving marketplace. Thus, investment in training and development is not only a tool for performance improvement but also a strategic driver of growth, commitment, and sustained success. The following points emphasize the importance of training and development:

Skill Enhancement and Competency Building:

Employees require continuous skill enhancement and competency development in today's fast-paced technological environment, where business processes are constantly evolving. Training programs bridge the gap between employees' existing skills and job duties' demands, thereby ensuring that workers remain proficient and effective in their positions.

Enhanced Productivity and Performance

Training empowers staff to accomplish tasks more efficiently and with higher precision. It minimizes mistakes, decreases waste, and enhances overall productivity. Confident employees achieve improved performance, ultimately contributing to enhanced organizational outcomes.

Employee Motivation and Job Satisfaction:

Investing in employees development can create a sense of appreciation and value. Employees are more likely to feel satisfied, motivated, and committed to their organization, which results in lower absenteeism and turnover rates.

Succession Planning and Career Advancement:

It is vital to prepare high-potential employees for leadership positions through development programs. They assist in identifying and developing future leaders, guaranteeing continuity of leadership, and reducing disruptions resulting from unexpected job openings.

Organizational Adaptability and Innovation:

In rapidly evolving sectors, adapting to shifting circumstances is crucial. Continuous training creates a culture that supports learning, innovation, flexibility, and employees'

ability to bounce back from challenges, thereby helping organizations stay ahead in the market.

Types of Training

Training is a continuous and strategic HR function in pharmaceutical companies that aims to ensure employees competence, regulatory compliance, and innovation. The following are the key types of training employed in the sector:

1. Induction Training

New employee induction training familiarizes employees with company objectives, principles, hierarchy, and guidelines. Pharmaceutical companies also provide training on safety procedures, cleanliness guidelines, documentation procedures, and regulatory requirements.

Employees can quickly adapt to new situations, and this approach reduces the number of early-stage mistakes and employee turnover (Altman, 2020). Introducing people into a system that encourages obedience early can be facilitated through induction. It helps employees adapt quickly and minimizes early-stage errors or attrition (Armstrong, 2020). Induction ensures early socialization in a compliance-driven environment.

2. Technical or Functional Training

Technical training focuses on specific skills and knowledge necessary for positions in R&D, production, quality assurance/quality control, or supply chain departments. Workers can receive hands-on training in laboratory techniques, pharmaceutical equipment, and analytical instruments. Enhancing efficiency and maintaining process consistency is crucial in highly regulated industries, as highlighted by Dessler (2021).

3. Good Manufacturing Practices and Regulatory Training

Ensuring employee compliance with global regulatory standards, such as USFDA, WHO-GMP, and ICH guidelines, is crucial for this training. The system addresses cleanliness, batch traceability, documentation, adherence to standard operating

procedures, and readiness for audits. Regulatory requirements require regular GMP training, which is also pivotal for quality assurance (Gupta, 2020).

4. Product Knowledge Training

This training is crucial for marketing and sales staff and covers in-depth information on the mechanism of action, indications, contraindications, and dosage details. This enables field staff to effectively communicate with healthcare providers and encourages evidence-based detailing (Tripathi, 2019). Accurate product knowledge can help eliminate false information and promote honest marketing practices.

5. Leadership and Managerial Training

The leadership training program is tailored for existing and aspiring managers and comprises modules on strategic thinking, decision-making, organizational change, and team leadership. These programs are designed to prepare future leaders and maintain a consistent leadership supply chain within the pharmaceutical industry (Mondy & Martocchio, 2016). These programs also provide support for succession planning.

6. Soft Skills Training

This training program improves interpersonal communication, conflict resolution, emotional intelligence, and teamwork skills. In pharmaceutical environments where collaboration across different functions is standard, these skills are essential for successful project management and execution (Armstrong, 2020). Improving soft skills can enhance employee engagement and customer interaction.

7. Digital and Technology Training

As automation and digitalization continue to rise, pharmaceutical employees are trained on enterprise resource planning (ERP) software (e.g., SAP), LIMS, data analytics, and electronic documentation systems. This training enhances compliance, operational precision, and data reliability (Dessler, 2021). This is particularly relevant to quality control, manufacturing, and regulatory positions.

8. Safety and Emergency Training

This comprises fire drills, chemical handling, first aid, and emergency response training. Employee participation is obligatory in manufacturing, warehouse, and laboratory settings. Training is designed to ensure a safe workplace environment, decrease the likelihood of accidents, and meet legal requirements for occupational health standards (Gupta, 2020).

9. Cross-Functional Training

Staff may be temporarily trained in other departments to comprehend end-to-end processes or prepare for leadership positions. Improved coordination and strategic alignment are achieved across various functions by improving inter-departmental flexibility and coordination (Tripathi, 2019). It also fosters employee engagement and comprehensive skill development.

10. Refresher and Continuous Learning Training

Periodic refresher training is provided to update employees on new regulations, standard operating procedures, or industry best practices. E-learning platforms, professional courses, certifications, and webinars can be used to encourage continuous learning. Efforts of this kind promote innovation and adaptability (Mondy & Martocchio, 2016).

1.1.2 Performance Appraisal

One of the most significant HRM practices is performance appraisal, which serves both evaluative and developmental purposes within organizations. It acts as a motivational mechanism by encouraging employees to achieve their targets and perform to the best of their abilities. In essence, performance appraisal refers to the systematic and periodic assessment of an employee's performance, competencies, and potential for future responsibilities.

The process of appraisal involves evaluating not only the outcomes of work but also the behaviour, skills, and progress of employees in the workplace. By integrating quantitative indicators (e.g., productivity and goal achievement) and qualitative aspects

(e.g., teamwork, initiative, and communication), performance appraisal provides a comprehensive picture of employee effectiveness.

Beyond measurement, performance appraisal plays a vital role in managerial decision-making. It generates valuable information that supports key personnel decisions, including salary revisions, promotions, transfers, demotions, and, in some cases, terminations. Additionally, it helps to identify training and development needs, ensuring that employees receive the necessary support to enhance their competencies. Thus, an effective appraisal system not only strengthens employee motivation and career growth but also contributes to organizational efficiency and long-term success. “Performance appraisal is the systematic, periodic, and impartial rating of an employee’s excellence in matters of his present job and his potential for a better job” (Filippo)

As stated by Edwin Flippo, “Performance appraisal is the systematic, periodic, and impartial rating of an employee’s excellence in pertaining his job and potential for a better job.”

In the view of Dale Beach, “Performance appraisal is the systematic evaluation of the individual with regard to his or her performance on his job and his potential.” Randall S. Schuler elucidated, “Performance appraisal is a formal, structured system of measuring and evaluating an employee’s job, related behaviour, and outcomes to discover how and why the employee is presently performing on the job and how the employee can perform more effectively in the future so that the employee, organization, and society all benefit.” Lansbury (1988) defined performance appraisal as the “process of identifying, evaluating, and developing the work performance of employees in the organization, so that the organizational goals and objectives are more effectively achieved, while at the same time benefiting employees in terms of recognition, receiving feedback, catering for work needs, and offering career guidance.”

Methods of Performance Appraisal

1. Ranking Method

This traditional approach involves ranking employees based on overall performance from top to bottom. Although straightforward, the system may not be suitable for large pharmaceutical companies with various job positions because it does not set

performance expectations or areas for development. Nevertheless, it provides a comprehensive perspective on leading performers (Dessler, 2021).

2. Graphic Rating Scale (GRS)

This method uses either a numerical or descriptive rating system to assess staff based on predefined criteria, such as punctuality, accuracy, communication, and compliance with regulations. In the pharmaceutical industry, maintaining objectivity and facilitating easy comparison are especially valuable in administrative and production positions (Mondy & Martocchio, 2016).

3. Paired Comparison Method

Every employee is individually compared with the rest on the basis of the same criteria. This approach is suitable for smaller teams like laboratory groups or regulatory teams, where a direct comparison of skills helps identify the standout contributors (Gupta, 2020).

4. Critical Incident Method

Managers record notable employee practices that either improve or hinder job productivity. In pharmaceutical contexts, instances such as handling discrepancies during manufacture or dealing with regulatory non-compliances serve as competence or shortcomings indicators (Armstrong, 2020).

5. Essay Method

The evaluator creates a descriptive report detailing the employee's strengths, weaknesses, potential, and overall impact. In pharmaceutical companies, this approach is suitable for senior or technical positions where qualitative understanding is highly valued (Tripathi, 2019).

6. Checklist Method

The evaluator uses a checklist of statements, marking those that are applicable to employee behaviour. This is a straightforward technique that is useful for assessing frontline personnel, such as packaging operators, and ensuring adherence to standards while maintaining productivity (Mondy & Martocchio, 2016).

7. Forced Distribution Method

Employees are grouped into performance tiers, comprising a top 10%, an average 70%, and a bottom 20%, irrespective of the actual performance distribution. Despite the controversy, certain large multinational pharmaceutical companies use this method to uphold performance standards and pinpoint training requirements (Dessler, 2021).

8. Behaviourally Anchored Rating Scales

BARS combines qualitative descriptions and rating scales to evaluate specific behaviours linked to job performance. In pharmaceutical R&D and quality assurance departments, BARS guarantees uniform and behaviour-focused assessments connected to job roles (Armstrong, 2020).

9. Field Review Method

The appraisal is typically conducted in consultation with the line manager by either an HR professional or an external expert. This approach fosters impartiality and consistency, particularly in regulatory sensitive pharmaceutical positions where unbiased evaluation is crucial (Gupta, 2020).

10. 360-Degree Feedback Method

This multi-rater method collects feedback from supervisors, colleagues, subordinates, and clients. This method promotes self-awareness and team unity, particularly in the pharmaceutical industry, including marketing and collaborative research and development teams (Dessler, 2021).

1.1.3 Reward

Reward/Compensation may be described as the monetary return received by employees for the work they perform, along with various forms of services and benefits offered by the employer. It broadly includes direct financial rewards, such as wages and salaries, as well as indirect elements like incentives, allowances, bonuses, and other variable payments. In addition to monetary aspects, compensation often encompasses non-financial benefits, such as health insurance, retirement plans, paid leave, and other facilities that enhance the overall value of the employment relationship.

The primary objective of the compensation system is to design an effective pay system that will help to attract, retain, and motivate competent and qualified employees. The term 'compensation administration' or 'Wage and salary administration' denotes the process of managing a company's compensation program. The goal of compensation administration is to design a cost-effective pay structure that will attract, motivate, and retain competent employee (Robbins, 2015)).

In the word of R. S. Schular, "Compensation is such an activity through which organization on the basis of its ability and within law reasonably assesses the contribution of employees directly and indirectly for the distribution of financial and non-financial remuneration."

Reward is perceived by the organization as compensation to the employee for his or her services. Compensation is not confined to direct financial benefits; it also includes a wide range of intangible rewards that enhance employees' well-being and motivation. Examples of such non-monetary forms are a supportive and comfortable work environment, healthy workplace relationships, involvement in decision-making, opportunities for personal and professional development, and the sense of accomplishment gained from achieving goals. Although these aspects are not easily measurable in monetary terms, are highly valued by employees. Typically, such rewards are offered when employees successfully complete assignments, contribute innovative ideas, or accomplish significant milestones. As noted by Jackson and Werner (2011), organizations increasingly rely on these non-financial incentives as effective tools to foster motivation, job satisfaction, and long-term commitment among their workforce.

The following are the key types of rewards used across pharma companies:

1. Intrinsic Rewards

Job satisfaction, autonomy, recognition, and a sense of achievement are intrinsic rewards that are intangible and come from the job itself. Employees frequently discover motivation through challenging projects, opportunities for innovation, and professional advancement in pharmaceutical research and development positions (Armstrong, 2020).

2. Extrinsic Rewards

These benefits are tangible and are provided by the organization itself. Salary, bonuses, incentives, and benefits are included in the package. In pharmaceutical companies, external incentives act as a significant motivator, particularly in sales and manufacturing departments where quantifiable results are essential (Dessler, 2021).

3. Financial (Monetary) Rewards

These comprise direct compensation forms, such as basic pay, incentives, commissions, profit-sharing, and bonuses. In medical settings, representatives are rewarded with incentives tied to specific sales goals, and researchers can receive bonuses for innovative work (Gupta, 2020).

4. Non-Financial (Non-Monetary) Rewards

These benefits are non-monetary and include recognition, awards, flexible working hours, promotions, professional development, and a role in shaping company decisions. In pharmaceutical companies, non-financial incentives are vital for fostering long-term loyalty and decreasing employee turnover rates (Tripathi, 2019).

5. Performance-Based Rewards

Rewards are directly linked to specific measures of individual, team, or organizational performance. These comprise merit pay, goal achievement bonuses, and competency-based pay. Pharmaceutical companies associate these incentives with key performance indicators, such as regulatory compliance, product introductions, and cost reductions (Mondy & Martocchio, 2016).

6. Skill-Based Rewards

Employees are compensated according to their skill level, certifications held, or their capacity to handle a variety of tasks. Pharmacists or quality analysts with advanced GMP training or SAP skills may be placed in higher salary brackets by employers (Armstrong, 2020).

7. Membership-Based Rewards

Benefits such as base salary, paid leave, insurance, and retirement contributions are granted regardless of performance standards. These rewards guarantee legal compliance and promote employee well-being in pharmaceutical organizations (Dessler, 2021).

8. Career-Based Rewards

These focus on the long-term growth of employees and comprises of incentives like promotions, job transfers, training opportunities, and succession planning. In research and development as well as managerial roles, these rewards help retain top talent and promote organizational loyalty (Gupta, 2020).

9. Team-Based Rewards

Rewards are given to teams for their collective performance, particularly in collaborative areas such as production, quality assurance, and clinical research. These may include group bonuses, shared incentives, or celebratory recognition events (Tripathi, 2019).

10. Equity-Based Rewards

These often include stock options, employee stock ownership plans (ESOPs), or profit-sharing models, which are frequently offered at senior levels. In multinational pharmaceutical companies, such rewards align the long-term interests of employees with company performance (Mondy & Martocchio, 2016).

1.1.4 Health and Welfare Measures

Health is commonly described as “a state of complete physical, mental and social well-being and not just the absence of disease or illness”.

Employee welfare refers to all initiatives undertaken for the well-being, comfort, and overall improvement of employees, which go beyond the direct payment of wages and salaries. Such measures are designed to maintain high levels of morale, motivation, and satisfaction among the workforce. Importantly, welfare activities are not restricted to

monetary benefits alone but may also include a wide variety of non-financial provisions aimed at improving the quality of work life.

In this sense, employee welfare comprises all efforts made by the employer to provide facilities, services, and amenities that promote safety, health, efficiency, and general well-being in the workplace. These initiatives reflect the organization's concern for its employees and play a crucial role in building a positive work environment, enhancing productivity, and fostering organizational loyalty.

Employee welfare, refers to the services and benefits provided by an employer for well-being of employees. It includes medical care, paid time off, and facilities. These services range from physical to mental health among employees, helping foster an efficient and satisfied workforce. The main aim of employee welfare is to enhance employee morale, develop a better image of the company, boost efficiency, and create a satisfied workforce.

Staff welfare is one of the key factors of employee retention. The greater the salary for a position, the greater the costs to rehire and retrain a new employee. There is also a correlation between employee welfare and greater productivity.

Health and welfare measures in the pharmaceutical industry are not mere compliance tools but strategic interventions that influence employee satisfaction, retention, and organizational reputation. A well-designed welfare system fosters employee trust, enhances well-being, and contributes to a culture of care and accountability. Such initiatives enhance employee morale, reduce absenteeism, and contribute to the long-term sustainability of the workforce making them indispensable in a knowledge-intensive and safety-critical domain like pharmaceuticals. The pharmaceutical sector, due to its research-intensive and regulated nature, often goes beyond basic statutory requirements to offer holistic welfare initiatives. Few of them are listed as follows:

1. Comprehensive Health Insurance Coverage

Pharmaceutical companies typically provide broad medical coverage for their employees and their relatives, encompassing hospital visits, surgical procedures, outpatient treatment, prenatal care, and counselling services. These benefits help reduce financial stress during medical emergencies, showcasing the company's commitment to

the welfare of its employees. Annual health check-ups and vaccinations are part of the health plans offered by certain multinational pharmaceutical firms.

2. Occupational Health and Safety Programs (OHS)

In view of the handling of chemicals, laboratory equipment, and delicate production machinery, strict occupational health and safety measures are put in place. Businesses establish safety committees, conduct recurrent risk evaluations, mandate the utilisation of personal protective gear (PPE), and verify compliance with international standards like OSHA or ISO 45001. These safety initiatives help prevent accidents, lower absenteeism rates, and cultivate a culture prioritizing safety above all else.

3. Mental Health and Employee Assistance Programs (EAPs)

Pharmaceutical companies are increasingly acknowledging the influence of mental health on staff productivity. EAPs provide confidential psychological advice, stress management seminars, and initiatives aimed at preventing burnout. Employees in R&D, regulatory affairs, or sales departments often face high and persistent job pressure.

4. Ergonomically Designed Workspaces

Pharmaceutical companies invest in ergonomic furniture, anti-fatigue mats for laboratories, and workstations designed to reduce physical strain. For employees who spend extended periods performing repetitive tasks or working in aseptic environments, ensuring comfort, safety, and sustained efficiency is essential.

5. Wellness and Lifestyle Programs

Numerous organizations support wellbeing by providing yoga and meditation classes, discounted gym memberships, nutrition counselling, and online wellness seminars. These initiatives also improve physical health while boosting employee morale and lowering long-term healthcare expenses for the organization.

6. Hygienic Canteen and Nutritional Facilities

Offering nutritious, affordable, and hygienic food is a standard welfare practice. Employers in manufacturing units also offer special dietary choices and nutritional

educational initiatives to promote healthy food choices, particularly for employees with shift work schedules.

1.1.5 Employer-Employee Relationship

The employer-employee relationship is a fundamental component of human resource management (HRM), which directly impacts organizational performance, employee engagement, and industrial peace. In the pharmaceutical sector, where innovation, regulatory compliance, and knowledge intensity are of the utmost importance, maintaining a robust and positive employer–employee relationship is both highly desirable and absolutely necessary. This relationship is founded on mutual respect, trust, collaboration, and a common set of objectives.

Pharmaceutical companies heavily depend on a workforce of highly skilled professionals in areas including research, manufacturing, quality control, sales, and regulatory affairs. HR practices that promote mutual understanding and open communication between employers and employees have a significant impact on creating a stable and motivated workforce. A healthy relationship motivates staff to be more committed, productive, and in line with the company's strategic goals.

Key Dimensions of Employer–Employee Relationship

1. Two-Way Communication and Feedback Culture

Pharmaceutical companies promote both upward and downward communication pathways. Town hall meetings, feedback surveys, departmental briefings, and individual interactions foster a transparent culture and empower employee participation. Creating a secure environment fosters psychological safety, enabling the resolution of concerns before they intensify.

2. Collaborative Work Environment

Collaborative team-based methods, particularly in R&D and production, necessitate synchronized efforts and interpersonal trust. Companies foster teamwork by using cross-functional teams, assigning project responsibility, and implementing shared accountability processes.

3. Employee Participation in Decision-Making

Pharmaceutical companies frequently involve their staff in making decisions about safety procedures, quality enhancement methods, and work process restructuring. This participatory management approach encourages employee empowerment and promotes a sense of ownership.

4. Recognition and Respect

Recognition systems, including formal and informal methods like awards, appreciation emails, and strategic meeting invitations, are employed to acknowledge employee contributions. Cultivating mutual respect involves acknowledging and valuing differences in perspectives, responsibilities, and areas of specialization.

5. Conflict Management and Grievance Handling

A well-functioning system for handling grievances, internal complaints committees (ICCs), and disciplinary frameworks are essential for resolving employee issues. Pharmaceutical companies adhere to rigorous compliance with labor regulations and a code of ethics, thus bolstering employee confidence in the system.

6. Trust and Job Security

In a highly regulated and competitive sector, trust in leadership is absolutely crucial. Companies that offer secure job positions, open career advancement opportunities, and predictable policies foster an atmosphere where staff members feel respected and safe.

7. Ethical and Legal Compliance

Global regulatory norms governing pharmaceutical companies, such as those set by the FDA and WHO-GMP, demand an environment of ethics and compliance. The legal basis for employer-employee relationships is founded on fair treatment, anti-discrimination policies, and compliance with employment laws.

8. Employee Support Systems

Implementing services like Employee Assistance Programs (EAPs), mental health counselling, and wellness helplines can help foster stronger relationships. The services

indicate that the employer places a higher value on employee well-being than on work performance.

1.2 Human Resource Management Outcomes

1.2.1 Job Satisfaction

The concept of job satisfaction was extensively examined by Herzberg (1959), who proposed the two-factor theory. According to him, job satisfaction arises from the presence of motivators such as recognition, achievement, and responsibility, while dissatisfaction is linked to the absence of hygiene factors like pay, working conditions, and company policies. As per P. Robbins: Job satisfaction is a general attitude toward one's job: the difference between the amount of reward workers receive and the amount they believe they should receive.

Job satisfaction refers to the extent to which an individual feels positively or negatively about their job, reflecting a combination of attitudes, perceptions, motives, and emotional responses toward different aspects of work. It encompasses both the physical and social conditions of the workplace as well as the psychological and emotional experiences of employees. In essence, job satisfaction is shaped by how well an employee's expectations, needs, and values align with the realities of their job. When this alignment is strong, employees are likely to experience higher satisfaction, whereas unmet expectations often result in dissatisfaction (Tarkar, Dhamija & Dhamija, 2016).

Hoppock (1935) described job satisfaction as the outcome of a combination of psychological, physiological, and environmental factors that lead an individual to genuinely feel content with their work. Similarly, Locke (1969) explained job satisfaction as an emotional condition that reflects an employee's positive or negative evaluation of their job experiences. Together, these definitions highlight that job satisfaction is shaped not only by external circumstances but also by an individual's internal perceptions and emotional responses toward their work.

Importance of Job Satisfaction

- 1. Improves Workforce Performance:** Job satisfaction significantly influences employee motivation and engagement. Satisfied personnel have a higher chance of being focused, accountable, and dedicated to producing high-quality results—all of which are critical in the pharmaceutical sector, where accuracy, compliance, and consistency are essential. This strategy promotes operational excellence and increases overall productivity.
- 2. Encourages Employee Retention:** Because pharmaceutical work is specialized and regulated, the industry needs a staff with expertise and skill. High work satisfaction lowers the likelihood that employees will leave, which helps businesses keep talent, cut down on hiring expenses, and preserve business continuity, especially in vital areas like R&D, manufacturing, and quality control.
- 3. Promotes Regulatory Compliance:** Adherence to national and international regulations is a must in the pharmaceutical sector. Employee satisfaction lowers the risk of non-compliance and regulatory fines because contented workers are more likely to closely follow safety regulations, maintain correct paperwork, and follow standard operating procedures (SOPs).
- 4. Strengthens Organizational Commitment:** Workers who are happy in their positions grow closer to the company on a psychological level. Maintaining a competitive advantage in the pharmaceutical industry requires proactive behaviour, reduced absenteeism, and a willingness to contribute outside of the scope of official work duties, all of which are correlated with this sense of commitment.
- 5. Promotes a Positive Workplace Environment:** High job satisfaction fosters a helpful and cooperative work environment. It fosters open communication, strengthens team cohesiveness, and lessens interpersonal disputes. Such an environment fosters innovation, information exchange, and seamless interdepartmental coordination—all of which are critical for organizational development and flexibility in the pharmaceutical industry.

1.2.2 Organizational Commitment (OC)

Organizational commitment pertains to the engagement and fidelity of platoon members toward their individual jobs and the association. It also describes the different reasons why professionals remain with an employer rather than seek out new opportunities. Companies regard organizational commitment as essential because it can lead to harmonious work performance, formative connections, and healthy work societies.

As conceptualized by Meyer and Allen (1997), the conception of organizational commitment is generally classified into three dimensions: affective, continuance, and normative commitment. Affective commitment (the desire to remain) reflects an employee's emotional attachment and identification with the organization, which often develops when individuals value their membership and integrate their personal identity with the organization. Continuance commitment (the need to remain) is associated with the perceived costs of leaving, where employees evaluate the potential losses of exiting and the benefits of staying in the organization. Normative commitment (the obligation to remain) is rooted in internalized values and social norms, leading employees to feel a sense of duty or moral responsibility to continue their association with the organization. Together, these three components provide a comprehensive framework for understanding the different bases of employee commitment (Smeenk et al., 2006).

Importance of Organizational Commitment

1. **Assures Employee Retention:** By creating a deep emotional connection between staff members and the company, organizational commitment lowers voluntary turnover. Because the job in the pharmaceutical industry is technical and compliance-focused, it is crucial to maintain qualified and experienced personnel.
2. **Increases Performance and Productivity:** Devoted workers are more involved, proactive, and goal-oriented. Their commitment results in reliable, superior performance—essential in pharmaceutical operations where accuracy and productivity are paramount.

3. Encourages Accountability and Compliance: Devoted employees are more likely to follow safety guidelines, industry rules, and quality standards, guaranteeing legal compliance, and shielding the company from risks to its operations and reputation.
4. Supports Organizational Growth and Stability: In a cutthroat sector like pharmaceuticals, long-term growth depends on the development of a cohesive organizational culture, knowledge continuity, and workforce stability, all of which are facilitated by organizational commitment.
5. Encourages Organizational Citizenship Behaviour (OCB): Highly committed workers frequently go above and beyond the call of duty by taking initiative, helping colleagues, and taking part in organizational development events, all of which increase the effectiveness of the company as a whole.

1.2.3 Skill Enhancement

Skill enhancement enables individuals to perform tasks more efficiently, work effectively in teams, and adapt to new technologies and methodologies. It encompasses different aspects such as technical, soft, and transferable skills.

Skill enhancement refers to the process of equipping employees with the knowledge and abilities required to develop, refine, and strengthen their competencies in order to secure, sustain, and progress in a chosen field. Such programs are generally designed around structured training initiatives that integrate insights from education, psychology, career counselling, social sciences, sports, and technological advancement, thereby offering a holistic approach to employee development.

By participating in skill enhancement initiatives, individuals can improve their work-related performance, which not only benefits the organization but also contributes to their personal growth and overall quality of life. These programs often employ a blend of cognitive strategies and behavioural problem-solving techniques, both of which play a crucial role in fostering positive skill development and long-term professional competence.

Importance of Skill Enhancement

1. **Strengthens Employee Competency:** Developing employees' skills is crucial to ensure that they have the practical skills and technical knowledge needed to perform their jobs well. Continuous skill development gives workers the confidence and expertise they need to handle complex machinery, procedures, and paperwork in the pharmaceutical industry, where accuracy, precision, and compliance are crucial.
2. **Supports Quality Standards and Compliance:** Pharmaceutical firms are subject to strict regulatory frameworks, including Good Manufacturing Practices (GMP), and are required to adhere to standards established by organizations such as the Food and Drug Administration (FDA) and China Drug Safety Organization (CDSCO). Continuous training and upskilling lowers the risk of non-compliance and product recalls by ensuring that staff members are familiar with the latest laws, safety procedures, and quality standards.
3. **Increases Job Satisfaction and Motivation:** Employees feel appreciated and supported when their employers invest in skill development. Job satisfaction and intrinsic drive increase when training programs, workshops, and learning opportunities are accessible. It increases engagement and retention by fostering a sense of accomplishment and personal development.
4. **Encourages Career Advancement:** Employees who improve their skills are better equipped to assume more responsibility, advance into management or supervisory positions, and seek internal promotions. Well-designed development programs also promote long-term career planning and succession within the business, which is important in a field where expertise and compliance knowledge are highly prized.
5. **Drives Innovation and Organizational Growth:** Problem-solving, process enhancement, and product innovation may all be facilitated by talented staff. Improved staff skills can result in more effective development cycles, cost savings, and a better competitive position in both local and international markets in the pharmaceutical business, where R&D and formulation are crucial tasks.
6. **Allows for Adaptation to Technological Advancements:** Automation, artificial intelligence, and electronic batch processing are just a few of the technologies that are

enabling the digital transformation of the pharmaceutical industry. Enhancing skills provides workers with the information and self-assurance they need to adjust to modern technologies, enhancing their capacity to function effectively in tech-driven workplaces.

7. **Boosts Organizational Competitiveness:** Businesses that continuously invest in staff training create a workforce that can react swiftly to market, law, and rivalry changes. Pharmaceutical companies can increase product quality, guarantee a quicker time to market, and establish a reputation for excellence both domestically and internationally with the support of a knowledgeable and flexible workforce.

8. **Reduces Operational Risk:** Inadequate knowledge in crucial areas, such as manufacturing, quality assurance, and compliance, can result in expensive mistakes, hold-ups, or legal repercussions. By ensuring that staff members are adequately equipped to manage intricate duties, adhere to SOPs, and react appropriately to unforeseen circumstances or audits, ongoing skill development lowers these risks.

1.2.4 Employees Performance

The job-related activities expected of an employee or a personnel member and the way those activities are accomplished. Many business personnel or directors assess the employee performance of each staff member periodically, either annually or quarterly, to assist them in recognizing areas for improvement.

Employee performance is one of the key factors that contribute directly to the performance of the organization. Companies now, given the heightened competition in today's marketplace, are driven to improve employee performance in order to secure higher profitability, wider market reach, and stronger brand reputation. Employee performance states that how employees behave in the workplace as well as how well they perform the duties in an organization. For an individual employee, performance may relate to work effectiveness, quality and effectiveness at the task position.

Sinha (2001) posits that employee performance is significantly influenced by an individual's willingness and openness to engage with their professional responsibilities. He argues that when employees demonstrate a positive orientation toward their tasks, this behavioural disposition translates into higher productivity and, consequently,

improved organizational performance. Thus, willingness and openness emerge as critical behavioural dimensions that determine the effectiveness with which employees execute their roles.

Building on this perspective, Eysenck (1998) conceptualized performance as the outcome of an interaction between ability, opportunity, and willingness to perform. While ability reflects the knowledge and skills an employee possesses, willingness denotes the motivation and effort invested in applying these competencies effectively, and opportunity refers to the enabling conditions provided by the organization. In this framework, willingness plays a central role as it captures the intrinsic desire of employees to exert effort in their roles, thereby fostering both individual advancement and organizational growth.

1.2.4.1 Work Efficiency

Work efficiency refers to the ability to achieve maximum productivity with minimal wasted effort or resources. It is an important aspect of both individual and organizational performance, centering on optimizing processes, time management, and resource allocation to execute tasks effectively and economically.

1.2.4.2 Creativity and Innovation

Creativity is generally centered around original thought and knowledge, which unleashes the implicit and is an integral part of idea generation. Creativity is the capability to conceive changeable something, original, and unique. It must be suggestive, instigative, and imaginative. It's the glass of how beautifully a person can think in any given circumstance.

Innovation is an act of application of new ideas to which creates some value for the business association, government, and society as well. A better and smarter way of doing anything is invention. It could be the introduction of

- New technology.
- New product line or segment.
- A new method of production.

- An improvement in the existing product.

Innovation is closely tied to creativity, i.e., putting creative ideas into action is an innovation whose consequences should be positive.

1.3 Employees Perception of Human Resource Development Environment

HRD refers to the structured and continuous efforts made by organizations to boost the knowledge, skills, and capabilities of their employees. It is a proactive process aimed not only at improving performance in current roles but also at preparing individuals for future responsibilities. Employees' perception of the HRD environment is instrumental in determining how effectively these initiatives translate into meaningful outcomes.

Employees' perception of the HRD environment reflects their personal and professional views of the organization's commitment to their holistic development. A positive HRD environment is characterized by fair access to training, encouragement for self-improvement, support from supervisors and peers, opportunities for learning, transparent performance management and recognition of individual efforts. When employees believe that the organization genuinely invests in their development, it fosters trust, motivation, and engagement.

An enabling HRD environment helps employees sharpen their functional and behavioural competencies, align their personal goals with organizational objectives, and realize their full potential. It also contributes to higher job satisfaction, stronger organizational commitment, and improved overall performance. Conversely, a weak or poorly communicated HRD climate may lead to disengagement, underutilization of talent, and high attrition.

Employees' perception of the HRD environment serves as a vital link between HR practices and employee outcomes. It influences how development initiatives are received and internalized, thereby impacting both individual career progression and organizational effectiveness.

1.4 Overview of the Pharmaceutical Industry

Pharmaceutical Industry in India

A pharmaceutical company is an enterprise that is authorized to manufacture and distribute medicinal drugs. The roots of this sector can be traced back to chemists and traditional pharmacies, which were primarily engaged in preparing and dispensing conventional remedies. In the Indian context, the pharmaceutical industry remained at a very nascent stage until the early twentieth century. For a considerable period, the country relied heavily on imports to meet its medical needs.

The demand for medicines rose sharply after the First World War, creating opportunities but also leading to the circulation of spurious drugs in the market. Until the 1970s, India's domestic pharmaceutical market was almost negligible. However, pioneers such as Acharya P. C. Ray played a crucial role in laying the foundation for indigenous drug manufacturing. One of the government-owned pharmaceutical enterprises established during that era continues to operate. Presently, the Indian pharmaceutical sector has grown substantially, fulfilling nearly 70% of the country's drug requirements. It comprises approximately 8,000 small-scale manufacturing units and approximately 250 large companies, making it a key contributor to national healthcare and the global pharmaceutical market.

In recent decades, the Indian pharmaceutical industry has evolved into one of the largest in the world, ranking third globally in terms of volume and thirteenth in terms of value. The country has become a major exporter of generic medicines, vaccines, and active pharmaceutical ingredients (APIs), supplying affordable drugs to more than 200 countries. With increasing investment in research and development, government support, and a strong base of skilled professionals, the Indian pharma sector continues to expand its presence in regulated and emerging markets, positioning itself as a global hub for cost-effective and high-quality medicines (IBEF, 2025).

The Pharmaceutical Industry in Goa

Goa is a state on the western coast of India with the highest GDP per capita among all Indian states. The industrial centre of the state, Ponda is home to many large factories and industrial estates. The industrial activities are on a fast track in Goa with positive

government attitude and support. The state is home to many small-, medium-, and large-scale pharmaceutical companies. Most pharmaceutical companies are multinational, private, and public.

The pharmaceutical industry in Goa is diverse and well-integrated, encompassing Small, Medium, and Large-scale Enterprises (SMEs and LSEs). It comprises subsidiaries of multinational corporations (MNCs), renowned Indian private sector firms, and several public sector undertakings (PSUs). These companies are engaged in the manufacture of a wide range of products, including active pharmaceutical ingredients (APIs), finished formulations, and over-the-counter drugs. The strategic location of Goa, with easy access to sea ports and airports, further enhances its suitability as a pharmaceutical export hub.

Many globally recognized pharmaceutical firms, such as Cipla, Glenmark, Lupin, Sanofi, Abbott, and Unichem have established their production units in Goa, leveraging Goa's skilled workforce, strict regulatory compliance, and favourable climate for operations. The industry is also known for adhering to high international quality standards such as WHO-GMP, USFDA, and EU-GMP certifications, making it a crucial player in the global supply chain of life-saving medications.

The pharmaceutical sector in Goa has established itself as a major pillar of the state's industrial base. It contributes approximately 12% of India's pharmaceutical production, with nearly 70% of the output exported to international markets, particularly developed nations. This industry accounts for almost 10% of Goa's Gross Domestic Product (GDP) and generates revenues exceeding ₹18,000 crore (USD 2.4 billion) annually. The state hosts more than 100 pharmaceutical units, offering direct employment to over 20,000 people, supported by allied industries such as packaging, machinery, and logistics. In addition, Goa is home to 53 allopathic medicine units, 14 medical device manufacturers, 8 ayurvedic units, along with several cosmetic producers. Notably, the Food and Drugs Administration (FDDA) of Goa has been granted observer status in joint inspections with the US FDA, a move that strengthens its regulatory framework and enhances global credibility in pharmaceutical production (Diplomatist, 2021; Pharmabiz, 2024).

1.5 Significance of the Study

This study holds considerable significance in the current context of increasing reliance on effective HRM practices to drive organizational performance, particularly in highly regulated and knowledge-intensive industries such as pharmaceuticals. The pharmaceutical sector in Goa has emerged as a dynamic contributor to the state's industrial and economic growth. However, despite its strategic importance and growing workforce, a noticeable gap exists in empirical research focusing on the effectiveness of HRM practices in this sector.

This study aims to bridge this gap by examining how various HRM practices, such as training and development, performance appraisal, compensation, employee welfare, and employee relations affect employee performance and HR outcomes. The study provides valuable insights for HR professionals and management teams in pharmaceutical companies to develop and implement more strategic, evidence-based HR initiatives by exploring these relationships.

Furthermore, the research investigates employees' perceptions of the HRD environment and organizational commitment, which are often overlooked yet crucial mediators in the HRM-performance link. Understanding these perceptions can help organizations foster a more supportive and growth-oriented work culture.

A unique aspect of this study is its focus on HR managers' challenges in designing and executing HR practices within the specific industrial and regulatory context of Goa. These practical insights will not only enhance academic understanding but also help practitioners identify gaps, overcome constraints, and improve overall HR functioning.

Ultimately, the study contributes to the limited but growing body of literature on HRM effectiveness in India's regional pharmaceutical hubs and offers strategic recommendations for improving employee engagement, satisfaction, and performance in alignment with organizational goals.

1.6 Scope of the Study

This study aims to systematically examine the association between human resource management (HRM) practices and employee performance within selected pharmaceutical companies operating in the state of Goa. The scope of this research is both theoretical and empirical, encompassing key dimensions of human resource management (HRM) and employee outcomes in the context of a dynamic and highly regulated industrial sector.

From a theoretical perspective, the study focuses on core HRM practices such as training and development, performance appraisal, reward/compensation, health and welfare measures and employer-employee relation. HR literature has widely recognized these dimensions as critical determinants of organizational effectiveness and employee-level outcomes.

This study evaluates two primary employee performance indicators: work efficiency and creativity and innovation. These dimensions were selected to provide a comprehensive assessment of individual performance.

The study is geographically delimited to the pharmaceutical sector in Goa, a region that hosts a mix of multinational corporations, private Indian enterprises, and public sector pharmaceutical units. Given its regulatory complexity, technological advancement, and workforce diversity, this industrial segment offers a unique setting for HRM practices.

The scope is further extended to include employees' perception of the HRD environment and their level of organizational commitment, which act as mediating or influencing factors in the HRM-performance relationship. Additionally, the study considers the challenges HR professionals face in designing and implementing effective HRM strategies within the sector.

This focused scope allows for an in-depth exploration of how structured HR interventions can enhance individual and organizational outcomes, providing both theoretical insights and practical implications for HR policymakers and practitioners.

1.7 Objectives of the Study

1. To examine HRM practices and their outcomes in selected pharmaceutical companies in Goa.
2. To analyse the impact of HRM practices on employees' performance in selected pharmaceutical companies in Goa.
3. To study employees' perception of the HRD environment at the workplace.
4. To study the challenges HR managers, face in developing and implementing HR practices in selected pharmaceutical companies in Goa.

1.8 Limitations of the Study

1. The study focuses solely on pharmaceutical companies in Goa. While the region has a strong industry presence, the findings may not be generalizable to other regions or countries with differing corporate cultures, regulations, and workforce dynamics.
2. Data were collected at a single point in time, limiting the ability to observe changes over time and restricting causal interpretations between HRM practices and employee performance.
3. The study predominantly made use of structured questionnaires to collect employees' views of HRM procedures and their accomplishments. Self-reported data are intrinsically susceptible to several biases which may affect the findings.
4. The study assumes a direct link between HRM practices and performance, without accounting for moderating factors like managerial style, organizational culture, or external influences—limiting the model's comprehensiveness.

1.9 Organization of the Study

Chapter One provides a comprehensive introduction to human resource management, along with an overview of the pharmaceutical industry. It outlines the significance, scope, objectives and limitations of the study, concluding with the organization of the study.

Chapter Two presents a detailed review of the relevant literature on human resource management practices and employee performance. It also explores employees' perceptions of the human resource development (HRD) environment and the challenges encountered by HR managers in developing and executing HR practices in selected pharmaceutical companies in Goa.

Chapter Three defines the problem statement and identifies the research gap. It elaborates on the research methodology adopted, including the research design, sampling, data collection methods, and analytical tools used in the study.

Chapter Four provides a comprehensive analysis of the data and results pertaining to the HR practices, HR outcomes, and employees' performance. It also presents the model developed, showing the relationship between HRM practices and employees' performance.

Chapter Five delineates the major findings of the study, theoretical and practical implications of the study.

Chapter Six concludes the study and offers actionable suggestions for enhancing HRM practices in the pharmaceutical sector. It also outlines directions for future research in this domain.

CHAPTER II

REVIEW OF LITERATURE

This chapter presents a comprehensive review of the existing literature on the impact of human resource management practices on employee performance. This study aims to offer a conceptual and empirical foundation for the study by analysing the evolution, development and application of HRM practices and their influence on the outcomes of various employees.

The review explores key HRM functions, such as training and development, performance appraisal, compensation management, employee welfare, and employer-employee relations, which are vital to this study. It examines how these practices contribute to enhancing individual performance through increased motivation, job satisfaction, organizational commitment, and overall employee productivity.

This chapter also outlines various theoretical frameworks, such as HRM's strategic role in achieving competitive advantage through people. In addition, it covers empirical studies conducted in different sectors and geographical contexts, with a specific focus on the Indian pharmaceutical sector.

Recent trends and emerging issues in human resource management (HRM), including technological integration, employee engagement, talent retention, and the challenges of managing human capital in a dynamic work environment, are also discussed. Special attention is given to studies that demonstrate a direct or indirect relationship between effective HRM practices and improved employee performance.

The literature reviewed in this chapter provides a solid groundwork for identifying research gaps, refining the research objectives, and supporting the hypotheses formulated in the subsequent chapters of this study.

2.1 Human Resource Management Practices, Outcomes, and Impact on Employee Performance

Otoo F. N. (2020) studied the impact of HRM practices on employee competencies within the pharmaceutical industry in Ghana. An integrated research model was developed based on key factors identified in the literature, aiming to examine how HRM contributes to organizational effectiveness through the development of employees' competencies. Data were collected from 550 employees working in selected pharmaceutical firms. The model's validity was tested using Structural Equation Modelling (SEM), while Confirmatory Factor Analysis (CFA) was conducted to assess the reliability and validity of the constructs. This study tested several hypotheses related to HRM practices, employee competencies, and organizational performance.

The results revealed that certain HRM practices had a significant positive impact on organizational effectiveness, primarily through their influence on employees' competencies. Moreover, employees' competencies were found to mediate the relationship between HRM practices and organizational outcomes, highlighting the strategic importance of skills development in the sector.

Otoo et al. (2019) investigated the relationship between human resource management (HRM) practices, employees' performance, and organizational performance within the pharmaceutical industry. This study aimed to examine whether employees' performance mediated the relationship between HRM practices and firm-level outcomes. Data were collected from 700 employees using a structured questionnaire, and the analysis was conducted through Structural Equation Modeling (SEM). Confirmatory Factor Analysis (CFA) was also applied to ensure the reliability and validity of the measurement constructs.

The findings of the study revealed that HRM practices had a significant positive effect on organizational performance, with employee performance acting as a key mediating variable. This confirmed that investment in employee development enhances individual capabilities, which in turn drives organizational success. The study also highlighted the importance of strategic HRM practices in building a high-performing workforce and revealed that aligning employee development with business goals can lead to a sustainable competitive advantage in the pharmaceutical sector.

Sriviboon C. and Jermsittiparsert K. (2019) examined the impact of human resource management (HRM) practices—namely, selection, compensation, and training and development on employee performance within a Thai pharmaceutical company. The study also assessed a moderating variable. Data were gathered through a cross-sectional survey of 300 employees, and analysis was conducted using partial least squares structural equation modeling (PLS-SEM).

The results demonstrated that all three HRM practices had a significant positive effect on employee performance. These findings reinforced the view that well-structured and strategically implemented HRM systems are essential for enhancing workforce effectiveness. The study also highlighted the need for aligning HR practices with organizational objectives, particularly in the competitive and knowledge-intensive pharmaceutical industry, to drive employee productivity and overall firm performance. It also revealed that contextual factors may influence the strength of HRM–performance relationships.

Singh Rohan, Mohanty A. K., and Mohanty Madhumita (2018) studied the impact of HR practices on perceived employee and organizational performance. The research was based on a sample of 324 HR professionals from 60 service sector organizations including public and private banks and insurance firms, and 150 manufacturing organizations from industries such as automobiles, pharmaceuticals, fertilizers, paints, and metals.

The study aimed to examine the HR practices which significantly influenced perceived performance outcomes. Data analysis was conducted using IBM SPSS 20, employing descriptive statistics, Cronbach's alpha, Pearson correlation, Chi-square tests, regression analysis, and ANOVA to test the eight hypotheses. The findings revealed that performance appraisal played a critical role in enhancing employees' performance within manufacturing organizations.

The study concluded that targeted HR interventions have a measurable influence on both individual and organizational outcomes and that there is a need for manufacturing organizations to invest in systematic appraisal, skill development, and fair compensation systems to drive performance improvements and strategic growth.

Hassan Saira (2016) investigated the impact of human resource management (HRM) practices on employee performance in Pakistan's textile industry. The research employed a random sampling technique, collecting data through a structured 34-item questionnaire administered to 68 employees. The objective was to evaluate the effectiveness of specific HRM practices in enhancing individual performance within a labour-intensive sector.

The study applied Pearson correlation and regression analysis to examine the relationship between HRM practices and employee performance. The results revealed a positive and statistically significant association between key HR functions—such as compensation, career planning, performance appraisal, training, and employee involvement—and improved employee outcomes. Organizations that effectively implemented these practices reported higher productivity, motivation, and job satisfaction.

The study concluded that the ongoing evaluation and strategic alignment of HRM practices with employee expectations are critical for maintaining performance.

Aladwan, Bhanugopan, and D'Netto (2015) examined the impact of human resource management (HRM) practices on organizational commitment (OC) among frontline employees in Jordan. The study aimed to explore both the direct and indirect effects of HRM practices on employees' attitudes within the Middle Eastern context. Using survey data collected from 493 employees across various industries, the researchers applied Structural Equation Modelling (SEM) to analyse the relationships between key HRM practices, training, rewards, performance management and the dimensions of organizational commitment. The results showed significant positive associations, indicating that HRM practices influenced organizational commitment through both direct and mediated pathways.

The findings also suggested that strategically implemented HRM practices enhanced employees' engagement, loyalty, and commitment. Lastly, this study offered important implications for HR policy reform in Middle Eastern organizations, highlighting the importance of designing context-specific HR practices aligned with the cultural and economic environment to effectively strengthen organizational commitment among employees.

Auti, M. D. (2015) explored the HRM practices adopted by industrial units and evaluated their impact on employee morale and organizational performance. The study also assessed the challenges involved in designing and implementing best practices in HRM. Data analysis was conducted using a range of statistical tools, including the percentage method, measures of central tendency, dispersion measures, Z-test, T-test, and Chi-square tests. The study found that effective HRM practices improved employee job satisfaction, boosted morale, and enhanced both individual and organizational performance. However, there were noted limitations in the innovation and consistency of the current HR systems.

The research concluded that while several HR best practices had already been introduced, more innovative approaches, such as flexible working hours and annual potential surveys, were needed. These practices were seen as potential tools for raising the standard of HRM and promoting a more professional and strategic HR outlook in industrial units.

Goodarzi and Bazgir (2015) studied the impact of human resource (HR) practices on employee and organizational performance. The research emphasized the role of recruitment and attraction processes; particularly how scientifically designed systems influence performance outcomes.

The study's hypotheses testing revealed that recruitment had a significant impact on employee performance, which, in turn, enhanced organizational effectiveness. The authors stressed the need for accurate, standardized, and validated recruitment tools, including the use of objective assessments and well-defined procedures. Managers involved in the recruitment process were seen as key players in ensuring quality hires.

The findings revealed that when competent and skilled individuals with the right attitudes and insights are recruited, they are more likely to be placed in roles suited to their capabilities. This alignment between individual competencies and organizational roles was found to be crucial in achieving higher levels of performance and productivity.

Shaukat, Ashraf, and Ghafoor (2015) analysed the impact of various HRM practices—such as selection, training, career planning, compensation, performance appraisal, job definition, and employee participation—on perceived employee

performance. The study was framed within the concept of High-Performance Work Practices (HPWPs) and utilized data from a national sample of firms. The findings revealed strong and significant relationships between the systematic implementation of HRM practices and enhanced employee performance.

The study provided both economic and statistical support for the positive role of comprehensive human resource systems in improving workforce outcomes. The study concluded that integrated and strategically aligned HRM practices contributed substantially to employees' effectiveness. Moreover, the research emphasized that bundled HR initiatives, rather than individual or isolated practices, were more effective in driving performance improvements. These insights reinforced the importance of adopting a holistic approach to human capital management to achieve sustained organizational success.

Simon et al. (2015) examined the relationship between HRM practices and employee engagement, focusing on four key HR areas: selection, socialization, performance management, and training. The study was based on the premise that employee engagement serves as a strategic resource contributing to sustained competitive advantage. It proposed that organizations fostering high engagement levels would benefit from improved job, unit, and organizational performance. The findings highlighted that engaged employees demonstrated greater discretionary effort, increased organizational citizenship behaviour, and lower turnover intentions.

The study concluded that employees' engagement should be a core component of the HR strategy, linking day-to-day HR practices to long-term performance outcomes. The researchers emphasized the importance of designing and implementing HR systems that consistently promote engagement, particularly in rapidly changing business environments. The study highlighted that sustained employee engagement is critical for maintaining organizational agility, innovation, and resilience in competitive markets.

Shabbir M. (2014) conducted a study to evaluate the impact of human resource management (HRM) practices on employees perceived performance within the pharmaceutical industry in Pakistan. The research aimed to explore how employees interpret and respond to various HR initiatives implemented in their organizations. Data were gathered through a structured questionnaire and analysed using regression

analysis. The study focused on four key HRM practices: training, compensation, performance appraisal, and employee involvement. Among these, compensation emerged as the most influential factor, significantly boosting employee morale and perceived productivity.

The findings highlighted that fair and well-structured reward and appraisal systems played a crucial role in shaping how employees assessed their own performance. Lastly, the study concluded that effective HRM practices not only enhanced employee motivation but also contributed to talent retention—an essential factor in highly competitive and regulated industries like pharmaceuticals. These insights emphasized the strategic importance of aligning HR practices with employee expectations.

Shien-Ping Hu (2014) explored the impact of human resource management (HRM) systems on organizational commitment, focusing on how specific HR practices influenced employees' attitudes and job performance. The study examined HR activities, such as efficient recruitment, training, promotional opportunities, compensation, and social support. The findings revealed that well-structured HRM systems positively affected job engagement and strengthened employees' emotional attachment to their organizations. Employees exposed to effective HRM systems reported higher job satisfaction and productivity. Further analysis demonstrated strong correlations between HRM systems, organizational commitment, and overall business performance.

The study concluded that employee-oriented HRM systems played a critical role in fostering alignment between individual and organizational goals. By strategically investing in these systems, organizations could enhance employee motivation and commitment, ultimately contributing to sustainable performance. The research emphasized the importance of designing HRM frameworks that support both employee development and long-term organizational success.

Trehan and Setia (2014) investigated the role of human resource management (HRM) practices in enhancing employees' skills to support sustainable organizational performance. The study focused on key HRM practices, such as training and development, performance-based rewards, and team-building activities. These practices were found to significantly contribute to improving employees' competence,

motivation, and collaboration. The findings revealed that such initiatives fostered an innovation-driven and supportive HR environment, promoting continuous improvement and long-term success. By aligning employee development with strategic goals, organizations could enhance both individual and organizational performance.

The study concluded that integrating HRM into strategic planning strengthened workforce commitment and built the capabilities necessary for achieving a sustainable competitive advantage. The study also emphasized the need for HR departments to play a proactive role in strategic decision-making, especially in dynamic and knowledge-intensive industries, where employees' skills and engagement are critical to maintaining organizational growth and adaptability.

Abubakr Suliman Bader Al Harethi (2013) examined the relationship between perceived organizational climate and work performance in public security organizations in the UAE. The research aimed to understand how employees' perceptions of their work environment influenced their work environment perceptions. Data were collected through a self-administered questionnaire completed by a random sample of 500 full-time employees from top, middle, and lower management.

The findings revealed that the key dimensions of organizational climate, such as leadership style, communication effectiveness, managerial support, and recognition, significantly predicted employee performance. A positive and supportive work environment was associated with greater motivation, engagement, and job effectiveness. The study highlighted that employee perceptions of fairness, openness, and trust played a crucial role in shaping performance-related behaviour. The study concluded that the organizational climate serves as a mediating factor, translating management policies into improved employee outcomes.

Alfes et al. (2013) examined the influence of human resource management (HRM) bundles on two key behavioural outcomes: Organizational Citizenship Behaviour (OCB) and turnover intentions. The study investigated how employees' engagement, shaped by consistent and strategic HRM practices, impacted these outcomes. The researchers found that engaged employees were more likely to exhibit OCB, voluntarily going beyond their formal job roles to support organizational effectiveness. In contrast,

poorly implemented HRM systems and a negative organizational climate were associated with higher turnover intentions.

The study concluded that well-aligned and supportive HRM practices, coupled with a positive organizational climate, were critical for encouraging discretionary behaviour and retaining talent. The findings highlighted the importance of integrating HRM with broader elements, such as leadership and organizational culture, to create an environment that fosters engagement and reduces employee attrition.

Rahmania et al. (2013) examined the impact of human resource management (HRM) practices on employee satisfaction in the Bangladeshi pharmaceutical industry. The study employed statistical methods, such as Z-tests, mean analysis, and proportion analysis, to assess satisfaction levels across various HR dimensions. The results showed that employees were generally satisfied with recruitment and training practices; however, dissatisfaction was reported in key areas such as human resource planning, compensation, performance appraisal, and industrial relations. These inconsistencies highlighted the uneven implementation of HR functions across pharmaceutical firms.

The study concluded that to enhance employees' satisfaction and overall organizational effectiveness, firms must address weaknesses in their HR systems. The study recommended that HR policies should be strengthened, particularly in the underperforming areas, through a more strategic and balanced approach. The findings emphasized the need for coherent HRM strategies to support sustainable workforce engagement and long-term organizational growth in a competitive industry.

Kroon, Van De Voorde, and Timmers (2012) investigated the implementation of high-performance work practices (HPWPs) in small firms, focusing on how factors such as resource availability, company size, and strategic decision-making by business owners influenced HRM adoption. The study revealed that while small firms often lacked extensive resources, they developed smaller yet coherent bundles of HPWPs aligned with the owner's strategic intent and expertise. These bundles were typically designed to enhance employee ability, motivation, or opportunity, in line with the Ability-Motivation-Opportunity (AMO) framework.

The study concluded that effective implementation of HPWPs in small firms required a strategic balance between limited resources and leadership orientation. Study

emphasized that owner-driven decision-making and focused deployment of HR practices enabled small businesses to establish impactful HRM systems, contributing to employee development and long-term organizational sustainability. The findings of the study highlighted the value of strategic alignment in HR practices, even within resource-constrained environments.

Ruchi and Madhu (2012) investigated the influence of human resource (HR) practices on employee job satisfaction and organizational commitment within pharmaceutical companies in India. The study focused on evaluating the relevance and effectiveness of HR practices in the firms located in and around the Jaipur region. This study aimed to assess how employee perceptions of HR systems affect their attitudes and organizational loyalty.

The findings revealed that well-structured and appropriate HR practices positively influenced both job satisfaction and organizational commitment. Employees who perceived HR policies as fair, growth-oriented, and supportive were more likely to remain loyal, engaged, and motivated in their roles. Positive employee perceptions of HRM contribute significantly to fostering a stable and committed workforce.

The study concluded that job satisfaction and organizational commitment serve as key mediators in translating HRM efforts into broader organizational effectiveness.

Mudor and Tooksoon (2011) investigated the relationship between Human Resource Management (HRM) practices, specifically supervision, job training, and pay and job satisfaction, and employee turnover. The study aimed to understand how these HR practices influenced employee satisfaction and, consequently, their intention to leave the organization. The findings revealed a significant positive relationship between HRM practices and job satisfaction, indicating that employees who received fair compensation, effective supervision, and adequate training were more satisfied with their jobs. Additionally, job satisfaction was found to be negatively correlated with turnover intentions, suggesting that dissatisfied employees were more likely to consider leaving. The study concluded that enhancing core HR functions is vital for improving employee satisfaction and reducing turnover and by addressing key satisfaction drivers, organizations could foster a more committed, stable, and productive workforce, thereby strengthening long-term organizational performance and employee engagement.

Santiago and Alcorta (2011) examined the impact of human resource management (HRM) practices on a firm's likelihood of performing in-house R&D in the pharmaceutical sector in Mexico. They conceptualized R&D as a learning mechanism that fosters absorptive capacity and supports the development of technological capabilities within firms. The study focused on key HRM practices, such as training, performance-based remuneration, and employee empowerment, analysing their contribution to organizational learning. Data from Mexican pharmaceutical firms revealed a positive link between HRM practices and firm-level learning. The strength of this relationship was influenced by contextual variables like the novelty of knowledge required and anticipated R&D challenges.

Among all practices, training showed the most consistent and significant positive impact on a firm's inclination to engage in R&D. The findings of the study highlighted that by developing internal capabilities through HR interventions, organizations could more effectively build technological competence and innovation capacity.

Kwon, Bae, and Lawler (2010) examined the impact of high-commitment human resource practices (HCHRP) on affective organizational commitment, with a focus on comparing their influence on top performers versus average employees. The study assessed whether HCHRP, such as participative decision-making, continuous training, and supportive management, could effectively retain high-performing staff.

The findings of the study revealed that while HCHRP positively affected organizational commitment across all employees, the impact was significantly stronger among top performers. These practices fostered greater emotional attachment to the organization, leading to higher levels of loyalty and engagement.

The study concluded that implementing commitment-based HR systems is a strategic approach to retaining top talent. By cultivating a supportive and participative work environment, organizations can not only reduce voluntary turnover but also enhance overall performance. It is emphasized that tailoring HRM practices to recognize and retain high performers is essential for sustaining competitive advantage.

Petrescu and Simmons (2008) examined the relationship between HR practices and workers' job satisfaction, with a particular focus on pay satisfaction. The study

differentiated between union and non-union members, uncovering varied effects across these groups.

The findings of the study showed that HRM practices, such as performance-related pay and seniority-based rewards, positively influenced job and pay satisfaction among non-union employees. In contrast, these effects were less pronounced or absent among union members. Furthermore, perceived pay inequality significantly reduced satisfaction levels, especially among non-union workers.

Lastly, the study concluded that while strategic HRM practices can enhance employees' satisfaction, the perception of fairness and equity in compensation is crucial, and it emphasized the importance of addressing internal pay disparities to sustain the effectiveness of HR interventions. These insights are particularly relevant for organizations operating in non-unionized environments, where transparent and equitable reward systems are key in maintaining employee morale and long-term commitment.

Zheng, Morrison, and O'Neill (2006) investigated the impact of human resource management (HRM) practices on firm performance in 74 Chinese small- and medium-sized enterprises (SMEs). The study focused on four high-performance HRM practices: performance-based pay, participatory decision-making, free market selection, and performance evaluation. Using regression analysis, the researchers found that while HRM practices generally enhanced HR outcomes and contributed to improved firm performance, the effectiveness of individual practices varied. Not all HR initiatives produce consistent results across firms. Among the outcomes studied, employee commitment emerged as the most critical factor influencing organizational success.

The study concluded that in the SME context, a selective and context-specific application of HRM practices was more effective than a uniform, standardized approach. It emphasized that fostering employee commitment should be a strategic priority for SMEs aiming to boost performance, given their resource constraints and the importance of aligning HRM with firm-specific needs.

Lui, Lau, and Ngo (2004) examined the adoption of human resource (HR) best practices and their impact on firm performance. The study focused on standardized HR practices, such as training, performance appraisal, and employee involvement,

assessing whether their implementation led to measurable improvements in organizational outcomes. While many firms reported the formal adoption of these practices, the findings indicated that their impact on performance was limited unless they were integrated within a broader strategic framework.

The study highlighted the importance of leadership, organizational culture, and industry context in shaping the effectiveness of HRM practices. It concluded that HR practices alone are not sufficient to enhance performance; rather, their success depends on strategic alignment with business objectives and internal values. The research emphasized the need for a tailored, context-specific approach to HRM, where practices are meaningfully embedded in the organization's overall strategy and culture to generate sustained performance gains.

Ahmad and Schroeder (2002) investigated the impact of human resource management (HRM) practices on operational performance and their influence on organizational commitment. The study specifically examined how practices such as training, employee involvement, and performance management contribute to improving key operational outcomes, including productivity, quality, and efficiency. The findings revealed that most HRM practices do not influence operational performance directly. Instead, their effect is mediated through organizational commitment. Employees who felt more committed to their organizations due to supportive HR practices were more likely to contribute positively to operational success. This highlights the critical role of commitment as a linking mechanism between HRM initiatives and performance improvements.

The study concluded that managers aiming to enhance operational outcomes must first build a strong organizational climate that promotes employee engagement and loyalty. By nurturing commitment, HR practices can be effectively leveraged to drive sustainable operational excellence.

Cappelli and Neumark (2001) investigated the impact of high-performance work practices on organizational outcomes in manufacturing establishments. The study focused on measuring employee productivity and labour efficiency to determine how empowering workplace practices influence organizational performance.

The findings of the study indicated that high-performance practices, which transfer decision-making power to employees (e.g., participative management, team-based structures), increased labour costs per employee. This highlighted that while such practices may enhance employee compensation, they also represent a cost to the organization. Additionally, these practices were found to positively affect productivity (sales per employee), implying a gain in output despite increased costs.

However, the study also reported no significant effect on labour efficiency, defined as the value of output per dollar spent on labour. This meant that although productivity rose, it did not necessarily translate into cost-effective efficiency gains, highlighting a nuanced relationship between empowering HR practices and organizational economics.

James P. (2001) conducted a study in New Zealand to examine the relationship between high-involvement work practices and productivity. The research involved a nationwide survey targeting senior-level managers in organizations with a workforce of 100 or more employees. The findings revealed a positive association between high-involvement practices—such as employee participation, teamwork, and continuous skill development—and organizational performance. These practices were linked to both higher employee retention and increased firm productivity. Companies that involved employees in operational decisions experienced greater workforce stability and operational efficiency.

The study concluded that high-involvement HR practices serve as a strategic tool for competitive advantage. Empowering employees through participative methods fosters a sense of ownership and commitment, which in turn leads to better business outcomes and reduced turnover.

Sandra E. Black and Lisa M. Lynch (2001), Black and Lynch (2001) examined the combined effects of HR practices, information technology, and human capital investments on productivity in American workplaces. The study emphasized the importance of how HR systems are implemented, rather than their mere adoption, and the results showed that employee voice in decision-making was a critical driver of productivity, more so than the adoption of systems like Total Quality Management (TQM) alone. Additionally, profit-sharing schemes were found to improve productivity, but only when they were extended to non-managerial employees. The study highlighted

that unionized establishments with transformed labour relations and incentive-based systems reported higher productivity than traditional union setups.

The study concluded that joint decision-making and inclusive HRM practices play a crucial role in enhancing workplace performance. The study provided strong evidence that organizational culture and participative mechanisms are central to leveraging the full benefits of HR practices.

Sing K. (2000) investigated the direct impact of investment in human resources on firm performance using a large sample of 500 major Indian companies across sectors such as automobiles, pharmaceuticals, and durable goods. The study aimed to evaluate how individual and combined HR practices influenced objective performance indicators, including turnover, employee productivity, and financial outcomes.

The findings of the study revealed that skilled and motivated employees played a crucial role in enhancing organizational performance. Among the HR practices examined, performance-based compensation, information sharing, merit-based selection, and promotion were identified as particularly effective in driving improved results.

The study concluded that performance- and merit-oriented HR practices were strongly associated with positive organizational metrics. It emphasized that organizations should adopt performance-linked reward systems to better align employee efforts with strategic business goals, thereby achieving higher productivity and sustained competitive advantage.

Jayanth Jayaram et al. (1999) examined the relationship between human resource management (HRM) practices and manufacturing performance, focusing on elements such as top management commitment to flexibility and employee training for quality. The study aimed to assess how strategically aligned HRM practices influenced key manufacturing outcomes, especially in competitive, quality-driven environments.

The findings of the study demonstrated that a strategy-specific bundle of HRM practices significantly improved manufacturing performance, particularly in areas related to operational flexibility and quality. Firms that aligned their HRM initiatives with core business strategies achieved greater effectiveness and adaptability.

The study concluded that HRM systems tailored to the strategic needs of manufacturing operations enhanced both efficiency and performance and highlighted the vital role of top management in driving and supporting HR initiatives, ensuring their successful implementation. The authors recommended that manufacturing firms adopt a focused, strategic HRM approach to gain and sustain a competitive advantage in dynamic production settings.

Terry H. (1998) studied the determinants of human resource management (HRM) practices in small firms using data from 991 small businesses in Atlantic Canada. This study aimed to examine whether the adoption of HRM practices was influenced by specific organizational characteristics. The analysis focused on three key variables: progressive decision-making ideology, union status, and organizational size, employing multivariate statistical techniques.

The findings of the study revealed that informal communication was typical in smaller firms. However, businesses that embraced progressive managerial approaches, such as participative decision-making and open communication, were more likely to implement a broader range of HRM practices. Organizational size emerged as a significant factor, with negligible firms being less likely to adopt most HR practices. Exceptions included job sharing and the sharing of business information, which were more prevalent even in smaller enterprises.

Ichniowski, Shaw, and Prennushi (1995) conducted an in-depth study to assess the impact of human resource management (HRM) practices on worker productivity. The research centered on the implementation of a cohesive set of innovative HR practices, including team-based work structures, flexible job assignments, employment security, cross-training, and performance-based incentives. The findings of the study revealed that the firms utilizing integrated HRM systems achieved significantly higher productivity compared to those relying on traditional methods characterized by rigid job definitions and strict work rules. The study highlighted that the cumulative effect of complementary HR practices was far more effective than implementing individual practices in isolation. Lastly, the study concluded that enhancing employee autonomy, skill variety, and pursuing comprehensive HR reforms were vital for improving motivation and performance. Firms adopting a holistic and systemic approach to HRM

showed greater adaptability, innovation, and long-term competitiveness, reinforcing the strategic value of integrated HR systems in driving organizational success.

Mark A. Huselid (1995) evaluated the relationship between high-performance work practices (HPWPs) and firm performance using employee outcomes, such as turnover and productivity, as mediating variables. The study drew on a national sample of nearly 1,000 firms, offering broad empirical evidence on the impact of HR practices. This study aimed to determine how HR systems influence both intermediate- and long-term organizational outcomes.

The findings of the study revealed that the HPWPs had statistically and economically significant effects on employee outcomes and on both short- and long-term financial performance. The study underlined that investments in employee development, engagement, and involvement contributed to sustainable competitive advantages. A strategic HRM approach aligned with organizational goals was recommended to improve the overall effectiveness.

The study also found that firms that committed to high-performance work systems experienced not only productivity gains but also enhanced long-term resilience and adaptability.

Jeffrey B. Arthur (1994) examined the impact of human resource management (HRM) practices on manufacturing performance, focusing on two key operational measures: labour efficiency and scrap rate. This study aimed to evaluate the influence of various human resource management (HRM) systems on organizational effectiveness within manufacturing environments. Regression analysis revealed that HR systems fostering organizational commitment were significantly associated with higher labour efficiency and reduced scrap rates. Specifically, commitment-based HR systems characterized by trust, employee involvement, and long-term development demonstrated superior performance outcomes compared with control-based systems.

The study highlighted the importance of aligning HR practices with a culture of employee engagement and empowerment. It also stated that when employees felt valued and supported, they exhibited proactive problem-solving behaviours. These HR systems not only enhanced resource utilization but also contributed to better quality and innovation on the production floor.

John R. (1987) conducted a study to examine the role of human resource management (HRM) practices in predicting organizational commitment among employees. The research aimed to identify the HR practices that most significantly enhance employees' emotional attachment and loyalty to their organization. Data were analysed using multiple regression analysis to assess the influence of various HR variables on organizational commitment.

The findings revealed that merit accuracy, the perceived fairness and objectivity of performance evaluations and promotion opportunities were significant predictors of commitment. Employees who believed their performance was fairly assessed and who saw clear advancement paths were more likely to remain loyal to the organization. These results underscore the role of fair evaluation systems in fostering long-term employee engagement. Lastly, the study concluded that transparent appraisals and structured career development are key to building a committed workforce.

2.2 Employees Perception of HRD Environment in the Workplace

Pandiyan L. (2020) conducted an empirical study to examine the effect of the human resource development (HRD) climate on employee performance in Neyveli Lignite Corporation India Limited, a major public sector enterprise. The study aimed to assess how various elements of the HRD climate influenced employee motivation, efficiency, and output. Primary data were collected from 520 employees across multiple departments using structured questionnaires to capture their perceptions of the organizational climate.

The findings revealed that the HRD climate had a strong and statistically significant positive impact on job performance. Employees who perceived their work environment as supportive and development-focused exhibited higher levels of commitment, productivity, and job satisfaction. The presence of a robust HRD climate was found to directly contribute to enhanced individual and organizational outcomes.

The study concluded that a well-structured HRD climate encompassing effective training systems, career development opportunities, constructive feedback, and leadership support is critical for improving employee performance. The study also

recommended that organizations should periodically assess and strengthen their HRD frameworks to promote a high-performance culture and sustain long-term organizational success.

Yadav Chandrasekhar T et al. (2018) explored the influence of human resource management and development (HRM&D) styles on organizational effectiveness in the IT sector. The study focused on how proactive HR practices such as campus recruitment and ongoing training programs helped to introduce new skills, foster positive attitudes, and strengthen employee commitment. These initiatives were considered vital for enhancing workforce energy and engagement.

The findings indicated that the HRD climate in IT organizations was closely associated with managerial effectiveness, teamwork, and fair performance assessments. High-performing firms actively promoted team collaboration, transparent evaluation processes, and leadership practices that empowered employees. These elements collectively contributed to a dynamic and supportive HRD environment.

The study concluded that effective employee assessment and feedback systems are crucial for building a high-performance culture and the need for HR strategies to remain adaptive to the rapidly evolving IT industry to maintain sustainable employee engagement and ensure long-term organizational growth.

LVSN Murthy and G. Manchala (2017) conducted a study to examine the relationship between human resource development (HRD) climate dimensions and employee engagement in Defence Public Sector Undertakings (DPSUs). The research further aimed to analyse the impact of the HRD climate and employee engagement on organizational productivity and performance. Data were collected and processed using the Statistical Package for the Social Sciences (SPSS), incorporating statistical tools such as frequency tables, mean, weighted averages, standard deviation, skewness, and kurtosis.

Correlation and regression analyses were employed to assess the association between HRD climate dimensions and employee engagement levels. The findings demonstrated that a favourable HRD climate significantly improved employee engagement. The study found a positive relationship between these two constructs, highlighting that an engaging and development-oriented work environment fosters higher levels of

employee involvement and motivation. The study concluded that the HRD climate and employee engagement positively influence organizational profitability and performance.

Gupta Rama Krishna and Potnuru Chandan Kumar Sahoo (2016) examined the impact of Human Resource Development (HRD) interventions on organizational effectiveness (OE) through the development of employees' competencies. The study focused on three specific HRD interventions and they are training, performance management, and career management and investigated their role in competency building among employees. Data was collected from 290 executive and non-executive employees working in two medium-sized cement manufacturing companies.

The validity of the proposed model was tested using structural equation modelling (SEM), while confirmatory factor analysis (CFA) was employed to establish the reliability and validity of the dimensions. The results indicated that the selected HRD interventions had a significant impact on the development of employees' competencies. These competencies, in turn, played a crucial role in enhancing organizational effectiveness.

The study concluded that investment in structured HRD interventions contributes to competency development, which serves as a key mechanism for improving organizational performance.

Pillai Prakash (2016) conducted a study to analyse the influence of the human resource development (HRD) climate on employees' learning orientation within the banking sector. The research aimed to determine whether a supportive HRD climate encouraged employees to actively pursue learning and skill enhancement. A total of 300 respondents were selected using a stratified random sampling method to ensure representation across various employee levels.

The study employed the chi-square test to examine the association between HRD climate and learning orientation, with the results showing a statistically significant relationship at the 0.01 level. Employees who perceived the HRD climate as positive and developmental were more likely to demonstrate a high learning orientation, while those with negative perceptions were more likely to exhibit lower engagement in learning activities.

The study concluded that fostering a favourable HRD climate characterized by opportunities for knowledge sharing, skill development and career growth is essential for promoting continuous learning behaviours among employees.

Sheikh (2016) investigated the Human Resource Development (HRD) climate in healthcare institutions of Kashmir, drawing insights from employees across district-level hospitals. The study emphasized the importance of people as the driving force in healthcare organizations, where the quality of care depends not only on technology and protocols but largely on the workforce itself. The analysis provided an overview of how developmental practices were perceived and how they shaped satisfaction, motivation, and organizational effectiveness in the healthcare sector.

The results revealed that employees expressed notable dissatisfaction with the reward system in hospitals. Many respondents felt that good performance was not fairly acknowledged or rewarded, which contributed to weakened perceptions of fairness and recognition. Similarly, top management practices were viewed critically, with employees perceiving leaders as engaged in routine administrative tasks rather than showing genuine concern for improving employee comfort and creating a more motivating workplace climate. These findings point toward gaps in leadership focus and recognition systems that directly influence employee morale.

Ashutosh Muduli (2015) explored the relationship between high-performance work systems (HPWS) and organizational performance in the Indian power sector, with particular emphasis on the mediating role of the human resource development (HRD) climate. The study examined how HR practices such as selective hiring, training, performance-based rewards, and employee involvement contribute to performance, contingent on the presence of a supportive HRD climate. The HRD climate was measured using the OCTAPACE model, which includes openness, confrontation, trust, authenticity, proaction, autonomy, collaboration, and experimentation.

The findings revealed that HPWS significantly enhanced organizational performance when embedded within a positive HRD climate. The study confirmed that the HRD climate served as a critical mediator, facilitating the translation of HPWS into measurable organizational outcomes.

The study concluded that a well-developed HRD climate acts as a catalyst in realizing the benefits of HPWS, and internal alignment of HR practices and climate can generate a sustainable competitive advantage.

Rani and Barman (2014) conducted a study to examine the relationship between the human resource development (HRD) climate and knowledge management practices in veterinary sector offices in Assam, India. The study aimed to explore how demographic and organizational variables such as gender, workplace location, job level, unit or section, and age influence employees' perception of the HRD climate and knowledge management in a public sector environment.

The findings indicated that the HRD climate within the veterinary division of the Assam government was notably weak and inconsistent. Significant differences in employee perceptions were observed based on workplace and job level, indicating uneven implementation of HRD practices across the organization. These disparities indicated structural and systemic shortcomings in promoting employee development and organizational learning.

The study concluded that an underdeveloped HRD climate can adversely affect knowledge sharing, employee motivation, and performance in public sector settings.

Brad et al. (2014) explored the linkages between HRD practices, employee engagement, and turnover intentions. This study aimed to examine how participation in HRD activities influenced employees' decisions to stay with or leave an organization and whether engagement functioned as a mediating factor. To ensure validity and reliability, data were collected through an internet-based self-report survey developed using a four-stage method.

The findings revealed that participation in HRD practices was negatively related to turnover intention and that employees who engaged in development programs were less likely to consider leaving. Employee engagement, defined in terms of cognitive, emotional, and behavioural components, also showed a negative relationship with turnover intent. The study concluded that organizations should invest in HRD initiatives to enhance employee capability and reduce voluntary turnover.

Naharuddin, N. M., and Sadegi, M. (2013) conducted a study to examine the influence of various workplace environment factors on employee performance at Miyazu (M) Sdn. Bhd., a Malaysian company. Using a survey-based method, data were collected from 139 employees across three major workplace locations. This study aimed to evaluate the effects of supervisor support, job aids, and the physical work environment on employee performance outcomes.

The findings revealed that supervisor support did not have a statistically significant impact on employee performance in this context. In contrast, job aids such as tools, instructions, and access to resources and physical workplace conditions such as lighting, noise levels, and workspace design showed a significant positive relationship with employee performance. These results highlighted that the tangible and structural elements of the work environment played a more direct role in enabling employee effectiveness. It emphasized the importance of investing in ergonomic workplace design and providing sufficient resources to enhance operational efficiency, particularly in technical and manufacturing settings. The study concluded that while interpersonal support from supervisors is generally appreciated, its influence on performance may be limited without adequate infrastructural and task-related support.

Chaudhary, R. et al. (2013) explored the influence of Human Resource Development (HRD) climate quality and climate strength on work engagement at the organizational level. The study collected data from 375 employees across 28 business organizations in India and utilized hierarchical regression analysis to examine the nature and strength of relationships among the key variables.

Climate quality referred to employees shared perceptions of the extent to which their work environment supported growth and development, while climate strength denoted the degree of agreement or consistency in those perceptions within the same organization. The findings indicated that HRD climate quality had a significant positive relationship with work engagement, revealing that employees who perceived a developmental HR environment were more engaged in their roles. It also stated that ensuring consistency in the implementation and perception of HRD practices across the workforce is important to strengthen overall organizational engagement. The study concluded that fostering a high-quality HRD climate enhances employee involvement, enthusiasm, and commitment.

Dash, S. et al. (2013) conducted a study to examine employees' perceptions and attitudes toward various human resource development (HRD) climate variables and their relationship with job satisfaction. The study aimed to identify specific elements of the HRD climate that significantly influenced employee satisfaction levels. Quantitative methods were used, and the data were analysed using statistical tools such as mean, standard deviation, correlation, regression analysis, and t-tests.

The findings revealed a significant positive relationship between the HRD climate and job satisfaction. Employees who perceived their HRD environment as favourable, characterized by developmental support, learning opportunities and open communication, tended to report higher levels of job satisfaction. This result affirmed the role of the HRD climate in shaping positive employee attitudes within the workplace.

The study concluded that although the existing HRD practices contributed positively to satisfaction, there remained considerable scope for improvement. Strengthening the HRD climate could serve as a strategic approach to enhancing employee satisfaction, retention, and overall organizational performance.

Devi Rama V. and Poojitha V. (2012) examined the role of human resource development (HRD) climate as a subset of the broader organizational climate, emphasizing the need for organizational culture to prioritize employee development. The study asserted that a development-oriented culture fosters an environment conducive to enriching human capital and enables organizations to design and implement strategies that value people as core contributors to success.

The authors identified three primary functions of HRD, training and development, career development, and organizational development as critical elements prioritized by organizations aiming to build a skilled and capable workforce. The study argued that in the context of intense market competition, human capital emerges as a strategic resource with unique capabilities that are not easily imitable or substitutable by competitors.

The study concluded that when organizations invest in building a strong HRD climate, they facilitate the creation of a committed workforce. Over time, this commitment has evolved into a source of sustainable competitive advantage.

Akinyemi, B. & Iornem, D. (2012) examined employees' perceptions of affective, normative, and continuance commitment in relation to the prevailing HRD climate within the Nigerian banking sector, particularly during a period of organizational reforms and recapitalization. The study involved a sample of 303 employees from selected commercial banks and used quantitative methods to explore the relationship between the developmental climate and organizational commitment. The results of the statistical analysis indicated a significant positive relationship between the HRD climate and all three forms of commitment. Employees who perceived a supportive and developmental HRD climate reported higher levels of emotional attachment (affective), a sense of obligation (normative), and the perceived cost of leaving (continuance commitment). This suggested that the developmental environment played a critical role in shaping employee loyalty and retention.

The study concluded that organizations undergoing change should not only focus on structural or financial reforms but also strengthen HRD practices to maintain workforce stability and engagement.

Paul et al. (2012) developed a model to assess whether reducing barriers and promoting mentoring could generate individual and organizational benefits. The study focused on outcomes such as increased job, career, and coworker satisfaction, enhanced organizational commitment, and improved performance and competency. It also examined whether these outcomes were independent of the core self-evaluations.

The findings indicated that both mentoring and core self-evaluations had positive and independent effects on job and organizational attitudes. However, only mentoring demonstrated a statistically significant relationship with supervisors' evaluations of employee contributions. This highlighted the practical value of mentoring programs in enhancing observable work outcomes beyond internal self-assessments.

The study concluded that mentoring can contribute significantly to employee development, organizational effectiveness and can produce meaningful gains in performance, satisfaction, and commitment, reinforcing the importance of removing barriers to mentorship in the workplace.

Patre Smruti and Gupta Rashmi (2011) examined employees' perceptions of the HRD climate in management institutes located in Nagpur city. This study aimed to

analyse whether these perceptions varied based on demographic factors such as age, gender, experience, qualification, and job approval status of faculty members. Data were collected using a structured HRD climate questionnaire administered to employees of selected management institutes.

Data were analysed using statistical tools such as mean, standard deviation, chi-square test, and regression analysis. The findings revealed that the overall HRD climate in the surveyed institutions was average. While employee perceptions did not significantly differ based on age, qualification, or job approval status, notable differences were observed in relation to gender and experience.

The study concluded that demographic factors, such as gender and work experience, play a significant role in shaping perceptions of the HRD climate.

Suriyakanthi, S. (2011) conducted a study to examine various elements of human resource (HR) practices in public and private sector banks, with a focus on employee perceptions of HRD factors and their influence on organizational commitment. The study aimed to understand how HRD initiatives were viewed by employees in different banking sectors and how these perceptions shaped their work attitudes.

The findings revealed that employees across both public and private sector banks believed that HRD practices were designed to enhance employee retention. They acknowledged that HRD initiatives were not only developmental in nature but also strategic in strengthening long-term employee engagement and loyalty.

The study also found that conducive HRD practices significantly improved interpersonal relationships and team spirit, contributing to a more collaborative and positive work environment. Furthermore, employees perceived that the primary objective of HRD was to promote a healthy workplace atmosphere and to support successful team-based approaches.

Solkhe, A., & Chaudhary, N. (2011) conducted a study to analyse the relationship between human resource development (HRD) climate and job satisfaction among employees in a public sector undertaking located in North India. The objective was to explore whether perceptions of the HRD climate influenced the levels of job satisfaction, which in turn could impact overall organizational performance.

The study was based on responses from 71 executives representing various departments and hierarchical levels. Standardized questionnaires were used, including Rao and Abraham's (1985) HRD Climate Scale and Daftuar's (1997) Job Satisfaction Scale, to assess employees' perceptions. The results of the analysis revealed that a positive HRD climate had a significant impact on job satisfaction, indicating that developmental policies, open communication, and supportive leadership contributed to greater employee contentment.

The study concluded that an enabling HRD climate directly enhances job satisfaction, which plays a key role in improving employee morale, motivation, and organizational performance.

Brad M., Tonette S., and Carlos A. (2010) conducted a qualitative study to explore employees' personal experiences of engagement in the workplace. The study shifted the focus from organizational outcomes to employees' individual interpretations of engagement within their daily work context. The researchers aimed to uncover the key factors that shape an employee's sense of connection, involvement, and meaning in relation to their work and organization.

The study identified three central themes that significantly influenced employee engagement and helped shape the HRD climate: relationship development and attachment to co-workers, a positive workplace atmosphere, and opportunities for continuous learning. Employees perceived these elements as essential for fostering a supportive and engaging environment.

The study concluded that for organizations to cultivate authentic employee engagement, they must prioritize strong interpersonal relationships, foster an inclusive and collaborative culture, and provide meaningful opportunities for professional development. These components were found to collectively contribute to a robust HRD climate and promoted long-term employee involvement and commitment.

Adhikari, D. R. (2009) studied the relationship between human resource development (HRD) and performance management (PM), highlighting the interconnectedness of these two critical HR functions. The study emphasized that in a dynamic and evolving

HR environment, HRD and PM must work in tandem to enhance organizational adaptability and effectiveness.

The findings revealed that HRD initiatives such as training, development, and career planning played a significant role in strengthening the performance management process. HRD not only supported the development of employee competencies but also influenced individual behaviour and motivation, which in turn contributed to improved performance outcomes.

The study concluded that organizations striving for sustained growth should adopt an integrated approach where HRD enhances the effectiveness of PM systems and vice versa. This alignment was seen as essential for building a high-performing and development-oriented organizational culture, capable of responding to continuous change and increasing competitive pressures.

Purang Pooja (2008) analysed the HRD climate by examining various dimensions, such as participation, succession planning, training, performance appraisal, and job enrichment, and their relationship with organizational commitment among managers. The study was conducted through survey research across five organizations, with a total sample of 247 middle-level managers.

The research hypothesized a positive relationship between the ten dimensions of HRD climate and organizational commitment. Correlation analysis was used to assess the strength of the associations, while stepwise regression analysis was employed to determine the predictive power of each HRD dimension. The findings indicated that several HRD climate dimensions were significantly associated with enhanced organizational commitment. The study concluded that a positive perception of the HRD climate leads to stronger organizational commitment among managers, which in turn contributes to improved managerial performance and underlined the importance of cultivating a supportive HRD environment to foster commitment and productivity within managerial roles.

Srimannarayana M. (2008) conducted a comprehensive study to assess the extent of the human resource development (HRD) climate across Indian organizations from multiple sectors. The research aimed to evaluate the conduciveness of workplace environments for employee development and growth. Data were gathered from a large

sample of 1,905 employees working in 42 organizations spanning the manufacturing, service, and IT sectors across India, using a structured HRD Climate Survey.

The study focused on employee perceptions of key HRD dimensions such as support from top management, openness in communication, and developmental initiatives. The findings indicated that the overall HRD climate in Indian organizations was moderate. While some HRD practices were in place, there was notable scope for improvement in ensuring consistent implementation and broader organizational support.

Sector-wise analysis revealed that manufacturing organizations exhibited a relatively stronger HRD climate compared to the service sector. The study concluded that structured HR policies and a more proactive developmental culture in the manufacturing sector contributed to better employee perceptions, highlighting the need for other sectors to adopt similar practices to enhance employee development.

Arif Hassan, Junaidah Hashim, and Ahmad Zaki Ismail (2005) conducted a study to assess employees' perceptions of human resource development (HRD) practices and to examine their influence on the development climate and quality orientation within organizations. The study aimed to explore how various HRD systems contributed to creating a supportive work environment. Data were collected from 239 employees across eight organizations through a structured questionnaire.

The questionnaire measured several key HRD variables, including the career system, work planning system, development system, self-renewal system, and the overall HRD system. The analysis revealed that organizations with strong systems for learning, training and development, reward and recognition, and information sharing were more likely to foster a positive HRD climate.

The study concluded that comprehensive and well-structured HRD practices significantly contribute to the creation of a developmental and quality-oriented organizational climate. It emphasized that investment in HRD systems enhances employee engagement and organizational learning, thereby improving overall effectiveness and performance.

Pattanayak, B. (2003) investigated two variables, namely, the type of organization (old vs. new) and the role position in the hierarchy (executive vs. non-executive). This study

explored how these two variables influenced the development of a favourable Human Resource Development (HRD) climate. The study aimed to understand how structural and cultural differences across organizations affect employee experiences, particularly in terms of organizational role stress.

Using ANOVA, the study revealed that employees in old public sector organizations experienced significantly higher levels of role stress compared to those in newer public sector organizations. Additionally, executives reported higher levels of role stress than non-executives, indicating that the job position also played a critical role in how stress was perceived and managed within the organization.

The findings revealed that organizational culture and hierarchical position are key determinants of perceived role stress, which in turn affect the quality of the HRD climate. The study emphasized that older organizations may need to revisit their work culture, leadership styles, and HRD practices to reduce stress and foster a more developmental and supportive environment for both executives and non-executives.

2.3 HR Managers' Challenges in developing and implementing HR Practices

Trullen, J. et al. (2016) examined the role of human resource (HR) departments in supporting line managers (LMs) for the effective implementation of human resource practices (HRPs). This study aimed to understand how HR departments can empower LMs, who are often the key agents in translating HR strategies into operational actions within organizations.

The findings highlighted that HR departments play a critical role in enhancing the ability, motivation, and opportunity of line managers to implement HRPs—core elements of the Ability–Motivation–Opportunity (AMO) framework. Effective practices included deploying HR specialists directly in operational settings, involving LMs in the policy design process, framing HRPs in user-friendly formats, and securing top leadership (CEO) endorsement. These strategies helped create an enabling environment for the execution of consistent and committed HRM.

The study concluded that HR departments must adopt proactive, strategic approaches to support line managers, bridging the gap between HR policy design and on-ground implementation. Aligning efforts with the AMO model ensures that HRM initiatives translate into improved organizational effectiveness.

Guest, D. E., and Woodrow, C. (2012) examined two enduring challenges faced by human resource (HR) managers: their ability to represent the interests of both management and employees, and their capacity to gain the necessary power and influence within organizational structures. Although aligning HRM practices with positive employee outcomes presents an opportunity for ethical and balanced HRM, this approach has not been actively pursued by most HR professionals. Despite growing attention to employee engagement, well-being, and work-life balance, HR's potential to contribute to ethical workplace outcomes remains underutilized due to organizational priorities and structural limitations that typically favour managerial interests.

The study also considered HR's role in implementing legal and moral obligations—such as addressing workplace bullying—as a means to improve working conditions. The findings of the case study illustrated the constraints HR managers face when their authority is limited and emphasized that expecting HR alone to deliver ethical HRM was unrealistic. The authors concluded that promoting ethical practices requires broader organizational commitment and structural changes beyond the remit of the HR function alone.

Khilji, S. E., & Wang, X. (2006) The study examined the differences between intended and implemented human resource management (HRM) practices, drawing on an extensive dataset comprising 195 interviews, 508 questionnaire responses, and a review of company documents. The objective of this study was to investigate how discrepancies between HRM design and execution affect employee outcomes and organizational performance.

The findings revealed a significant divergence between intended and actual HR practices, underscoring the challenges in translating strategic HR plans into everyday organizational processes. The study emphasized that consistent and faithful implementation of HRM practices was positively associated with employee satisfaction, which in turn contributed to enhanced performance and productivity. It

highlighted that the effectiveness of HRM lies not only in its design but equally in the quality of its execution. Furthermore, the study warned against imitating HR practices without adaptation to specific organizational contexts. Study concluded that HR departments and managers must remain actively involved in implementation to derive meaningful organizational benefits by ensuring alignment between HR intent and action.

Nehles, A. C. et al. (2006) examined the implementation of human resource management (HRM) practices, focusing on the role of first-line managers rather than the central HR function. This study aimed to explore how operational-level managers influence the success of HRM execution within organizations. Data were collected through four case studies conducted in multinational business corporations. The findings revealed that first-line managers often experienced difficulty and reluctance in fulfilling their HR responsibilities. Despite this, they have become increasingly central to HRM implementation, acting as intermediaries between strategic HR intentions and employees. Their involvement was essential in translating policies into effective workplace practices.

The study identified four key barriers to implementation: capacity constraints, lack of competencies, insufficient support, and unclear policies. These factors limited their ability to operationalize HR practices. The study concluded that organizations must invest in manager development, provide adequate support, and ensure clarity in HR guidelines to enhance implementation success.

Stavrou-Costea, E. (2004) examined Human Resource Management (HRM) challenges in Southern European Union (EU) countries and their impact on organizational performance. This study aimed to identify key HRM issues from the existing literature and assess how these challenges were reflected in actual organizational practices. The CRANET questionnaire was used to collect data, which gathered responses from a diverse set of organizations across the region.

The identified challenges—training and development, efficiency and flexibility, and employee relations—were operationalized into measurable HRM practices and tested for their relationship with organizational performance using t-tests. These dimensions reflected both strategic and operational priorities faced by HR professionals in the

context of the Southern European Union. The findings revealed that HRM practices aligned with the identified challenges had a significant positive relationship with organizational productivity. In particular, initiatives related to employee development, fostering workplace flexibility, and strengthening employee relations were found to enhance performance outcomes. The study concluded that effectively addressing region-specific HR challenges could lead to improved organizational effectiveness.

Robert, L., Judith, W., & Michael, S. (2000) explored Human Resource Management (HRM) practices in small and medium-sized enterprises (SMEs), focusing on the challenges faced by entrepreneurs in managing and expanding their businesses. This study aimed to understand the role of human resource management (HRM) in fast-growing SMEs and assess the extent of scholarly research on HRM in global contexts.

Data were collected through a multi-method approach, including a survey of 156 young entrepreneurs, focus group discussions with 173 CEOs and founders of high-growth firms, and a review of 129 research articles. This study examined both practitioner perspectives and academic contributions to identify unique HRM challenges in entrepreneurial settings and assess how these challenges were being addressed in practice. The findings indicated that HRM in SMEs remains under-researched, particularly outside the United States. Key HR functions, such as recruitment, training, retention, and performance management, were often poorly structured. The study concluded that more region-specific, context-sensitive research is needed to better understand and support HRM in SMEs, given their growing economic significance.

Kane, B., Crawford, J., & Grant, D. (1999) examined the extent to which organizations adopted “soft” (employee-centered) or “hard” (strategy-driven) approaches to human resource management (HRM) and explored the barriers that hindered effective implementation. Data were collected from 549 participants including employees, managers, and HR professionals—across a diverse range of organizations in Australia, New Zealand, the United States, the United Kingdom, and Canada. The findings indicated that both soft and hard HRM approaches could lead to effective outcomes when they are aligned with organizational strategy and supported by systems that promote employee motivation and development.

However, the study also revealed that many organizations failed to meet their HRM objectives due to implementation challenges. The key barriers identified included limited capabilities among human resources staff and insufficient commitment from top management. The study concluded that successful HRM depends not only on the chosen approach but also on leadership support, organizational alignment, and professional HR competencies.

Cunningham, I., & Hyman, J. (1995) studied the role of supervisors and line managers in the implementation of human resource management practices. This study aimed to evaluate how HRM responsibilities influenced managerial functions and to what extent organizations prepared managers to effectively handle HR-related tasks. The research focused on the operational realities of HRM at the frontline level, where policies are put into practice.

The study was conducted across 45 establishments in Scotland—including nine public sector organizations and covering approximately 100,000 employees—and found that most organizations did not adopt a strategic HRM approach. Inadequate investment in employee relations training limited the ability of line managers to support HR goals effectively. Many managers lacked formal preparation, which led to resistance or inconsistent application of HR policies.

The study concluded that the success of HRM strategies depends heavily on the commitment and competence of line managers. The findings underscored the need for targeted managerial training and stronger alignment between HR vision and practice.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

3.1 Statement of the Problem

Organizational success is highly dependent on employee performance, especially in the pharmaceutical industry, where competition is fierce and constant innovation is needed. HRM is one of the most fundamental functions as it deals with employees and their productivity. There appears to be a somewhat unclear omission in the existing literature regarding the effect of HRM practices on work efficiency and innovation. It is unknown how training and development, performance appraisal, reward/compensation management, health and welfare measures and employer-employee relation together increase the performance of employees in the pharmaceutical companies.

The pharmaceutical industry's workforce must be both highly productive and innovative because of many industry-specific factors, including clearly defined regulatory standards, alarming technological changes, and the need for constant scientific research and development. Nevertheless, these companies may face the following issues without an effective understanding of HRM and its exact impact on the productivity of pharmaceutical employees:

1. Create training and development programs that improve technical skills and cultivate a culture of creativity and problem-solving.
2. Establishing performance management systems that accurately assess and reward productivity and innovative contributions.
3. Design compensation packages that motivate efficient execution and pioneering research.
4. Develop holistic strategies for managing health and welfare services that promote and protect employees' well-being for positive productivity.

5. Employee relations are supported by creating conditions that enable high-quality workplace communication, engagement, and overall organizational culture that increases satisfaction and productivity.

Pharmaceutical companies may encounter difficulties in optimizing employee productivity and maintaining a sustainable pipeline of innovative products and services. This research explores the direct connections between specific HRM practices and employee performance, with a focus on productivity and innovation, to offer practical insights for pharmaceutical organizations aiming to boost their competitive edge.

3.2 Research Gap

While extensive research has explored HRM practices in various sectors globally, notable gaps remain, especially in the context of the Indian pharmaceutical industry—more specifically in regional settings such as Goa. The following dimensions highlight the critical gaps that this study seeks to address:

Limited Sectoral and Regional Focus

While HRM research has advanced considerably in recent decades, it remains disproportionately concentrated in service and manufacturing sectors in metropolitan contexts. The pharmaceutical sector, especially in a strategically important yet under-researched region like Goa—home to a high concentration of national and multinational pharmaceutical firms—has not received commensurate academic attention. The distinctive HRM configurations, workforce dynamics, and regulatory sensitivities of this sector remain empirically underexplored.

Fragmented understanding of human resource management practices and outcomes

A significant portion of HRM literature has focused on individual HR functions in isolation—such as recruitment, training, or performance appraisal—without investigating their cumulative or synergistic impact. There is a lack of integrated models that assess how HRM practices' bundles contribute to employee outcomes. This study addresses this fragmentation by examining human resource management as a

comprehensive system and evaluating its influence on employee performance in a high-stakes, quality-driven sector.

Neglect of Employee-level Performance Indicators

While organizational-level outcomes are frequently linked to strategic HRM, employee performance—a direct and measurable outcome of HR initiatives—is less frequently evaluated. Existing studies rarely offer empirical insight into how HRM practices translate into improvements in individual work behaviour, efficiency, or motivation, particularly within regulated environments, such as pharmaceuticals, where precision and compliance are paramount.

Underrepresentation of the HRD climate and employee perceptions

The perceived HRD climate, defined by developmental support, learning opportunities, and a participative culture, plays a pivotal role in employee engagement and performance. However, employee perceptions of HRD environments are often underrepresented in mainstream HRM studies, especially within technical industries. Capturing these perceptions is essential for understanding the contextual effectiveness of HR initiatives.

Insufficient investigation of managerial and implementation challenges

A recurring but inadequately studied issue in HRM literature is, the implementation gap where well-designed HR policies fail due to operational bottlenecks. Challenges faced by HR managers, such as lack of top management support, policy ambiguities, resistance to change, and resource constraints, are seldom empirically examined, particularly in non-metro pharmaceutical settings. Understanding these constraints is crucial for ensuring that HRM systems function effectively in practice and not just on paper.

Lack of holistic and multilevel frameworks

Most studies on Human Resource Management (HRM) take a fragmented view, examining either the organization, the HR department, or employees in isolation. This siloed approach overlooks the interconnected nature of HRM processes. There is a clear gap in research that brings together HR's strategic objectives, the practical challenges

of implementation, and employees lived experiences. To fully understand HRM effectiveness, a multi-level and stakeholder-driven framework is required—one that captures perspectives across organizational, managerial, and employee levels in an integrated manner.

3.3 Research Questions

Objective 1

To examine HRM practices and their outcomes in selected pharmaceutical companies in Goa.

- Which HRM practices are prevalent in pharmaceutical companies in Goa?
- What are the HR outcomes of these HRM practices?
- How do HRM practices influence HR outcomes?
- Which HRM practices are positively related to HR outcomes?

Objective 2

To analyse the impact of HRM practices on employees' performance in selected pharmaceutical companies in Goa.

- Do employees' performance depend on HRM practices?
- Is there any relationship between HRM practices and employees' performance?
- How do HRM practices impact employee productivity?
- What HRM outcomes are related to the improvement in employees' performance?

Objective 3

To study employees' perceptions of the HRD environment in the workplace.

- What do employees perceive as an ideal human resource development (HRD) environment?
- Does the climate of HRD affect employee performance?

Objectives 4

To study the challenges HR managers, face in developing and implementing HR practices in selected pharmaceutical companies in Goa.

- Which concerns do HR managers consider to be significantly challenging while framing and actualizing HR policies in the pharmaceutical companies located in Goa

3.4 Research Hypotheses

Null Hypotheses (H0) for Objectives 1 and 2

H01: There is no statistically significant impact of training and development on skill enhancement.

H02: There is no statistically significant impact of performance appraisal on skill enhancement.

H03: There is no statistically significant impact of reward and compensation on skill enhancement.

H04: There is no statistically significant impact of health and welfare measures on skill enhancement.

H05: There is no statistically significant impact of employer-employee relationship on skill enhancement.

H06: There is no statistically significant impact of training and development on job satisfaction.

H07: There is no statistically significant impact of performance appraisal on job satisfaction.

H08: There is no statistically significant impact of reward and compensation on job satisfaction.

H09: There is no statistically significant impact of health and welfare measures on job satisfaction.

H010: There is no statistically significant impact of employer-employee relationship on job satisfaction.

H011: There is no statistically significant impact of training and development on organizational commitment.

H012: There is no statistically significant impact of performance appraisal on organizational commitment.

H013: There is no statistically significant impact of reward and compensation on organizational commitment.

H014: There is no statistically significant impact of health and welfare measures on organizational commitment.

H015: There is no statistically significant impact of employer-employee relationship on organizational commitment.

H016: There is no statistically significant impact of skill enhancement on work efficiency.

H017: There is no statistically significant impact of job satisfaction on work efficiency.

H018: There is no statistically significant impact of organizational commitment on work efficiency.

H019: There is no statistically significant impact of skill enhancement on creativity and innovation.

H020: There is no statistically significant impact of job satisfaction on creativity and innovation.

H021: There is no statistically significant impact of organizational commitment on creativity and innovation.

Hypotheses for Objective 3

H022: There is no statistically significant impact of the perceived HRD environment on work efficiency.

H023: There is no statistically significant impact of the perceived HRD environment on creativity and innovation.

3.5 Sampling Design

This study employed a multi-stage, non-probability sampling strategy, integrating purposive, stratified, and judgmental sampling techniques to ensure an informed, diverse, and representative dataset from the pharmaceutical sector in Goa. The approach was designed to obtain insights from both strategic HR professionals and employees across functional and hierarchical levels to investigate the impact of HRM practices on employee performance.

3.5.1 Target Population

The target population included personnel from medium and large pharmaceutical companies operating in Goa. Specifically, the study focused on two categories of respondents:

(a) **Employees** with at least one year of experience working in various departments, including production, quality assurance, finance, marketing, administration, and human

resources—across multiple hierarchical tiers (department heads, managers, and officers); and

(b) **Human Resource Managers** involved in policy formulation and implementation within the selected organizations.

3.5.2 Sampling Frame

The sampling frame was developed using the official listings provided by the Goa Industrial Development Corporation (GIDC), which maintains records of registered pharmaceutical companies in the state. This list was supplemented and cross-verified through official company websites and industry directories. 35 medium and large pharmaceutical companies were purposively selected, based on their scale, operational maturity, and the presence of structured HRM systems.

3.5.3 Sampling Technique

This study employed a combination of purposive, stratified, and judgmental sampling techniques, tailored to the two categories of respondents—employees and HR managers—to ensure relevance, representation, and accuracy in data collection.

3.5.3.1 Employee Sampling

A stratified sampling approach was adopted to ensure inclusion of employees across distinct organizational layers, namely, operational officers, mid-level managers, and department heads. This stratification enabled the study to capture diverse perspectives on HRM practices and their perceived outcomes at different hierarchical levels.

Within each stratum, judgmental sampling was applied to select knowledgeable and willing participants. Departmental representation was ensured across core functional areas, including production, marketing, finance, quality control, and administration. The selection of informed respondents within these strata helped maintain both relevance and depth in the responses related to HRM policies and their operational impact on employee performance.

3.5.3.2 Sampling of HR Managers

To gather strategic-level insights, judgmental sampling was employed to select human resource professionals from each of the 35 pharmaceutical firms included in the study.

The study included 105 Human Resource professionals as respondents, drawn from the participating pharmaceutical companies. These professionals were selected on the basis of their involvement in strategic HR functions, particularly in the formulation and implementation of HR practices. Their roles positioned them to offer valuable and informed perspectives on HRM practice development and execution challenges within their organizations.

3.5.3.3 Sample Size

Krejcie and Morgan (1960) recommended a sample size of 384 for a population of one million. An alternative sample size formula was used to ensure accuracy.

3.5.3.4 Calculation of the sample size

As a researcher, my objective is to ensure that the sample accurately represents the population with a 95% confidence level while maintaining a 0.045 margin of error of 0.045. The standard formula for sample size estimation in proportion studies, as outlined by Cochran (1977) in *Sampling Techniques*, is used to determine the appropriate sample size for this study:

$$S = \frac{Z^2 \times P(1-P)}{d^2}$$

Where:

- $Z = 1.96$, which corresponds to a 95% confidence level
- $P = 0.50$, population proportion assumed to maximize the sample size.
- $d = 0.045$, acceptable error margin

By applying the following formula:

$$S = \frac{(1.96)^2 \times 0.50 \times 0.50}{(0.045)^2}$$

$$S = \frac{3.841 \times 0.25}{0.002025}$$

$$S = \frac{0.9604}{0.002025}$$

$$S = 474.28$$

Thus, a sample size of approximately 475 respondents is required to ensure statistical accuracy and reliability. This will allow for the estimate of the true population proportion within a $\pm 4.5\%$ margin of error with 95% confidence.

Source: Cochran, W. G. (1977). *Sampling Techniques (3rd ed.)*. John Wiley & Sons.

Cochran (1977) observed that online or mailed questionnaires typically achieve a response rate of 65%. To account for this, the adjusted sample size was calculated as:

Where minimum sample size = 475 Therefore, $n = 475 / .65 = 730$

Finally, it was decided to contact 750 Pharma employees. The researcher successfully collected responses from 641 respondents at a response rate of 85%. Incomplete responses that did not fit the considerations mentioned were not considered for the study. These responses were sorted out, and 613 valid responses were accepted for the review. The responses were further sorted. Data were collected from October 2022 to December 2023.

3.5.3.5 Sampling Unit

The sampling unit refers to the individual respondents or entities selected for the study. The study includes departmental heads, managers, assistant managers, and officers from various departments, such as quality control, quality assurance, marketing, human resources, R&D maintenance, stores, purchase Regulatory Affairs production, and engineering. Each unit was carefully chosen to align with the research objectives and contribute meaningful insights.

3.6 Sources of Data

The researcher used primary and secondary data gathered from the following sources and analysed the data using the following procedures.

3.6.1 Primary Data

The researcher employed a dual primary data collection approach, combining two distinct questionnaires and qualitative interviews, to account for the intricacies of HRM practices and their effect on employee performance.

A multi-method approach was adopted to assess HRM practices and their impact on employee performance. Two structured questionnaires—one for employees and another for HR managers—were administered both online and in physical formats. The Employee Questionnaire focused on HRM practices, workplace policies, and their effects on job satisfaction and performance, using a Likert-scale and open-ended questions. The HR Manager Questionnaire explored challenges in HRM implementation, combining structured and semi-structured questions for in-depth insights.

3.6.2 Secondary Data

An extensive literature review was conducted to support and contextualize the primary data, drawing insights from multiple sources. This included peer-reviewed academic research on HRM practices, employee motivation, and performance evaluation, along with government reports and industry publications that provided insights into HRM trends within the pharmaceutical sector. HR policies, records, and company industry databases were also examined. Reputable online sources were also consulted to further validate and cross-reference the empirical findings.

The review of secondary data played a crucial role in identifying research gaps, situating the study within the broader academic discourse, and providing a strong theoretical grounding for understanding the effectiveness of HRM. Furthermore, it enabled the corroboration of primary data findings with established literature, ensuring that the study's conclusions were both well-founded and aligned with existing research.

3.7 Instrument for Data Collection

A structured questionnaire was used as the primary data collection tool. The instrument was carefully developed and validated to ensure relevance and reliability, drawing from established literature. This section outlines the key constructs' development, validation, and measurement of key constructs.

3.7.1 Instrument Development

The instrument for this study was systematically developed through an extensive review of existing literature on HRM practices and employee outcomes. The goal of this study was to construct a theoretically grounded and contextually relevant questionnaire capable of capturing the influence of HRM practices on key employee-level variables in pharmaceutical companies in Goa. The independent variables encompassed the following five major HRM practices: training and development, performance appraisal, reward and compensation, health and welfare measures, and employer–employee relationships.

The training and development items were adapted from Ahmad and Bakar (2003) and Gisela Demo et al. (2012), with a focus on training relevance (e.g., process-related training for job performance), knowledge transfer, continuous learning, and skill acquisition support. The performance appraisal was measured using Gisela Demo et al. (2012), addressing transparency, fairness, developmental feedback, and criteria clarity. Reward and Compensation items were drawn from Gisela Demo et al. (2012) and Teseema and Soeters (2006), focusing on pay equity, performance-linked rewards, and financial recognition. Health and Welfare Measures were derived from Guest (1997) and Kooij et al. (2010), addressing aspects like workplace safety, mental and physical well-being, and health-related facilities. Employer–Employee Relations were operationalized using indicators from Singh (2004) and Aryee et al. (2002), capturing mutual trust, communication, participation in decision-making, and conflict resolution mechanisms.

The dependent variables included job satisfaction, organizational commitment, skill enhancement, and employee performance. Job satisfaction was measured using a modified version of the Arvind (2011) scale, which was complemented by Singh and Loncar (2010) and covered job security and satisfaction with promotion opportunities.

Organizational commitment was assessed using Meyer and Allen's (1991), comprising affective, continuance, and normative commitment. Skill enhancement items were adapted from Arvind (2011) and Sung and Choi (2014), reflecting improvements in technical, interpersonal, and cognitive skills. Employee performance was measured using the multidimensional framework of Koopmans et al. (2013), which includes task execution, adaptability, and overall contribution.

3.7.2 Instrument Validation

To ensure conceptual clarity and contextual appropriateness, the developed items were assessed for both face and content validity. A panel of subject-matter experts, including academic scholars in HR management and senior HR professionals from pharmaceutical companies, was consulted. Their qualitative feedback led to the refinement of wording, sequencing, and contextual adaptation of several items to align with industry-specific terminology and practices.

A pilot study was conducted with 250 employees in selected pharmaceutical firms across various departments and hierarchical levels. The responses were analyzed to evaluate the underlying factor structure using Exploratory Factor Analysis (EFA). Principal component analysis with varimax rotation was performed. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was > 0.70 , and Bartlett's test of sphericity was significant ($p < 0.001$), confirming the suitability of the data for factor analysis. Items with factor loadings below 0.50 or high cross-loadings were excluded. The refined constructs exhibited strong internal consistency, with Cronbach's alpha coefficients exceeding 0.70, confirming their reliability.

3.7.3 Measurement of Variables

All variables were measured using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. This scaling technique was chosen for its simplicity, clarity, and compatibility with multivariate statistical procedures, including CFA and SEM. Each construct represented multiple items to ensure adequate coverage of the underlying dimension and enhance the measurement's psychometric strength.

The final version of the instrument comprised a comprehensive and empirically validated set of scales that accurately reflected both HRM practices and employee

outcomes. The standardized measurement approach provided a robust foundation for subsequent statistical analysis and enhanced the study's findings and conclusions' credibility.

Face validity was determined by pre-testing the questionnaire with 20 respondents (Kumar, 2014; Leedy & Ormrod, 2015). Content validity was determined by administering the survey questions to professionals in human resource management, academia, and industry.

3.8 Statistical Tools and Techniques Used in the Study

Several statistical tools were used for data analysis in order to reach conclusions about the proposed hypotheses. The tools used include the following:

1. **Descriptive Analysis:** Measures of central tendency, such as means, standard deviation, were used to study the nature and distribution of scores on various variables.
2. **Exploratory Factor Analysis (EFA):** EFA was conducted using principal component analysis with varimax rotation to identify the underlying factor structure of the constructs. To maintain construct integrity and one-dimensionality, items with insufficient factor loadings were excluded.
3. **Confirmatory Factor Analysis (CFA):** CFA was conducted using AMOS 23.0 to validate the measurement model derived from EFA. The model's fit was assessed using standard indices, including Chi-square (χ^2), CFI, TLI, RMSEA, and SRMR, to ensure an acceptable goodness-of-fit.
4. **Reliability and Validity Assessment:** Composite Reliability (CR) and Average Variance Extracted (AVE) were calculated to confirm internal consistency and convergent validity. The discriminant validity was established using the Fornell-Larcker criterion.
5. **Structural Equation Modeling (SEM):** Used to test the model and determine the cause-and-effect relationship between HRM practices, outcomes, and employee performance.

6. **Software Utilized:** Statistical analyses were conducted using IBM SPSS Statistics (version 23.0) and IBM SPSS AMOS (version 23.0) software packages.

3.9 Variables Identified in this Study

This study systematically examines the impact of HR practices on employee performance within pharmaceutical companies in Goa by categorizing the variables into three distinct groups based on an in-depth review of theoretical and empirical literature.

1. Independent Variables:

The independent variables represent core HRM practices, which are hypothesized to influence both employee outcomes and performance. These include:

- i. Training and Development
- ii. Performance Appraisal
- iii. Reward
- iv. Health and Welfare Measures
- v. Employer–Employee Relations

2. Mediating variables (HRM outcomes):

These variables function as mediators that elucidate how HRM practices affect the end-performance outcomes of employees. The mediating variables are:

- i. Job Satisfaction
- ii. Organizational Commitment
- iii. Skill Enhancement

3. Dependent Variable:

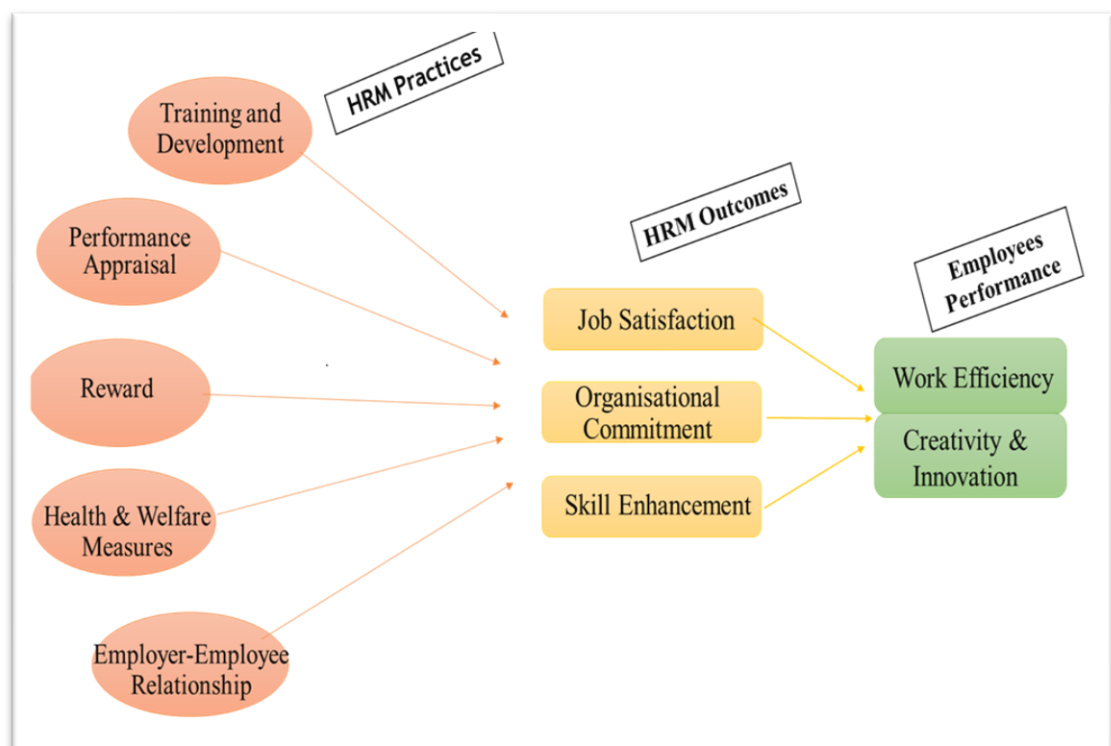
Employee performance is the dependent variable assessed through the following two dimensions:

- i. Creativity and Innovation
- ii. Work Efficiency

This classification provides a comprehensive framework for evaluating the multidimensional relationships among HRM practices, employee outcomes and performance, thereby offering empirical insights into strategic HRM within the pharmaceutical sector.

The conceptual model is as follows:

Figure 3.1: Conceptual Model of HRM Practices, HR Outcomes and Employee Performance



CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Demographic Summary of the Respondents

Two samples were drawn for this study: employees and HR managers. Both were analysed separately. The demographic outline of the respondents consists of gender, age, education, work experience, and gender, including male and female. Age groups are less than 21-25 years, 25-30 years, 31-35 years, 35-40 years, 41 to 45 years, 45 to 50 years, and 50 years & above. Education includes diploma, graduate, master's degree, and doctorate. Work Experience includes 1-5 years, 5-10 years, 10-15 years, 15-20 years, 21-25 years, and more than 25 years. The following table indicates the demographic profile details of the respondents:

4.1 Employees

This section provides a detailed analysis of the data pertaining to Human Resource Management (HRM) practices, the resulting HR outcomes, and their impact on employee performance.

4.1.1 Demographic Characteristics of Employees

This section presents the demographic characteristics of the respondents who participated in the employee performance study. This information is provided to offer a descriptive overview of the sample population in terms of age, gender, marital status, and work experience. These details help establish the background of the respondents

Table 4.1: Demographic Characteristics of the Respondents (Employees)

Demographic Variable	Category	Frequency	Percentage
Age (In years)	21-25 years	00	00
	25-30 years	40	6.60
	31-35 years	271	44.20
	35-40 years	154	25.10
	41-45 years	97	15.80
	45-50 years	51	8.30
	Above 50 years	00	00
Gender	Male	348	56.8
	Female	265	43.2
Marital Status	Single	189	30.8
	Married	416	67.9
	Divorced	8	1.3
Educational Qualification	Diploma	38	6.2
	Graduation	348	56.8
	Master Degree	216	35.2
	Doctorate	11	1.8
Working Experience	1 – 5 years	71	11.6
	5 – 10 years	269	43.9
	11 – 15 years	138	22.5
	15 – 20 years	104	17
	21 – 25 years	27	4.4
	More than 25 years	4	0.6
Department	Human Resource	49	8
	Production	112	18.3
	Quality Control	209	34.1
	Marketing	64	10.5
	Research & Development	143	23.3
	Drug Safety	36	5.8

Source: Primary Data

The demographic breakdown describes the entire workforce in terms of age, gender, marital status, nationality, education level, work experience, and departmental association within the firm. The most important notes of the study are drawn below:

1. Age Distribution

Most employees (44.2%) fall between ages of 31-35 years, indicating that the workforce is relatively young. However, a considerable amount (25.1%) comes from the age group of 35-40 years followed by 15.8% for the 41-45 years range. A relatively low percentage of employees in the 25-30 years (6.6%) and 45-50 years (8.3%) age groups. Interestingly, no employees were below the age of 25 and above the age of 50. This clearly shows that the hiring and retention strategies are mostly directed toward mid-career professionals.

2. Gender Distribution

The structure of the workforce is 56.8% male and 43.2% female, indicating a moderate balance of both genders in the company. Even though the male surpasses the female workforce, still a meaningful portion of women suggests that there is some degree of equal opportunity within the organization.

3. Marital Status

A higher proportion of employees (67.9%) reported being married, whereas 30.8% have never been married. A negligible number of respondents (1.3%) said they are divorced. This indicates that more employees are married and therefore have family responsibilities, which is a factor to consider in policy decisions on work life balance, employee benefits, and overall organizational wellbeing.

4. Educational Qualification

Most employees (56.8%) reported holding a bachelor's educational qualification as the most common degree, whereas 35.2% held a master's degree. A small percentage of the workforce reported holding a diploma (6.2%) and only 1.8% held a doctorate. This demonstrates that the organization tends to recruit individuals with at least a bachelor's degree and places considerable attention on postgraduate degrees.

5. Work Experience

The most significant proportion of the workforce (43.9%) falls into the 5-10 years work experience category, making this the modal category. The next largest group is 11-15 years, with 22.5% of employees, followed by 15-20 years (17%). A smaller proportion has 1-5 years (11.6%) and 21-25 years (4.4%). A very small number of employees (0.6%) with more than 25 years of experience, suggesting that the organization does sustain older staff but has few employees approaching retirement age.

6. Departmental Distribution

The largest department by headcount is Quality Control, which accounts for 34.1% of the total, followed by Research & Development (23.3%), showing a solid emphasis on product quality and innovation. The Production department (18.3%) is also relatively sizable, while Marketing (10.5%) and Human Resources (8%) provide smaller but still crucial support functions. The drug safety department (5.8%) has the fewest employees, indicating a more specialized focus.

Most respondents are mid-career professionals aged between 31 and 40 years. The gender composition is fairly balanced, although a majority are married. Most respondents hold graduate or postgraduate education qualifications, indicating that the sample represents a skilled labour pool. A considerable number of the participants had 5-10 years of work experience, reflecting a mix of established skills and fresh energy. The highest proportion of respondents were employed in the Quality Control and Research & Development departments, highlighting the emphasis placed on quality assurance and innovation in the pharmaceutical industry.

4.1.2 Normality of the Sample

Ensuring that the dataset follows a normal distribution is a vital step in preparing for advanced statistical procedures. In this study, the distribution of the data was assessed using skewness and kurtosis, which are commonly used indicators to evaluate the shape of the distribution. Values for both indicators falling within the range of -3 to +3 are generally considered acceptable, suggesting an approximately normal distribution, as supported by prior research.

The observed skewness and kurtosis values ranged from 1.084 to 2.246, which is well within the recommended threshold. Additionally, all values were found to be less than three times their respective standard errors, confirming that the data do not significantly deviate from a normal distribution.

Thus, the dataset is suitable for the application of parametric statistical tests in the subsequent stages of analysis.

4.2 HR Managers

This section presents a comprehensive analysis of the challenges encountered by HR managers in the development and implementation of HRM practices. The objective of this study was to explore the key barriers that hinder effective execution of HR strategies within the pharmaceutical sector.

4.2.1 Demographic Characteristics of the Participants- HR Managers

To gain a comprehensive understanding of the sample composition, the demographic characteristics of the respondents were analysed. This information provides a valuable context for interpreting the perceptions and responses related to HRM practices and challenges. Table 4.2 presents the key demographic characteristics of the 105 participants.

Table 4.2: Demographic Characteristics of the Respondents (HR Managers)

A	Category	Frequency	Percentage (%)
Age (in years)	21–25 years	0	0.00
	26–30 years	0	0.00
	31–35 years	53	50.48
	36–40 years	33	31.43
	41–45 years	14	13.33
	Above 45 years	5	4.76
Gender	Male	51	48.57
	Female	54	51.43
	Third Gender	0	0.00
Marital Status	Single	11	10.48
	Married	92	87.62
	Divorced	1	0.95
Working Experience	1–5 years	1	0.24
	6–10 years	46	43.81
	11–15 years	45	42.86
	16–20 years	10	9.52
	21–25 years	3	2.86
	26–30 years	1	0.71
	Above 30 years	0	0.00
Educational Qualification	Graduation	20	19.05
	Master Degree	75	71.43
	Doctorate	10	9.52

Source: Primary Data

This section presents the demographic characteristics of the 105 HR managers selected from the pharmaceutical companies in Goa. These details help provide context for understanding the perspectives and experiences of respondents in relation to the challenges they face in developing and implementing HRM practices.

The demographic characteristics of the 105 HR managers selected from pharmaceutical companies in Goa offered valuable context for understanding the challenges they face in developing and implementing HRM practices. The majority of the respondents fall within the age group of 31-35 years (50.48%), followed by those aged 36-40 years (31.43%) and 41-45 years (13.33%). This indicated that most HR professionals in the

study are in their mid-career phase, a stage typically marked by greater involvement in policy execution and strategic HR decision-making.

Gender representation in the sample is relatively balanced, with 51.43% female and 48.57% male respondents. While this reflects equitable gender participation in HR leadership roles, the absence of third-gender representation highlights a potential gap in workplace inclusivity. In terms of marital status, a significant portion of the managers were married (87.62%), with a smaller number identifying as single (10.48%) or divorced (0.95%). The predominance of married respondents indicates that family responsibilities could influence their perception of HR-related challenges, particularly in areas such as work-life balance and employee welfare policies.

Regarding professional experience, a substantial number of HR managers reported having 6-10 years (43.81%) and 11-15 years (42.86%) of working experience. This demonstrates that the respondents are seasoned professionals, likely to have witnessed organizational transitions and HR policy shifts, making their insights particularly relevant to this study. Additionally, the educational qualifications of the participants indicate a well-qualified group, with 71.43% holding a master's degree, 19.05% having completed graduation, and 9.52% possessing doctoral degrees. This academic background reveals a strong foundation in HR knowledge and strategic thinking, enabling them to critically evaluate and articulate the challenges encountered in HRM practice.

4.2.2 Normality of Sample

Assessing the normality of the dataset is a crucial preliminary step before applying advanced statistical analyses. In this study, normality was evaluated using skewness and kurtosis, widely recognized measures for identifying the shape and symmetry of data distribution. According to established guidelines, values ranging between -3 and $+3$ are generally deemed acceptable, indicating that the data closely approximate a normal distribution.

In this dataset, the Skewness and Kurtosis values were observed to range from -1.172 to 2.018 , all of which fall within the acceptable limit. Furthermore, none of the values exceeded three times their respective standard errors, reinforcing the notion that the data does not exhibit a significant departure from normality.

Hence, these findings confirm that the dataset is appropriately distributed and is suitable for conducting parametric statistical analyses in the subsequent phases of this study.

4.3 Descriptive Statistics of HRM Practices, HR Outcomes and Employees Performance

Descriptive statistics were computed to summarize the respondents' perceptions of the ten core variables examined in the study. These variables include five key HRM practices, Training and Development, Performance Appraisal, Reward, Health and Welfare Measures and Employer-Employee Relations Practices along with their outcomes, namely Job Satisfaction, Organisational Commitment, and Skill Enhancement and the two employee performance indicators, namely, Work Efficiency and Creativity and Innovation.

The analysis revealed that all variables had mean scores ranging between moderately high to high levels of agreement, indicating positive perceptions across the sample. The standard deviations were within acceptable ranges, indicating a consistent response pattern among the participants.

Table 4.3: Segment 1: Training and Development Practices

Scale Items	Minimum	Maximum	Mean	Std. Deviation
TD1: Training helps me perform my job well and sustain my job for a long time.	1.00	5.00	3.8809	.88590
TD2: I can use the knowledge and behaviours learned during training at work.	2.00	5.00	3.9266	1.06619
TD3: My organization helps me develop the skills I need to successfully accomplish my duties.	1.00	5.00	3.9462	1.17797
TD4: My organization inspires learning and application of knowledge	1.00	5.00	3.9005	1.13826
TD5: In the organization where I work, training needs are identified periodically.	1.00	5.00	3.8842	1.06241

Source: Primary Data

The responses to training and development-related items indicate a generally positive perception among the employees. As shown in Table 4.3, the mean scores for all five items fall between 3.88 and 3.95, indicating that respondents agree or strongly agree with the positive statements about training practices in their organization.

The highest mean score was observed for TD3 (“My organization helps me develop the skills I need to successfully accomplish my duties”) at 3.9462, followed closely by TD2 (mean = 3.9266). The standard deviations ranged from 0.88 to 1.17, indicating a moderate level of variability in responses.

Table 4.4: Segment 2: Performance Appraisal

Scale Items	Minimum	Maximum	Mean	Std. Deviation
PA1: My organization discusses with its employees’ competency-based performance appraisal criteria and results.	1.00	5.00	3.7928	1.15094
PA2: In the organization where I work, competency-based performance appraisal provides the basis for employees’ development plan.	1.00	5.00	3.8956	1.09314
PA3: My organization circulates competency-based performance appraisal criteria and results to its employees.	1.00	5.00	3.8238	1.17919
PA4: My organization periodically conducts competency-based performance appraisals.	1.00	5.00	3.7814	1.16646
PA5: I receive recognition for my good job done.	1.00	5.00	3.7830	1.15197

Source: Primary Data

Table 4.4 presents the descriptive statistics for performance appraisal practices. The findings reflect moderate to high levels of agreement with the statements. The mean scores for all items range from 3.78 to 3.90. The item PA2 (“...provides the basis for employees’ development plan”) scored the highest mean at 3.8956, indicating a relatively strong agreement among employees regarding the developmental focus of performance appraisals.

The standard deviations for these items ranged from 1.09 to 1.18, indicating moderate variability in responses. Overall, employees perceived the organization’s performance appraisal system as competency-based and developmental, but with some room for improvement.

Table 4.5: Segment 3: Reward

Scale Items	Minimum	Maximum	Mean	Std. Deviation
RW1: In the organization where I work, my salary is influenced by my results.	1.00	5.00	3.8450	1.04340
RW2: My company gives satisfactory pay increments to the employees	1.00	5.00	3.7210	.99287
RW3: Transparency exists in my company’s monetary reward system.	1.00	5.00	3.9021	1.03700
RW4: To retain capable employees, my company pays salaries according to skills & experience	1.00	5.00	3.8548	1.01305
RW5: My organization considers the expectations and suggestions of its employees when designing a system of employee rewards.	1.00	5.00	3.8222	1.02869

Source: Primary Data

The mean score for the Reward Practices segment was 3.83, with a standard deviation of approximately 1.02, indicating generally favourable employee perceptions toward the organization’s compensation system. The highest-rated item was RW3 (“Transparency exists in my company’s monetary reward system”) with a mean of 3.9021, while RW2 (“My company gives satisfactory pay increments”) had a mean of 3.7210. These results reflect a consistent agreement among employees regarding the fairness, performance-linkage, and transparency of the reward system in place.

Table 4.6 : Segment 4: Health and Welfare Measures

Scale Items	Minimum	Maximum	Mean	Std. Deviation
HW1: In my company grievances of the employees are handled properly	1.00	5.00	3.9592	1.04630
HW2: The amount and nature of work in my job do not result in excessive stress.	1.00	5.00	3.9038	1.05666
HW3: My company provides good recreation facilities to break the monotony of a job and facilitate employee retention.	1.00	5.00	3.9462	1.02678
HW4: My company provides proper medical facilities and health benefits to the employees	1.00	5.00	3.9625	1.01310
HW5: My organization promotes a good work-life balance through flexible working hours and time off policies.	1.00	5.00	3.8858	1.01299

Source: Primary Data

The overall mean score for the Health and Welfare Measures segment was calculated as 3.93, with standard deviations ranging between 1.01 and 1.05, indicating a consistently positive perception of workplace well-being initiatives among respondents. The item with the highest mean was HW4 (“...provides proper medical facilities and health benefits”) at 3.9625, followed closely by HW1 and HW3, suggesting that health support and stress-relieving amenities are well-recognized by employees.

Table 4.7: Segment 5: Employer-Employee Relationship

Scale Items	Minimum	Maximum	Mean	Std. Deviation
ER1: In my company, open communication with superiors and subordinates contributes well towards retention of employees	1.00	5.00	3.8858	.98850
ER2: In my company, employees are offered adequate guidance related to their employment issues and it helps in retention.	1.00	5.00	3.8352	.99374
ER3: In my company, employees are treated with respect and dignity, and it helps in their retention.	1.00	5.00	3.9086	1.01852
ER4: My company provides avenues for career development to be able to retain competent employees.	1.00	5.00	3.7993	.96026
ER5: My company offers appreciation and proper compensation for employee inputs, which increases employee satisfaction and retention.	1.00	5.00	3.8825	1.01905

Source: Primary Data

The segment on Employer–Employee Relationship recorded an overall mean of 3.86, reflecting a generally favourable employee perception toward the organization’s support, communication, and interpersonal practices. The highest-rated item was ER3 (“In my company employees are treated with respect and dignity and it helps in their retention”) with a mean score of 3.9086, emphasizing the organization's culture of respect as a key driver of employee engagement and loyalty.

Other items, such as open communication, guidance on employment issues, appreciation, and opportunities for career development, also scored consistently high, with mean values ranging from 3.7993 to 3.8858. The standard deviation values (ranging between 0.96 and 1.02) indicated that the responses were consistent across the sample.

Outcomes of Human Resource Management (HRM)

Table 4.8: Segment 6: Job Satisfaction

Scale Items	Minimum	Maximum	Mean	Std. Deviation
JS1: I have been getting promoted as per my qualifications and experience, and I am satisfied with that.	1	5	3.19	1.366
JS2: I am satisfied with the welfare facilities (medical etc.) provided by the organization.	1	5	3.20	1.385
JS3: I have good prospects of advancement in my job.	1	5	3.21	1.310
JS4: The working conditions in this organization are satisfactory.	1	5	2.67	1.288
JS5: My pay is enough for providing necessary things in my life.	1	5	3.35	1.324

Source: Primary Data

The Job Satisfaction segment presented an overall mean score of 3.12, with individual item means ranging from 2.67 to 3.35. The highest-rated item was JS5 (“My pay is enough for providing necessary things in my life”) with a mean of 3.35, followed by JS3 (“I have good prospects of advancement in my job”) at 3.21, and JS2 (“I am satisfied with the welfare facilities...”) at 3.20.

The lowest-rated item was JS4 (“Working conditions in this organization are satisfactory”), with a mean of 2.67, indicating a lower level of satisfaction regarding the working environment. The standard deviations for this segment ranged from 1.288 to 1.385, indicating moderate variability in responses.

Table 4.9: Segment 7: Organisational Commitment

Scale Items	Minimum	Maximum	Mean	Std. Deviation
OC1: I am willing to put in a great deal of effort beyond what is normally expected in order to help this organization succeed.	1.00	5.00	3.8461	.934
OC2: It would be too costly for me to leave my current organization.	1.00	5.00	3.9796	1.02742
OC3: I am very loyal to my organization.	1.00	5.00	3.8793	.95025
OC4: I really care about the success of my organization	1.00	5.00	3.9325	1.01804

Source: Primary Data

The Organisational Commitment segment yielded an overall mean score of 3.91, indicating a generally strong level of commitment among employees toward their organization. The item with the highest mean was OC2 (“It would be too costly for me to leave my current organization”) at 3.9796, suggesting a high level of continuance commitment, possibly linked to perceived benefits, investments, or job security.

Other items, such as OC4 (“I really care about the success of my organization”) and OC3 (“I am very loyal to my organization”), also received high average scores of 3.9325 and 3.8793, respectively, pointing toward a blend of affective and normative commitment.

The standard deviations ranged from 0.93 to 1.03, reflecting low-to-moderate variability in responses. Overall, the results indicated that employees exhibited strong emotional and rational attachment to their organization.

Table 4.10 : Segment 8: Skill Enhancement

Scale Items	Minimum	Maximum	Mean	Std. Deviation
SE1: My job has helped me learn more skills.	0	5	4.66	1.687
SE2: My organization conducts skill-based training to continuously enhance employee capabilities.	0	5	4.93	1.515
SE3: In my company, process-related training helps us learn more skills.	0	5	4.98	1.319
SE 4: My organization offers employees opportunities for continuous learning and skills enhancement.	1	3	2.89	1.337

Source: Primary Data

The Skill Enhancement segment reflected an overall strong positive perception, with a mean score of 4.37, indicating that employees generally agree that their organization supports skill development. The highest-rated item was SE3 (“Process-related training helps us learn more skills”) with a mean of 4.98, followed by SE2 (“My organization conducts skill-based training to continuously enhance employee capabilities”), which scored 4.93. These findings reveal that employees strongly value the organization’s investment in practical, skills-oriented training initiatives.

Similarly, SE1 (“My job has helped me learn more skills”) showed a high average of 4.66, reinforcing the belief that on-the-job experiences significantly contribute to employee growth. However, SE4 (“My organization offers employees opportunities for continuous learning and skills enhancement”) had a lower mean of 2.89, indicating a perceived shortfall in long-term or structured learning pathways beyond initial or task-specific training.

The standard deviations, ranging from 1.319 to 1.687, reflect moderate to high variability in responses—especially on SE1 and SE2—suggesting that experiences with training may vary across different roles or departments.

Table 4.11 : Segment 9: Work Efficiency

Scale Items	Minimum	Maximum	Mean	Std. Deviation
WE1: My performance is better than that of my colleagues with similar qualifications in other organizations.	1	5	3.01	1.402
WE2: There is improvement in my quality and quantity of work output.	1	5	3.94	1.663
WE3: I complete the target given to me well in time.	1	5	3.02	1.424
WE4: I can work independently most of the time.	1	5	3.49	1.595

Source: Primary Data

The Work Efficiency segment showed a moderate overall mean score of 3.37, reflecting a mixed perception of individual performance and task efficiency among employees. The highest-rated item was WE2 (“There is improvement in my quality and quantity of work output”), with a mean of 3.94, indicating that many employees recognize personal growth in performance over time.

WE4 (“I can work independently most of the time”) also had a relatively strong score of 3.49, highlighting a good level of autonomy and self-direction in completing job responsibilities. However, WE1 (“My performance is better than that of my colleagues with similar qualifications in other organizations”) and WE3 (“I complete the target given to me in a timely manner.”) received lower means of 3.01 and 3.02, respectively. These scores may reflect a more cautious or humble self-assessment when comparing externally or under time pressure.

Standard deviations for this segment ranged from 1.402 to 1.663, showing considerable variation in perceived efficiency levels, possibly influenced by role types, workload differences, or team structures.

Overall, employees reported improved performance and reasonable independence. However, there is scope to strengthen time-bound productivity and confidence in external benchmarking.

Table 4.12 : Segment 10: Innovation and Creativity

Scale Items	Minimum	Maximum	Mean	Std. Deviation
IC1: I feel confident that I can perform creatively on different tasks at work.	1	5	4.27	.823
IC2: My organization has scope for creative work.	1	5	4.25	.853
IC 3: I can develop adequate plans and schedules for implementing new ideas.	1	5	3.54	.990
IC 4: Coming up with new idea is appreciated in my organization.	1	5	3.53	.949

Source: Primary Data

The Creativity and Innovation segment yielded a high overall mean score of 3.90, indicating that employees perceive their organization as supportive of creative thinking and innovation. The highest-rated item was IC1 (“I feel confident that I can perform creatively on different tasks at work”), with a mean of 4.27, reflecting strong self-confidence in creative ability among employees.

Closely following was IC2 (“My organization has scope for creative work”) with a mean of 4.25, suggesting that the organizational environment is perceived to provide opportunities for innovation. However, items such as IC3 (“I can develop adequate plans and schedules for implementing new ideas”) and IC4 (“Coming up with new ideas is appreciated in my organization”) received slightly lower mean scores of 3.54 and 3.53, respectively. These results may imply that while creative thinking is encouraged, there is room to improve implementation and recognition processes for innovative contributions.

Standard deviations ranged from 0.823 to 0.990, indicating moderate consistency in responses, with relatively low variation in perceived support for creativity across the sample.

Summary of the Descriptive Statistics

Analysis of the collected data revealed strong positive trends across multiple factors, as indicated by high mean values and low standard deviations. The descriptive statistics provided a clear indication of the consistency of the responses, indicating a general agreement among the participants.

Range (Minimum and Maximum):

The responses spanned from 1 to 5, but the majority of the participants provided ratings at the higher end of the scale.

This indicates that most respondents share positive perceptions regarding the factors assessed.

Mean (average score):

The mean scores are consistently high, indicating that the respondents largely agree with the measured positive statements.

The high mean values indicated that the participants favourably perceived their environment, experiences, or attributes, reinforcing a strong overall trend.

Standard Deviation (variability in responses):

The low standard deviation values indicate minimal variability, indicating that the responses are closely clustered around the mean.

This consistency indicates that most participants share a similar viewpoint, which reduced the likelihood of extreme or outlier responses.

Overall, these descriptive statistics indicate strong consensus and positive perceptions across the key factors analysed. The consistency in responses enhanced the reliability of the findings and provided a solid foundation for further exploration through inferential statistical analysis.

4.4 Exploratory Factor Analysis of Human Resource Management Practices

The measurement scale for human resource practices was developed using exploratory factor analysis and subsequently validated through confirmatory factor analysis using IBM AMOS 22. A self-designed instrument comprising 25 items was constructed to assess key dimensions of HR practices, including training and development, performance appraisal, compensation, employee relations, and health and welfare measures. To extract meaningful and interpretable factors, varimax rotation was applied during the EFA process. Items that demonstrated low factor loadings or significant cross-loadings were excluded to improve the reliability and structure of the scale. The KMO measure of sampling adequacy was 0.764, indicating acceptable suitability of the data for factor analysis. Furthermore, Bartlett's test of sphericity was found to be statistically significant, $\chi^2(300) = 7,518.790$, $p < .05$, confirming that the dataset met the assumptions required for factor analysis.

4.4.1 Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

The KMO value of 0.764 exceeds the commonly accepted minimum threshold of 0.60, indicating an acceptable level of sampling adequacy for conducting factor analysis. This suggests that the data contains sufficient shared variance among variables to justify the use of Exploratory Factor Analysis (EFA). Additionally, Bartlett's test of sphericity was statistically significant with Chi-square = 7,518.790, degrees of freedom (df) = 231, and $p < 0.05$, indicating that the correlation matrix is not an identity matrix. This test confirms that the correlations among the variables are sufficiently strong to proceed with factor extraction. Therefore, both tests validated the appropriateness of applying factor analysis to the HR practices dataset.

Table 4.13: Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.764
Bartlett's Test of Sphericity	Approx. Chi-Square	7518.790
	Df	231
	Sig.	.000

Source: Primary Data; KMO Value: 0.764 (acceptable if > 0.6)

4.4.2 Reliability Statistics

The internal consistency of the HR Practices Scale was assessed using Cronbach's alpha coefficient. As shown in the table below, the Cronbach's Alpha value for the 25-item scale was 0.776, which exceeds the commonly accepted threshold of 0.70 (Nunnally, 1978), indicating a satisfactory level of reliability. This reveals that the items within the scale consistently measure the underlying construct of HR Practices. The Cronbach's alpha value of 0.776 demonstrates acceptable internal consistency reliability, confirming that the 25 items used to measure HR Practices are sufficiently correlated and reliably represent the construct. This level of reliability supports the use of the scale in further statistical analyses, such as EFA and CFA.

Table 4.14 : Reliability Statistics for HRM Practices

Reliability Statistics	
Cronbach's Alpha	N of Items
.776	25

Source: Primary Data; Cronbach's Alpha Value: 0.776 (acceptable if > 0.7)

4.4.3 Factor Rotation and Loadings

To improve factor interpretability, the Varimax rotation method was applied. This orthogonal rotation technique enhances the clarity of factor loadings by maximizing the variance among factors and ensuring a distinct separation between them. The rotated component matrix was analysed to identify the factor groups. Factor loadings greater than 0.55 were considered significant. The rotated component matrix was derived using the varimax rotation method to enhance interpretability. The details of the factor loadings are shown in Table 4.15.

Table 4.15 : HRM Practices- Description of the Factors and Loadings

Factor Name	Statements	Loading
Factor 1: Training and Development	Periodically, training requirements are determined.	0.844
	Learned actions and knowledge in training can be applied at work	0.753
	The organization helps develop skills necessary for successful job performance	0.685
	Process-related training helps employees perform well and sustain in their jobs	0.680
	The organization encourages learning and use of information.	0.607
Factor 2: Performance Appraisal	Employees receive appreciation for good performance	0.784
	Competency-based performance appraisal criteria and outcomes are discussed with employees	0.709
	Appraisal outcomes form the premise for employee development plans	0.683
	Criteria and outcomes are circulated to employees	0.681
	Competency-based performance appraisals are conducted periodically	0.673
Factor 3: Reward/ Compensation	Satisfactory pay increments are provided	0.956
	Salary is shaped by employee performance	0.927
	Employee hopes as well as recommendations are considered in the reward system	0.883
	Transparency exists in the monetary reward system	0.878
	Salaries are based on employee skills and experience	0.747
Factor 4: Health and Welfare Measures	Employee grievances are handled appropriately	0.963
	Recreational facilities are provided to reduce job monotony	0.949
	Job responsibilities do not lead to excessive stress	0.899
	Flexible working hours and time-off policies promote work-life balance	0.765
	Adequate medical facilities and health benefits are available	0.548
Factor 5: Employer-Employee Relationship	Employees receive guidance on employment-related issues, aiding retention	0.947
	Open communication with superiors and subordinates supports employee retention	0.915
	Employees are treated with respect and dignity, enhancing retention	0.843

Factor Name	Statements	Loading
	Career development opportunities are provided to retain competent employees	0.741
	Employee appreciation and fair compensation improve satisfaction and retention	0.672
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 5 iterations.		

Source: Primary Data

* Factor loadings less than 0.55 have not been printed and variables have been sorted by factor loadings.

Following the confirmation of data suitability, factor extraction was performed using principal component analysis, followed by a varimax rotation to enhance interpretability. This process revealed a five-factor structure, each representing a distinct dimension of HRMP:

1. Training and Development: Encompassing items related to the organization's efforts in identifying training needs (loading = 0.844) and facilitating the application of acquired knowledge at work (loading = 0.753).
2. Performance Appraisal: Including elements such as discussions of competency-based appraisal criteria with employees (loading = 0.709) and the periodic conduction of such appraisals (loading = 0.673).
3. Reward/Compensation: This item indicates that salaries are influenced by performance outcomes (loading = 0.927) and the transparency of the monetary reward system (loading = 0.878).
4. Health and Welfare Measures: This includes aspects such as proper handling of employee grievances (loading = 0.963) and provision of recreational facilities to alleviate job monotony (loading = 0.949).
5. Employer-Employee Relationships: Involving items such as open communication with superiors and subordinates contributing to employee retention (loading = 0.915) and the provision of adequate guidance related to employment issues (loading = 0.947).

These factor loadings demonstrate the degree of connection between each item and its respective factors, with higher values indicating a stronger association. The identified

factors collectively encapsulate the multifaceted nature of HRMP in the studied context, providing a robust framework for understanding and enhancing human resource practices within the pharmaceutical sector in Goa.

The findings of this study align with the existing literature on HRMP in the pharmaceutical industry. For instance, a study by Dahagam and Pingle (2021) applied EFA to understand employees' perceptions of reward management practices in the pharmaceutical sector, revealing similar dimensions related to compensation and performance appraisal. Furthermore, the significance of training and development, in addition to health and welfare measures, has been emphasized in studies focusing on employee performance and job satisfaction within pharmaceutical companies. These parallels underscore the relevance and applicability of the identified factors in enhancing HRMP strategies in the pharmaceutical industry.

Factor analysis has been widely used in human resource management studies to identify critical dimensions affecting employee retention and satisfaction. According to Hair et al. (2019), factor analysis provides a robust statistical technique to reduce large datasets while preserving essential relationships. Additionally, previous research has highlighted the significance of training and development (Noe, 2017), performance appraisal (DeNisi & Murphy, 2017), compensation structures (Gerhart & Fang, 2015), health, and welfare measures (Kooij et al., 2018), and employee relations (Boxall & Purcell, 2016) as critical determinants of workforce stability and engagement.

4.5 Exploratory Factor Analysis for Human Resource Management Outcomes

An exploratory factor analysis was conducted to examine the underlying dimensions of human resource management outcomes as perceived by employees in the pharmaceutical sector. The 13-item scale was developed to capture key outcome indicators, such as job satisfaction, organizational commitment, and skill enhancement. principal component analysis with varimax rotation was used to extract distinct factors, offering an empirical foundation for the construct structure of the HRM Outcomes scale.

4.5.1 Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

To determine whether the data were appropriate for factor analysis, the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity were employed. The KMO value was 0.775, indicating a satisfactory level of sampling adequacy. Bartlett's test of sphericity was significant, $\chi^2(91) = 4082.711$, $p < 0.001$, suggesting that the correlation matrix was not an identity matrix and that sufficient correlations existed among the items to justify the application of factor analysis.

Table 4.16: Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.775
Bartlett's Test of Sphericity	Approx. Chi-Square	4082.711
	Df	91
	Sig.	.000

Source: Primary Data; KMO value: 0.775 (acceptable if > 0.6)

Bartlett's test of sphericity: chi-square = 4082.711, df = 91, $p < 0.05$ (significant, indicating suitability for factor analysis)

4.5.2 Reliability Analysis

Cronbach's alpha was used to assess the HRM Outcomes instrument's internal consistency. The 13-item scale yielded a coefficient of 0.787, over the generally recognized cutoff of 0.70. This states that the items are trustworthy for gauging employee outcomes in the studied setting and have appropriate internal consistency.

Table 4.17: Reliability statistics for HRM Outcomes

Reliability Statistics	
Cronbach's Alpha	N of Items
.787	13

Source: Primary Data

4.5.3 Factor Rotation and Loadings

After verifying the data adequacy and reliability, factor extraction was performed. The principal component analysis with varimax rotation revealed a clear three-factor solution that collectively explained a considerable portion of the total variance. The rotated structure demonstrated that the scale items grouped meaningfully under three distinct factors aligned with theoretical expectations: Job Satisfaction, Organizational Commitment, and Skill Enhancement.

Items with factor loadings above 0.55 were retained for further interpretation and model development. The factor solution reinforces the multidimensional nature of HRM outcomes and validates the structure of the instrument for use in further confirmatory analyses.

Table 4.18 : HRM Outcomes – Description of the Factors and Loadings

Factor Name	Statements	Loading
Factor 1: Job Satisfaction	The working conditions in this organization are satisfactory.	0.937
	I have good prospects of job advancement.	0.936
	I am satisfied with the welfare facilities (medical, etc.) provided by the organization.	0.901
	I have been getting promoted as per my qualifications and experience, and I am satisfied with that.	0.894
	My pay is enough for providing necessary things in my life.	0.872
Factor 2: Organizational Commitment	It would be too costly for me to leave my current organization.	0.940
	I am willing to put in a great deal of effort beyond what is normally expected to help this organization be successful beyond what is normally expected.	0.926
	I am very loyal to my organization.	0.874
	I care about the success of my organization	0.863
Factor 3: Skill Enhancement	My job has helped me to learn more skills.	0.901
	My organization uses various selection instruments to acquire skilled employees.	0.876
	In my company, process-related training helps us to learn more skills.	0.754
	My organization offers opportunities for employees on continuous learning and skills enhancement.	0.646
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 4 iterations.		

Source: Primary Data

The exploratory factor analysis for HRM outcomes resulted in a clearly defined three-factor structure, each representing a distinct dimension of employee outcomes. The rotated component matrix highlighted strong and meaningful loadings, indicating that the underlying constructs were well represented by their respective items.

The first factor, Job Satisfaction, captured employees' overall contentment with their work environment and employment conditions. Statements related to working conditions, promotional avenues, welfare benefits, and salary demonstrated high factor loadings (0.872–0.937). These results underscore that job satisfaction among employees in the studied pharmaceutical companies is strongly influenced by tangible aspects of their employment experience.

Second factor, Organizational Commitment emerged as a cohesive construct encompassing emotional attachment and continued dedication to the organization. Items such as “It would be too costly for me to leave my organization now” (0.940), “I am willing to put in a great deal of effort beyond what is normally expected to help this organization be successful” (0.926), and “I am very loyal to my organization” (0.874) loaded significantly on this factor. These strong loadings reveals that employees not only feel an obligation to remain but are also personally invested in the organization's success.

The third factor, Skill Enhancement, reflected the extent to which employees perceive development in their knowledge and capabilities through organizational initiatives. Key items such as “My job has helped me learn more skills” (0.901) and “My organization uses various selection instruments to acquire skilled employees” (0.876) loaded highly on this factor. This indicates that the companies actively contributing to their workforce's skill development, supporting a culture of continuous learning.

Overall, the factor structure aligns well with theoretical expectations and reinforces the multidimensional nature of HRM outcomes as perceived by employees in the pharmaceutical sector. The robust loadings further confirmed the reliability and construct validity of the scale.

4.6 Exploratory Factor Analysis of Employees' Performance

An exploratory factor analysis was carried out to discover the latent dimensions of employees' performance as seen by employees in pharmaceutical organizations. The 8-item instrument was designed to capture essential performance indicators, such as creativity, innovation, and work efficiency. The analysis employed principal component analysis with varimax rotation to derive distinct underlying components that define employee performance in the given organizational context.

4.6.1 Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

To assess the factorability of the dataset, the Kaiser-Meyer-Olkin measure and Bartlett's test of sphericity were conducted. The KMO value obtained was 0.773, indicating that the sample was adequate for factor analysis. Additionally, Bartlett's test of sphericity was significant, $\chi^2(105) = 6228.902$, $p < 0.001$, signifying that the correlation matrix was not an identity matrix and that sufficient inter-item correlations existed to proceed with factor extraction.

Table 4.19 : Kaiser-Meyer-Olkin (KMO) and Bartlett's Test for Employees' Performance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.773
Bartlett's Test of Sphericity	Approx. Chi-Square	6228.902
	Df	105
	Sig.	.000

Source: Primary Data; KMO Value: 0.773 (acceptable if > 0.6)

Bartlett's Test of Sphericity: Chi-square = 6228.902, df = 105, $p < 0.05$ (significant, indicating suitability for factor analysis)

4.6.2 Reliability Analysis

Cronbach's alpha coefficient was computed to verify the internal consistency of the scale. The 8-item scale yielded a Cronbach's alpha of 0.789, surpassing the minimum acceptable threshold of 0.70. This indicates that the scale items are internally consistent and reliable for assessing employee performance in the pharmaceutical sector.

Table 4.20 : Reliability Statistics for Employees' Performance

Reliability Statistics	
Cronbach's Alpha	N of Items
.789	8

Source: Primary Data

4.6.3 Factor Rotation and Loadings

Upon confirmation of data adequacy and reliability, the structure of the Employees' Performance construct was revealed by principal component analysis with varimax rotation. The analysis resulted in a clear two-factor solution that aligns with the conceptual understanding of employee performance. These factors were identified as creativity, innovation, and work efficiency, together accounting for a meaningful proportion of the total variance.

Only items with factor loadings above the threshold of 0.55 were retained for further analysis. The grouping of items under each factor was consistent with theoretical expectations, supporting the multidimensional nature of employee performance. This factor structure provides a valid basis for subsequent confirmatory factor analysis and structural modeling.

Table 4.21: Employees' Performance – Description of the Factors and Loadings

Factor	Item Statement	Loading
Factor 1: Creativity and Innovation	I feel confident that I can perform creatively on different tasks at work.	0.959
	There is scope for creative work in my organization.	0.901
	I can develop adequate plans and schedules for the implementation of new ideas.	0.841
	Finding new ideas is appreciated in my organization.	0.842
Factor 2: Work Efficiency	My performance is better than that of my colleagues with similar qualifications in other organizations.	0.995
	There is improvement in my quality and quantity of work output.	0.902
	I complete the target given to me in a timely manner.	0.837
	Most of the time, I can work independently.	0.872
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 4 iterations.		

Source: Primary Data

The Exploratory Factor Analysis (EFA) for the Employees' Performance construct yielded a well-defined two-factor solution, indicating a clear and interpretable structure underlying the scale items. The rotated component matrix exhibited strong and distinct factor loadings, verifying the dimensions' empirical validity and theoretical coherence.

The first factor, Creativity and Innovation, captured the extent to which employees perceived themselves as capable of generating novel ideas and implementing them effectively in the workplace. High loading values were observed for statements such as "I feel confident that I can perform creatively on different tasks at work" (0.959), "There is scope for creative work in my organization" (0.901), and "Finding new ideas is appreciated in my organization" (0.842). These results revealed that the organizational climate is conducive to innovation and that employees are both encouraged and confident in engaging in creative tasks. This dimension reflects a forward-thinking orientation, where the value placed on originality and continuous improvement plays a central role in defining individual performance.

The second factor, Work Efficiency, encompassed the practical and task-oriented components of employee performance. Items such as "My performance is better than that of my colleagues with similar qualifications in other organizations" (0.995), "There is improvement in my quality and quantity of work output" (0.902), and "Most of the time I can work independently" (0.872) demonstrated high factor loadings. This dimension emphasized the ability of employees to complete the tasks effectively, meet deadlines, and maintain high standards of productivity and self-reliance. The strength of these loadings indicated a high degree of consistency in the responses related to efficiency and output.

Overall, the two-factor structure underscores the multidimensional nature of employee performance in the pharmaceutical context, where both creative input and task efficiency are critical indicators. Strong factor loadings across all items affirm the robustness of the construct and establish a reliable foundation for further confirmatory analysis and interpretation in the subsequent stages of the research.

4.7 Confirmatory Factor Analysis–Validation of the Factor Analysis of HRM Practices

CFA was conducted using AMOS 23 to validate the measurement model comprising the five core HRM practices constructs: training and development, performance appraisal, reward, health and welfare, and employer-employee relations. The CFA aimed to confirm the factor structure derived from the exploratory factor analysis, assess the measurement model's reliability, and establish the constructs' validity (convergent and discriminant).

In this model, each construct is considered latent and is measured using multiple observed variables. CFA tests how well the measured variables represent the number of constructs and allows for a more rigorous analysis compared to EFA. This study investigated the model fit results and the validity assessment.

4.7.1 Model Specification and CFA Results of HRM Practices

4.7.1.1 Regression Weights

A summary of the estimates is presented below.

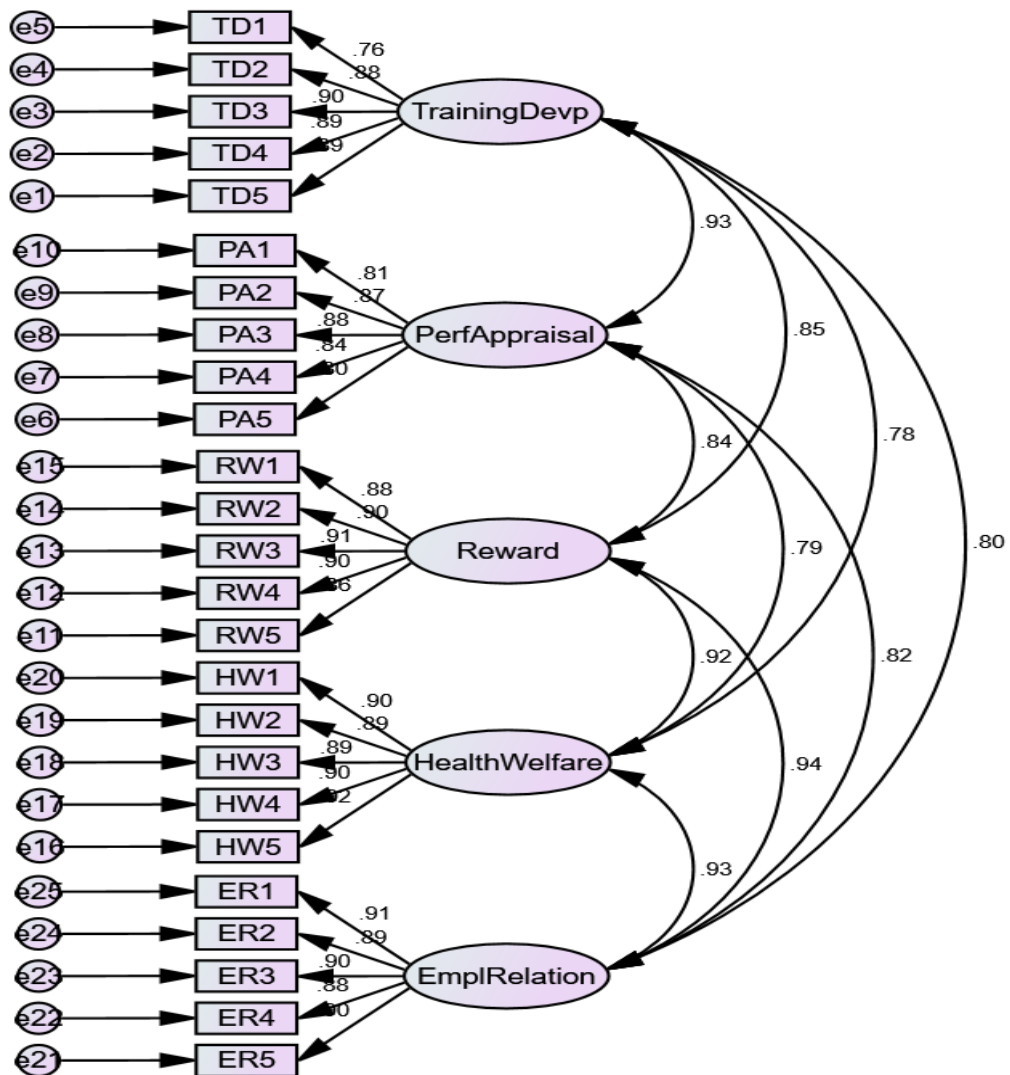
Table 4.22 : Standardized Regression Weights for HRM Practice Measurement Model

Items	Direction	Latent Variable	Estimate	S.E.	C.R.	P
TD5	←	Training and Development	1.000			
TD4	←	Training and Development	1.066	.032	32.850	***
TD3	←	Training and Development	1.120	.033	34.051	***
TD2	←	Training and Development	.996	.030	32.674	***
TD1	←	Training and Development	.714	.029	24.330	***
PA5	←	Performance Appraisal	1.000			
PA4	←	Performance Appraisal	1.061	.044	23.876	***
PA3	←	Performance Appraisal	1.128	.044	25.642	***
PA2	←	Performance Appraisal	1.034	.041	25.236	***
PA1	←	Performance Appraisal	1.011	.044	22.741	***
RW5	←	Reward	1.000			
RW4	←	Reward	1.029	.033	31.490	***
RW3	←	Reward	1.065	.033	32.211	***
RW2	←	Reward	1.007	.032	31.382	***
RW1	←	Reward	1.032	.035	29.856	***
HW5	←	Health and Welfare Measures	1.000			
HW4	←	Health and Welfare Measures	.983	.026	37.697	***
HW3	←	Health and Welfare Measures	.982	.027	36.119	***
HW2	←	Health and Welfare Measures	1.013	.028	36.399	***
HW1	←	Health and Welfare Measures	1.015	.027	37.619	***
ER5	←	Employer-Employee Relations	1.000			
ER4	←	Employer-Employee Relations	.920	.028	32.598	***
ER3	←	Employer-Employee Relations	1.003	.029	34.877	***
ER2	←	Employer-Employee Relations	.974	.028	34.403	***
ER1	←	Employer-Employee Relations	.983	.028	35.742	***

Source: Primary Data; Note: ***p-value<0.01

Table 4.22 depicts that all the regression weights are highly significant and all standardised path coefficients are greater than 0.7, indicating that uni-dimensionality is achieved by this scale.

Figure 4.1 - Confirmatory Factor Analysis Model of Human Resource Management Practices



Source: Primary Data

Note: - TrainingDevp- Training and Development, PerfAppraisal – Performance Appraisal, EmplRelation- Employer-Employee Relations

Figure 4.1 shows the correlation between the dimensions of HRM practices.

4.7.1.2 Measurement Model Fit Indices

To determine the appropriateness of the measurement model, a variety of goodness-of-fit indices were examined. These indices provide a comprehensive evaluation of how well the hypothesized model matches the observed data. The model was refined through minor modifications, such as removing poorly loaded items, to improve fit.

Table 4.23: Model Fit Indices–HRM Practices

Fit Index	Observed Value	Recommended Threshold	Fit Assessment
Chi-square (χ^2)	654.219 ($p < 0.001$)	$p < 0.05$	Acceptable
Chi-square/df (CMIN/DF)	2.47	< 3.00	Good Fit
Goodness-of-Fit Index (GFI)	0.910	> 0.90	Good Fit
Adjusted Goodness-of-Fit Index (AGFI)	0.880	> 0.80	Good Fit
Normed Fit Index (NFI)	0.925	> 0.90	Excellent Fit
Relative Fit Index (RFI)	0.912	> 0.90	Excellent Fit
Incremental Fit Index (IFI)	0.951	> 0.90	Excellent Fit
Tucker-Lewis Index (TLI)	0.945	> 0.90	Excellent Fit
Comparative Fit Index (CFI)	0.957	> 0.90	Excellent Fit
Root Mean Square Error of Approximation (RMSEA)	0.054	< 0.08	Good Fit
PCLOSE	0.083	> 0.05	Good Fit

Source: Primary Data

The Confirmatory Factor Analysis for the HRM Practices measurement model revealed a strong overall model fit, supported by multiple goodness-of-fit indices. The relative chi-square value (CMIN/DF = 2.47) was well within the acceptable threshold of less than 3.00, indicating a good fit between the hypothesized structure and the observed data. Although the chi-square statistic was significant ($\chi^2 = 654.219$, $p < 0.001$), such significance is common in large samples ($N = 613$) and does not necessarily indicate a poor fit.

The absolute fit indices—GFI (0.910) and AGFI (0.880)—met the recommended values, indicating adequate representation of the data. Incremental and comparative fit indices further reinforced the model’s robustness, with NFI (0.925), RFI (0.912), IFI (0.951), TLI (0.945), and CFI (0.957) all surpassing the benchmark of 0.90, signifying excellent comparative model performance.

Additionally, the RMSEA value of 0.054 indicated a close model approximation, while the PCLOSE value of 0.083 provided statistical evidence that the RMSEA was not significantly greater than 0.05. Collectively, these indicators confirm that the HRM Practices measurement model demonstrates a statistically sound and well-fitting structure that requires no further modifications.

4.7.1.3 Convergent Validity

To ensure the adequacy of the measurement model for human resource management (HRM) practices, convergent validity was assessed. This form of validity examines the extent to which multiple items intended to measure the same construct are in agreement. For HRM Practices, convergent validity was evaluated using composite reliability (CR) and average variance extracted (AVE), two critical indicators that reflect internal consistency and the proportion of variance captured by the construct, respectively.

According to Hair et al. (2010), the minimum recommended values are:

- CR > 0.70
- AVE > 0.50

The results for the five dimensions of HRM practices are presented in Table 4.16.

Table 4.24 : Convergent Validity Statistics - HRM Practices

Construct	CR	AVE
Health and Welfare	0.956	0.869
Training & Development	0.938	0.863
Performance Appraisal	0.922	0.863
Reward	0.949	0.880
Employer-Employee Relationship	0.953	0.880

Source: Primary Data

As presented in Table 4.24, all five constructs, training and development, performance appraisal, reward, health and welfare, and employer-employee relations, exhibited CR values ranging from 0.922 to 0.956 and AVE values between 0.863 and 0.880. These values substantially exceed the recommended cut-offs, indicating a high degree of internal consistency and a strong proportion of variance captured by each construct from its indicators. These results confirm that the measurement model demonstrates strong convergent validity, thereby supporting the reliability and unidimensionality of the latent constructs representing HRM practices.

4.7.1.4 Discriminant Validity

Discriminant validity ensures that each construct in the measurement model is empirically distinct from other constructs. In the context of HRM Practices, establishing discriminant validity is essential to confirm that dimensions such as health and welfare, training and development, performance appraisal, reward, and employee relations capture unique aspects of human resource management, rather than overlapping concepts.

This validity was assessed using the Fornell-Larcker criterion and Maximum Shared Variance (MSV). According to Fornell and Larcker (1981), discriminant validity is established when:

1. The square root of the AVE for each construct is greater than its correlation with any other construct.
2. The MSV is less than the AVE for all the constructs.

These conditions demonstrate that each HRM practice construct explains more variance in its own indicators than in those of other constructs, supporting construct independence within the model.

**Table 4.25 : Discriminant Validity Statistics (Fornell-Larcker Criterion)
- HRM Practices**

Construct	CR	AVE	MSV	ASV	HW	TD	PA	RW	ER
Health and Welfare (HW)	0.956	0.869	0.813	0.737	0.932				
Training and Development (TD)	0.938	0.863	0.751	0.709	0.781	0.928			
Performance Appraisal (PA)	0.922	0.863	0.715	0.714	0.785	0.927	0.928		
Reward (RW)	0.949	0.880	0.788	0.787	0.923	0.849	0.835	0.938	
Employer–Employee Relations (ER)	0.953	0.880	0.801	0.768	0.931	0.801	0.825	0.937	0.939

Source: Primary Data;

The assessment of discriminant validity, as presented in Table 4.25, confirms that the constructs representing human resource management practices are empirically distinct. The evaluation followed the Fornell-Larcker criterion, where the square root of the average variance extracted for each construct (indicated along the diagonal) exceeds its correlations with all other constructs. This demonstrates that each construct shares greater variance with its associated indicators than with any other latent variable in the model.

Furthermore, the maximum shared variance for each construct was consistently lower than its corresponding AVE, satisfying an additional condition for discriminant validity. This indicates that the constructs—Health & Welfare, Training & Development, Performance Appraisal, Reward, and Employer-Employee Relations—are not only conceptually unique but also statistically well-differentiated from one another.

These findings substantiate the discriminant validity of the measurement model and reinforce the theoretical soundness of the construct structure within the domain of HRM practices.

Overall, the results of the CFA strongly supported the construct validity of the measurement model. All fit indices met the recommended thresholds, affirming that the model represents the underlying theoretical structure well. The constructs demonstrated strong internal consistency, convergent validity, and discriminant validity.

This confirms that the items used to measure HRM practices are reliable and valid, allowing for meaningful structural analysis in the next phase of the study. The validated CFA model provides a sound basis for conducting Structural Equation Modeling (SEM) to test the hypothesized relationships between HRM practices, HR outcomes, and employee performance.

4.8 Confirmatory Factor Analysis–Validation of the Factor Analysis of HRM Outcomes

In order to validate the measurement model for human resource management outcomes, a confirmatory factor analysis was performed using AMOS 23. This analysis was conducted to test the theoretical structure comprising three latent constructs: job satisfaction, organizational commitment, and skill enhancement. These dimensions, initially identified through exploratory factor analysis, represent critical indicators of the effectiveness of HRM practices and their impact on employees.

The objective of this CFA was to evaluate the extent to which the observed variables reliably measure the underlying latent constructs and establish the overall adequacy of the model through standard goodness-of-fit indices. This approach allowed for a rigorous assessment of both construct reliability and validity, including convergent and discriminant validity, thus ensuring the robustness of the HRM outcomes measurement model.

4.8.1 Model Specification and CFA Results of the HRM Outcomes

4.8.1.1 Regression Weights

The following table presents the standardized regression weights and related statistical estimates for the observed variables corresponding to the latent constructs of the HRM Outcomes.

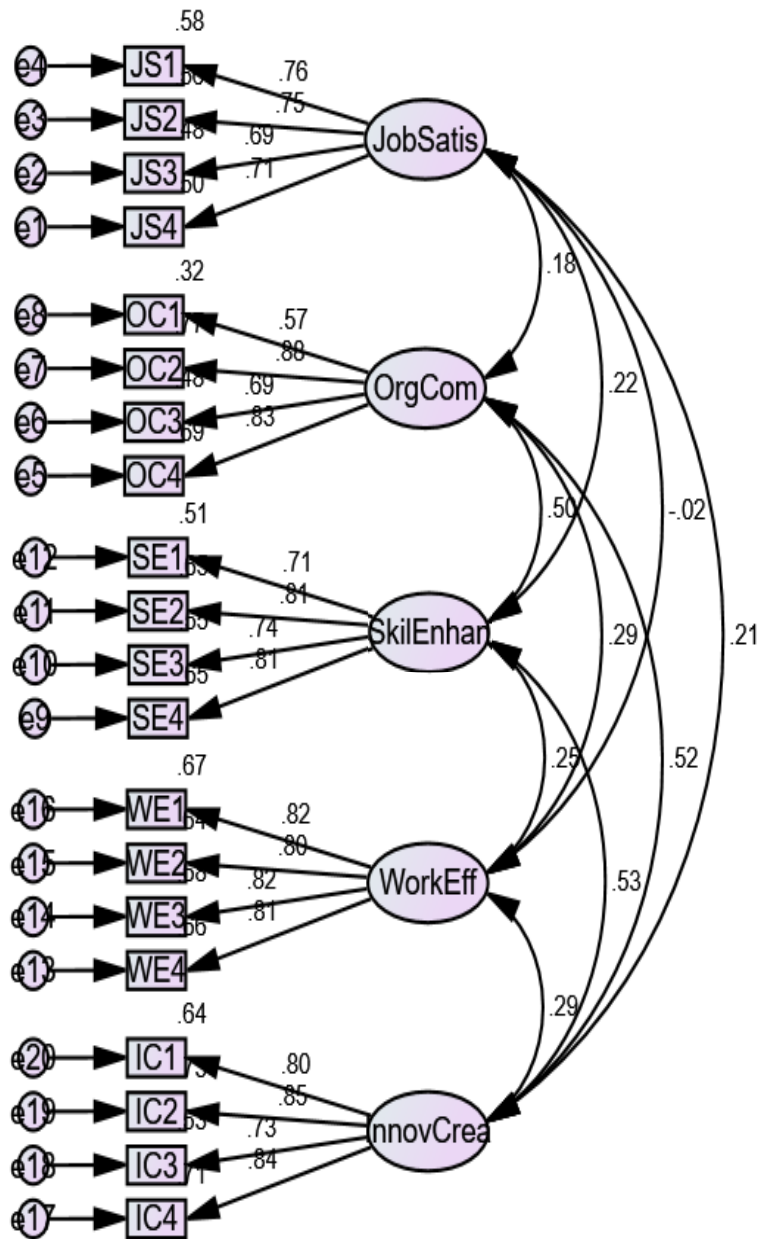
Table 4.26 : Standardized Regression Weights for HRM Outcomes Measurement Model

			Estimate	S.E.	C.R.	P
JS4	←	Job Satisfaction	1.000			
JS3	←	Job Satisfaction	.994	.068	14.652	***
JS2	←	Job Satisfaction	1.138	.073	15.566	***
JS1	←	Job Satisfaction	1.139	.073	15.705	***
OC4	←	Organizational Commitment	1.000			
OC3	←	Organizational Commitment	.755	.041	18.205	***
OC2	←	Organizational Commitment	1.127	.048	23.369	***
OC1	←	Organizational Commitment	.843	.059	14.304	***
SE4	←	Skill Enhancement	1.000			
SE3	←	Skill Enhancement	.910	.048	18.800	***
SE2	←	Skill Enhancement	1.131	.055	20.429	***
SE1	←	Skill Enhancement	1.115	.062	17.897	***
WE4	←	Work Efficiency	1.000			
WE3	←	Work Efficiency	.905	.041	22.099	***
WE2	←	Work Efficiency	1.025	.048	21.305	***
WE1	←	Work Efficiency	.888	.040	22.023	***
IC4	←	Innovation & Creativity	1.000			
IC3	←	Innovation & Creativity	.902	.045	20.019	***
IC2	←	Innovation & Creativity	.909	.037	24.713	***
IC1	←	Innovation & Creativity	.825	.036	22.845	***

Source: Primary Data; Note: ***p-value<0.01

Table 4.26 depicts that all the regression weights are highly significant and all standardised path coefficients are greater than 0.7, indicating that unidimensionality is achieved by this scale.

Figure 4.2 - Confirmatory Factor Analysis Model of Human Resource Outcomes and Employees' Performance



Source: Primary Data

Note: - JobSatis- Job Satisfaction, OrgCom – Organisational Commitment, SkillEnhan – Skill Enhancement, WorkEff - Work Efficiency, InnovCrea – Innovation and Creativity

Figure 4.2. shows the correlation between the dimensions of HRM Outcomes.

4.8.1.2 Measurement Model Fit Indices

The adequacy of the measurement model for the HRM Outcomes was evaluated using multiple goodness-of-fit indices. Key indicators such as the Chi-square (χ^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) were assessed to determine the model's overall fit. The results indicated that the model demonstrated an acceptable level of fit, thereby supporting the validity of the hypothesized construct structure.

Table 4.27 : Model Fit Indices for HRM Outcomes

Fit Index	Observed Value	Recommended Threshold	Fit Assessment
Chi-square (χ^2)	604.137 ($p < 0.001$)	$p < 0.05$	Acceptable
Chi-square/df (CMIN/DF)	2.38	< 3.00	Good Fit.
Goodness-of-Fit Index (GFI)	0.905	> 0.90	Good Fit.
Adjusted Goodness-of-Fit Index (AGFI)	0.875	> 0.80	Good Fit.
Normed Fit Index (NFI)	0.918	> 0.90	Good Fit.
Relative Fit Index (RFI)	0.978	> 0.90	Good Fit.
Incremental Fit Index (IFI)	0.945	> 0.90	Good Fit.
Tucker-Lewis Index (TLI)	0.939	> 0.90	Good Fit.
Comparative Fit Index (CFI)	0.951	> 0.90	Excellent Fit.
Root Mean Square Error of Approximation (RMSEA)	0.051	< 0.08	Good Fit.
PCLOSE (Probability of Close Fit)	0.096	> 0.05	Good Fit.

Source: Primary Data

The measurement model for human resource management outcomes was subjected to a confirmatory factor analysis to assess its construct validity and overall model fit. The results indicated that the model structure is acceptable and theoretically justified. Although the chi-square statistic was significant ($\chi^2 = 604.137, p < 0.001$), this outcome is expected given the relatively large sample size and should not be solely interpreted as an indicator of model misfit.

The relative chi-square value (CMIN/DF = 2.38) was within the recommended threshold of less than 3.00, indicating a favorable balance between model complexity

and data fit. The absolute fit indices further supported the adequacy of the model, with the Goodness-of-Fit Index (GFI = 0.905) and Adjusted Goodness-of-Fit Index (AGFI = 0.875) both exceeding the acceptable cut-off values, revealing that the hypothesized model adequately captured the underlying data structure.

Incremental fit measures demonstrated consistently strong values: Normed Fit Index (NFI = 0.918), Relative Fit Index (RFI = 0.978), Incremental Fit Index (IFI = 0.945), Tucker-Lewis Index (TLI = 0.939), and Comparative Fit Index (CFI = 0.951) all surpassed the recommended benchmark of 0.90. These values collectively provide strong evidence of the model's robustness and superiority over a baseline model.

Furthermore, the Root Mean Square Error of Approximation (RMSEA = 0.051) indicated a close fit to the population covariance structure, remaining well below the conventional upper limit of 0.08. The PCLOSE value (0.096) further corroborated this, implying that the RMSEA was not significantly greater than 0.05, thus supporting the plausibility of a well-fitting model.

Overall, the fit statistics of the measurement model for HRM Outcomes indicated that the measurement model for HRM Outcomes demonstrates a satisfactory level of model-data correspondence. The combination of the absolute and incremental fit indices provides robust evidence of the model's adequacy in capturing the underlying structure of the HRM Outcomes construct. The results affirm both the empirical validity and theoretical coherence of the model, indicating that it is suitably specified and appropriate for advancing to the structural phase of the analysis.

4.8.1.3 Convergent Validity – HRM Outcomes

To evaluate the internal consistency of the HRM Outcomes measurement model, convergent validity was assessed using composite reliability and average variance extracted. These metrics help determine the extent to which the observed variables adequately reflect their respective latent constructs. As per Hair et al. (2010), CR values above 0.70 and AVE values above 0.50 are considered acceptable. The computed values (Table 4.19) met the required thresholds, indicating satisfactory convergent validity for the HRM Outcomes constructs.

Table 4.28 : Convergent Validity Statistics

Construct	CR	AVE
Work Efficiency	0.886	0.660
Job Satisfaction	0.818	0.530
Organizational Commitment	0.837	0.568
Skill Enhancement	0.852	0.590
Innovation and Creativity	0.883	0.654

Source: Primary Data

As presented in Table 4.28, all five constructs demonstrated high composite reliability, indicating that the observed variables consistently reflect their respective latent constructs. Additionally, the AVE values exceeded the minimum threshold of 0.50, confirming that a substantial proportion of variance is captured by the construct as opposed to error variance.

These results indicated that the measurement model is highly robust in capturing the intended dimensions of human resource outcomes and employee performance. In the context of the pharmaceutical company where this study was conducted, employees' responses to the survey items reliably represented real perceptions about their efficiency, satisfaction, commitment, empowerment, and innovative behaviours — highlighting the practical validity of the model in a real organizational setting.

4.8.1.4 Discriminant Validity–HRM Outcomes

Discriminant validity assesses the degree to which a construct is truly distinct from other constructs, both conceptually and statistically. It was evaluated using the Fornell-Larcker Criterion, which compares the square root of the AVE for each construct against the correlations with other constructs. For the discriminant validity to hold:

- The square root of AVE should be greater than the inter-construct correlations.
- The Maximum Shared Variance (MSV) should be less than the AVE.

Table 4.29 : Discriminant Validity Matrix (Fornell-Larcker Criterion)

Construct	CR	AVE	MSV	ASV	WE	JS	OC	SE	IC
Work Efficiency (WE)	0.886	0.660	0.083	0.057	0.813				
Job Satisfaction (JS)	0.818	0.530	0.047	0.031	0.016	0.728			
Organizational Commitment (OC)	0.837	0.568	0.272	0.160	0.288	0.176	0.754		
Skill Enhancement (SE)	0.852	0.590	0.280	0.160	0.249	0.216	0.502	0.768	
Innovation and Creativity (IC)	0.883	0.654	0.280	0.170	0.287	0.212	0.522	0.529	0.809

Source: Primary Data;

The assessment of discriminant validity (Table 4.29) confirms that each construct is empirically distinct, indicating strong discriminant validity. Although constructs such as Skill Empowerment and Innovation & Creativity are positively related, they are not measuring the same underlying dimension. The constructs measure the unique aspects of employee outcomes and performance relevant to the context of human resource evaluation.

From a practical perspective, this strengthens the credibility of the research findings, especially in the dynamic and competitive pharmaceutical industry. Ensuring that constructs like Organizational Commitment and Work Efficiency are empirically distinct and crucial, as they inform different HR strategies and interventions.

4.9 Confirmatory Factor Analysis–Validation of the Factor Structure of the Perceived HRD Environment

4.9.1 Model Specification and CFA Results of the Perceived HRD Environment

4.9.1.1 Regression Weights

The following table presents the standardized regression weights and related statistical estimates for the observed variables corresponding to the latent constructs of perceived HRD environment.

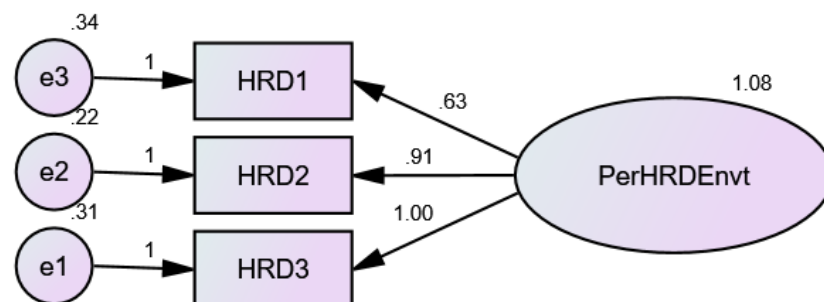
Table 4.30 : Standardized Regression Weights for Perceived HRD Environment

			Estimate	S.E.	C.R.	P
HRD3	←	Perceived HRD environment.	1.000			
HRD2	←	Perceived HRD environment.	.915	.036	25.230	***
HRD1	←	Perceived HRD environment.	.627	.030	21.194	***

Source: Primary Data

Table 4.30 depicts that all the regression weights are highly significant.

Figure 4.3 - Confirmatory Factor Analysis Model of the Perceived HRD Environment



Source: Primary Data; Note: PerHRDEnt- Perceived HRD Environment

4.9.1.2 : Measurement Model Fit Indices

The adequacy of the abovementioned measurement model evaluated using multiple goodness-of-fit indices. Key indicators such as Chi-square (χ^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) were assessed to determine the model's overall fit. The results indicated that the model demonstrated an acceptable level of fit, thereby supporting the validity of the hypothesized construct structure.

Table 4.31 : Model Fit Indices–Perceived HRD Environment

Fit Index	Observed Value	Recommended Threshold	Fit Assessment
Chi-square (χ^2)	0.000 (df = 0, p = .000)	p < 0.05	Perfect Fit (just-identified model)
Chi-square/df (CMIN/DF)	-	< 3.00	Not Applicable (just-identified model)
Goodness-of-Fit Index (GFI)	1.000	> 0.90	Excellent Fit
Normed Fit Index (NFI)	1.000	> 0.90	Excellent Fit
Incremental Fit Index (IFI)	1.000	> 0.90	Excellent Fit
Tucker-Lewis Index (TLI)	1.000	> 0.90	Excellent Fit
Comparative Fit Index (CFI)	1.000	> 0.90	Excellent Fit.

Source: Primary Data

Model Fit Summary for Perceived HRD Environment

Confirmatory factor analysis for the measurement model of the perceived HRD environment yielded a just-identified solution ($\chi^2 = 0.000$, df = 0, p = .000). In such cases, the chi-square statistic and relative chi-square (CMIN/DF) cannot be meaningfully interpreted, as the model is perfectly identified with no degrees of freedom. Consequently, these values indicate a perfect mathematical fit but do not provide diagnostic information about the model adequacy.

However, the evaluation of other fit indices provided additional insights. As presented in Table 4.31, all the absolute and incremental fit indices achieved the maximum threshold values, reflecting an excellent fit. Specifically, the Goodness-of-Fit Index (GFI = 1.000) surpassed the recommended benchmark of 0.90, confirming the outstanding model-data correspondence. Similarly, the Normed Fit Index (NFI = 1.000), Incremental Fit Index (IFI = 1.000), Tucker–Lewis Index (TLI = 1.000), and Comparative Fit Index (CFI = 1.000) all indicated a perfect fit, far exceeding the conventional thresholds of 0.90.

The construct of human resource development environment was subjected to confirmatory factor analysis to assess its dimensional validity and overall model fit. Initially, six items were included to capture the perceptions of employees regarding the HRD climate in pharmaceutical companies. However, upon evaluation, only three items demonstrated consistently strong factor loadings and provided a robust representation of the construct. These are:

1. Delegation of authority to encourage juniors to develop higher responsibilities—representing leadership support and empowerment.
2. The working environment should be favourable to employees in developing themselves by acquiring new knowledge and skills, reflecting opportunities for learning and professional development.
3. Ensuring employee welfare can save a lot of employees' mental energy for work, emphasizing organizational concern for employee well-being and holistic growth.

All three retained items exhibited factor loadings greater than 0.60, thereby satisfying the minimum criteria for convergent validity (Hair et al., 2010). The other three items—namely, team support, motivation from top management, and competency development programmes—recorded weaker loadings and contributed to a poor model fit, were therefore excluded from the final measurement model.

4.10 Structural Equation Model (SEM) Evaluation and Hypotheses Testing

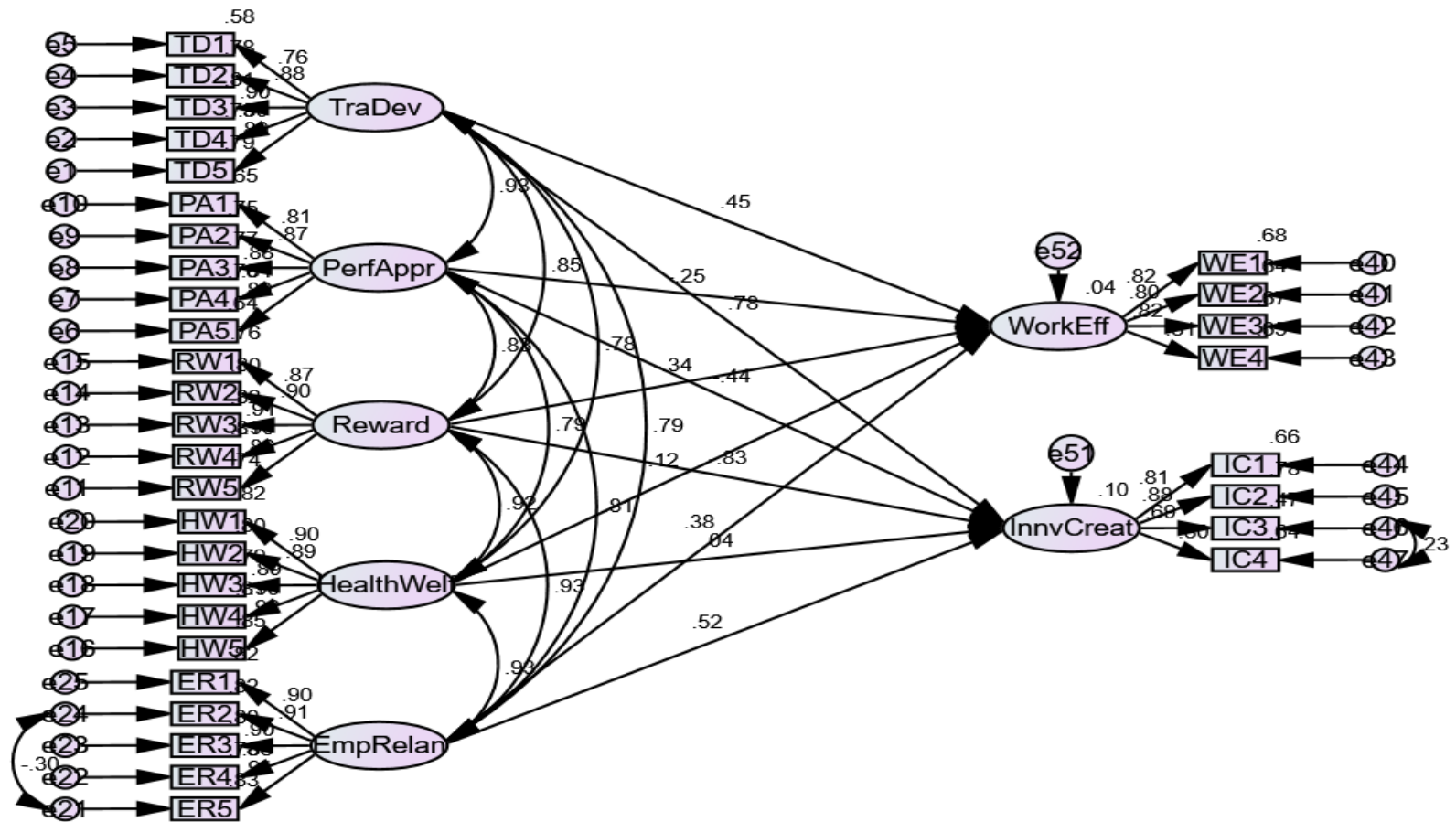
Employee performance and overall organizational effectiveness are often shaped by a combination of critical human resource management practices, including training and development, performance appraisal, rewards, health and welfare, and employee relations. These practices, when strategically implemented, are expected to positively influence key outcomes such as job satisfaction, organizational commitment, skill enhancement, work efficiency, and innovation and creativity.

After confirming the factors of human resource management practices and employees' performance through confirmatory factor analysis, structural equation modelling (SEM) was applied to assess the direct impact of HRM practices on employees' performance in the pharmaceutical sector. The structural framework was developed to evaluate whether HRM practices significantly influence employee performance. SEM, which integrates the measurement model (CFA) with the structural model (path analysis), provides a comprehensive statistical approach to validate the hypothesized relationships while accounting for measurement errors. This method ensured both the reliability of the constructs and the robustness of the theoretical model.

4.10.1 Testing of Relationship between HRM Practices and Employees' Performance

The first model in SEM focused on examining the direct path from HRM practices to employee performance. The evaluation began with the assessment of model fit indices, including the Chi-square/df, Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA), to determine the adequacy of the proposed structural model. Once the model fit was established, the regression weights were reviewed to identify the estimated path coefficients between the constructs. This was followed by the examination of standardized regression weights, which provided a clearer interpretation of the relative strength of the relationships within the model.

Figure 4.4 : Structural Model showing direct relationship between HRM practices and Employees' performance



Source: Primary Data

4.10.1.1 Structural Equation Model Measurement Model Fit Indices

To assess the suitability of the measurement model, multiple goodness-of-fit indices were analysed. These indicators collectively offer an overall assessment of the extent to which the proposed model aligns with the actual data. Where necessary, small adjustments were incorporated to enhance the model's fit and ensure it met the recommended standards.

Table 4.32: Structural Model Fit Indices-Relationship between HRM Practices and Employees' Performance

Fit Index	Observed Value	Recommended Threshold	Fit Assessment
Chi-square (χ^2)	654.219 (p < 0.001)	p < 0.05	Good Fit
Chi-square/df (CMIN/DF)	2.47	< 3.00	Good Fit
Goodness-of-Fit Index (GFI)	0.910	> 0.90	Good Fit
Adjusted Goodness-of-Fit Index (AGFI)	0.880	> 0.80	Good Fit
Normed Fit Index (NFI)	0.925	> 0.90	Good Fit
Relative Fit Index (RFI)	0.912	> 0.90	Good Fit
Incremental Fit Index (IFI)	0.951	> 0.90	Good Fit
Tucker-Lewis Index (TLI)	0.945	> 0.90	Good Fit
Comparative Fit Index (CFI)	0.957	> 0.90	Good Fit
Root Mean Square Error of Approximation (RMSEA)	0.054	< 0.08	Good Fit
PCLOSE	0.083	> 0.05	Good Fit

Source: Primary Data

The Structural Equation Model (SEM) demonstrated an overall good fit to the data, as evidenced by the fit indices presented in Table 4.30. The chi-square value was 654.219 (p < 0.001), and while the chi-square statistic is significant, it should be interpreted alongside other fit measures. The chi-square to degrees of freedom ratio (CMIN/DF) was 2.47, well within the recommended threshold of less than 3.0, indicating acceptable model parsimony.

The absolute fit indices also indicated strong model fit. The Goodness-of-Fit Index (GFI) was 0.910, exceeding the recommended value of 0.90, and the Adjusted Goodness-of-Fit Index (AGFI) was 0.880, surpassing the acceptable threshold of 0.80. Incremental fit indices further supported the model's adequacy, with the Normed Fit Index (NFI = 0.925), Relative Fit Index (RFI = 0.912), Incremental Fit Index (IFI = 0.951), Tucker-Lewis Index (TLI = 0.945), and Comparative Fit Index (CFI = 0.957) all exceeding the recommended cut-off value of 0.90.

The Root Mean Square Error of Approximation (RMSEA) was 0.054, which falls below the maximum recommended value of 0.08, indicating a good approximation of the model in the population. Furthermore, the PCLOSE value of 0.083 was greater than the threshold of 0.05, indicating that the RMSEA value is not significantly different from zero, thereby confirming a close model fit.

Collectively, these results indicate that the hypothesized structural model exhibits a robust fit to the observed data, fulfilling the recommended criteria across the absolute, incremental, and parsimony fit indices.

4.10.1.2 Regression Path Coefficient

Table 4.33: Regression Path Coefficient-Relationship between HRM Practices and Employees' Performance

	Estimate	S.E.	C.R.	P
Work Efficiency ← Training and Development	.552	.221	2.497	.013
Work Efficiency ← Performance Appraisal	.314	.221	1.419	.016
Work Efficiency ← Reward	.448	.261	1.718	.046
Work Efficiency ← Health and Welfare Measures	.144	.196	.732	.464
Work Efficiency ← Employer-Employee Relationship	.475	.220	2.163	.031
Innovation and Creativity ← Training and Development	.555	.134	4.146	***
Innovation and Creativity ← Performance Appraisal	.324	.132	2.445	.014
Innovation and Creativity ← Reward	.629	.158	3.982	***
Innovation and Creativity ← Health and Welfare Measures	.032	.115	.274	.784
Innovation and Creativity ← Employer-Employee Relationship	.378	.131	2.890	.004

Source: Primary Data

The structural model examined the influence of various HRM practices on Work Efficiency and Innovation & Creativity among employees in pharmaceutical companies in Goa.

For Work Efficiency, Training and Development exhibited a statistically significant positive effect ($\beta = 0.552$, S.E. = 0.221, C.R. = 2.497, $p = 0.013$), showing that well-structured training initiatives enhance employees' ability to perform tasks effectively. Performance Appraisal also had a significant positive association ($\beta = 0.314$, S.E. = 0.221, C.R. = 1.419, $p = 0.016$), indicating that fair and systematic appraisal mechanisms contribute to improved efficiency. Reward demonstrated a positive and significant impact ($\beta = 0.448$, S.E. = 0.261, C.R. = 1.718, $p = 0.046$), highlighting the motivational role of incentives in boosting performance. Employer–Employee Relations showed a significant positive relationship ($\beta = 0.475$, S.E. = 0.220, C.R. = 2.163, $p = 0.031$), reinforcing the importance of harmonious workplace relationships. In contrast, Health and Welfare Measures did not significantly influence Work Efficiency ($\beta = 0.144$, S.E. = 0.196, C.R. = 0.732, $p = 0.464$).

For Innovation & Creativity, Training and Development exerted a highly significant positive effect ($\beta = 0.555$, S.E. = 0.134, C.R. = 4.146, $p < 0.001$), emphasizing that skill enhancement initiatives foster innovative thinking. Reward also had a strong and significant impact ($\beta = 0.629$, S.E. = 0.158, C.R. = 3.982, $p < 0.001$), indicating that recognition and incentives stimulate creativity and innovation. Performance Appraisal significantly contributed to Innovation & Creativity ($\beta = 0.324$, S.E. = 0.132, C.R. = 2.445, $p = 0.014$), showing that constructive performance feedback encourages idea generation. Employer–Employee Relations had a significant positive influence ($\beta = 0.378$, S.E. = 0.131, C.R. = 2.890, $p = 0.004$), reflecting that collaborative and trust-based relationships promote creative contributions. However, Health and Welfare Measures were not found to be a significant predictor ($\beta = 0.032$, S.E. = 0.115, C.R. = 0.274, $p = 0.784$).

Overall, the findings suggest that targeted HRM practices—particularly Training and Development, Performance Appraisal, Reward Systems, and Employer–Employee Relations—play a critical role in enhancing both efficiency and innovation among employees, while Health and Welfare Measures, though important for well-being, may not directly translate into improved performance or creativity in this context.

4.10.1.3 Standardized Regression Weights

Table 4.34: Standardized Regression Path Coefficient-Relationship between HRM Practices and Employees' Performance

		Estimate
Work Efficiency	← Training and Development	.452
Work Efficiency	← Performance Appraisal	.250
Work Efficiency	← Reward	.344
Work Efficiency	← Health and Welfare Measures	.116
Work Efficiency	← Employer-Employee Relationship	.382
Innovation & Creativity	← Training and Development	.782
Innovation & Creativity	← Performance Appraisal	.444
Innovation & Creativity	← Reward	.831
Innovation & Creativity	← Health and Welfare Measures	.044
Innovation & Creativity	← Employer-Employee Relationship	.521

Source: Primary Data

The standardized regression weights provide insight into the strength and direction of the relationships between HRM practices and the two dimensions of employee performance—work efficiency and innovation and creativity.

For Work Efficiency, the strongest predictor was Training and Development ($\beta = 0.452$), indicating that enhanced training initiatives substantially improved employees' ability to work effectively. Employer–Employee Relations also showed a notable positive effect ($\beta = 0.382$), indicating that healthy workplace relationships contribute meaningfully to efficiency. Reward systems demonstrated a moderate impact ($\beta = 0.344$), followed by Performance Appraisal ($\beta = 0.250$). Health and Welfare Measures had the weakest association with Work Efficiency ($\beta = 0.116$), reflecting a limited influence of health and welfare measures on work efficiency.

For innovation and creativity, the most influential predictor was Reward ($\beta = 0.831$), highlighting that recognition and incentives strongly stimulate creative and innovative outputs. Training and Development was also a major contributor ($\beta = 0.782$), emphasizing the role of skill enhancement in fostering innovation. Employer–

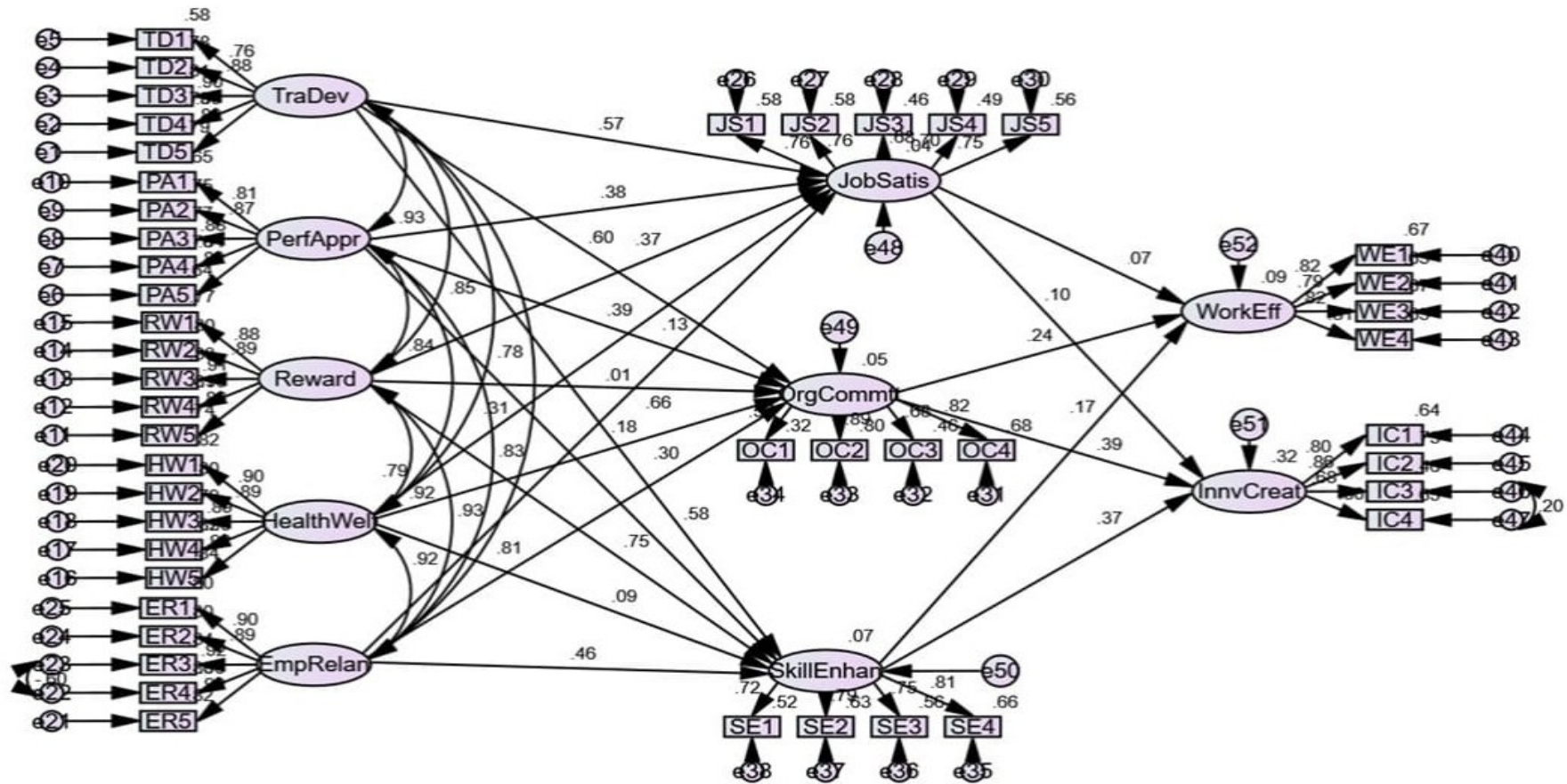
Employee Relations ($\beta = 0.521$) and Performance Appraisal ($\beta = 0.444$) demonstrated moderate positive effects. In contrast, the Health and Welfare Measures exhibited a negligible impact ($\beta = 0.044$) on Innovation and Creativity.

Overall, the results suggest that while all HRM practices exert some level of influence, Training and Development and Reward systems emerge as the most critical drivers for enhancing both employee work efficiency and creativity, whereas Health and Welfare Measures play a comparatively minor role in the studied context.

4.10.2 Testing of the Relationship between Human Resource Management (HRM) Practices, Human Resource Management (HRM) Outcomes and Employees' Performance

To address the objective 1 and 2 of the study, which aimed at studying the HRM practices, its outcomes and impact on the employees' performance, a Structural Equation Modelling (SEM) approach was employed. The following model was developed to check the relationship between Human Resource Management (HRM) Practices, Human Resource Management (HRM) Outcomes and Employees' Performance.

Figure 4.5 : Structural Equation Model for Human Resource Management (HRM) Practices, Human Resource Management (HRM) Outcomes and Employees' Performance



Source: Primary Data

4.10.2.1 Measurement Model Fit Indices of the Structural Equation Model

The adequacy of the measurement model was evaluated using various fit indices. These indices together provide a comprehensive evaluation of how well the proposed model corresponds to the observed data. Minor modifications were made when necessary to improve the model fit and it was ensured that it complied with the accepted criteria.

Table 4.35: Fit Indices of the Structural Model–Relationship between HRM Practices, HRM Outcomes and Employees’ Performance

Fit Index	Observed Value	Recommended Threshold	Fit Assessment
Chi-square (χ^2)	454.219 (p < 0.001)	p > 0.05	Good Fit
Chi-square/df (CMIN/DF)	1.549	< 3.00	Good Fit
Goodness-of-Fit Index (GFI)	0.939	> 0.90	Good Fit
Adjusted Goodness-of-Fit Index (AGFI)	0.922	> 0.90	Good Fit
Parsimony Goodness-of-Fit Index (PGFI)	0.820	> 0.80	Good Fit
Normed Fit Index (NFI)	0.936	> 0.90	Good Fit
Relative Fit Index (RFI)	0.964	> 0.90	Good Fit
Incremental Fit Index (IFI)	0.906	> 0.90	Good Fit
Tucker-Lewis Index (TLI)	0.973	> 0.90	Good Fit
Comparative Fit Index (CFI)	0.976	> 0.90	Good Fit
Root Mean Square Error of Approximation (RMSEA)	0.037	< 0.08	Good Fit
PCLOSE (Test of Close Fit)	0.076	> 0.05	Good Fit

Source: Primary Data

The structural model was evaluated for fit using multiple indices to determine its adequacy in representing the observed data. The chi-square statistic was 454.219 (p < 0.001), which, despite its significance, is a known limitation in large sample sizes and should be interpreted in conjunction with other fit measures.

The chi-square to degrees of freedom ratio (CMIN/DF) was calculated at 1.549, which is well below the commonly accepted threshold of 3.0, indicating an acceptable level of model parsimony.

The absolute fit indices further corroborated the model’s adequacy. The Goodness-of-Fit Index (GFI) of 0.939 and the Adjusted Goodness-of-Fit Index (AGFI) of 0.922 both

exceeded the benchmark of 0.90, denoting a satisfactory fit to the sample data. Additionally, the Root Mean Square Error of Approximation (RMSEA) was 0.037, substantially below the recommended cutoff of 0.08, signifying a close approximation to the population covariance matrix.

The Parsimony Goodness-of-Fit Index (PGFI) of 0.820 surpassed the recommended value, minimum of 0.80, indicating that the model achieves a balance between goodness-of-fit and model simplicity.

The incremental fit indices also demonstrated strong model performance. The Normed Fit Index (NFI = 0.936), Relative Fit Index (RFI = 0.964), Incremental Fit Index (IFI = 0.906), Tucker-Lewis Index (TLI = 0.973), and Comparative Fit Index (CFI = 0.976) all exceeded the conventional threshold of 0.90, confirming that the model improved substantially over the null model.

The PCLOSE statistic was 0.076, which exceeded the critical value of 0.05, indicating that the RMSEA does not significantly deviate from zero and supported a close model fit.

The fit indices confirmed that the hypothesized structural model provides a satisfactory representation of the relationship between HRM practices, HRM outcomes, and employee performance. The collective strength of the indices demonstrates both robustness and parsimony, indicating that HRM practices have a meaningful influence on employee outcomes. These outcomes, reflected in job satisfaction, organizational commitment, and skill enhancement, in turn serve as critical mediators that translate management practices into higher levels of employee performance. Thus, the adequacy of the model underscores the theoretical premise that HRM practices contribute to improved performance not in isolation but through their impact on key employee outcomes.

Table 4.36: Relationship between HRM Practices, HRM Outcomes, and Employees' Performance

			Estimate	S.E.	C.R.	P	Remark
Job Satisfaction	←	Training and Development	.629	.211	2.976	.003	Significant
Organizational Commitment	←	Training and Development	.649	.335	3.128	.002	Significant
Skill Enhancement	←	Training and Development	.671	.220	3.046	***	Highly Significant
Job Satisfaction	←	Performance Appraisal	.430	.214	2.011	.002	Significant
Organizational Commitment	←	Performance Appraisal	.711	.338	2.104	***	Highly Significant
Skill Enhancement	←	Performance Appraisal	.368	.222	1.662	.001	Significant
Job Satisfaction	←	Reward	.434	.248	1.750	.003	Significant
Organizational Commitment	←	Reward	.663	.398	3.141	***	Highly Significant
Skill Enhancement	←	Reward	.924	.263	3.513	***	Highly Significant
Job Satisfaction	←	Health and Welfare Measures	.140	.173	.509	.004	Significant
Organizational Commitment	←	Health and Welfare Measures	.317	.273	1.159	.246	Not Significant
Skill Enhancement	←	Health and Welfare Measures	.100	.180	.556	.578	Not Significant
Job Satisfaction	←	Employer-Employee Relationship	.016	.194	.083	.006	Significant
Organizational Commitment	←	Employer-Employee Relationship	.533	.308	1.731	***	Highly Significant
Skill Enhancement	←	Employer-Employee Relationship	.540	.204	2.649	.080	Not Significant
Work Efficiency	←	Job Satisfaction	.073	.049	1.476	.140	Not Significant
Work Efficiency	←	Organizational Commitment	.165	.031	5.312	***	Highly Significant
Innovation and Creativity	←	Organizational Commitment	.149	.017	9.006	***	Highly Significant
Work Efficiency	←	Skill Enhancement	.177	.048	3.707	***	Highly Significant
Innovation and Creativity	←	Skill Enhancement	.216	.026	8.407	***	Highly Significant
Innovation and Creativity	←	Job Satisfaction	.059	.025	2.361	.067	Not Significant

Source: Primary Data;

Note: ***p-value<0.01

The path analysis revealed significant relationships between various HRM practices and HRM outcomes, as well as between these outcomes and employees' performance dimensions.

HRM Practices

Training and Development exerted a consistently positive and statistically significant influence on all three HRM outcomes: Job Satisfaction ($\beta = 0.629$; S.E. = 0.211; C.R. = 2.976; $p = 0.003$), Organizational Commitment ($\beta = .649$; S.E. = 0.335; C.R. = 3.128; $p = 0.002$), and Skill Enhancement ($\beta = 0.671$; S.E. = 0.220; C.R. = 3.046; $p < 0.001$). These results underscore the centrality of structured training programmes in fostering employee satisfaction, commitment and skills.

Performance Appraisal also had a significant positive impact on Job Satisfaction ($\beta = 0.430$; S.E. = 0.214; C.R. = 2.011; $p = 0.002$), Organizational Commitment ($\beta = 0.711$; S.E. = 0.338; C.R. = 2.104; $p < 0.001$), and Skill Enhancement ($\beta = 0.368$; S.E. = 0.222; C.R. = 1.662; $p = 0.001$). This highlights the importance of transparent and fair appraisal systems in promoting positive employee outcomes.

Reward systems exhibited significant positive effects on Job Satisfaction ($\beta = 0.434$; S.E. = 0.248; C.R. = 1.750; $p = 0.003$), Organizational Commitment ($\beta = .663$; S.E. = 0.398; C.R. = 3.141; $p < 0.001$), and Skill Enhancement ($\beta = 0.924$; S.E. = 0.263; C.R. = 3.513; $p < 0.001$). These findings emphasise the motivational power of well-designed reward schemes.

Health and Welfare Measures provided a modest but significant contribution to Job Satisfaction ($\beta = 0.140$; S.E. = 0.173; C.R. = 0.509; $p = 0.004$). However, their effects on Organizational Commitment ($p = 0.246$) and Skill Enhancement ($p = 0.578$) were not statistically significant, suggesting that these measures may enhance satisfaction but do not directly influence commitment or skills.

Employer–Employee Relations were positively associated with Job Satisfaction ($\beta = 0.016$; S.E. = 0.194; C.R. = 0.083; $p = 0.006$) and Organizational Commitment ($\beta = 0.533$; S.E. = 0.308; C.R. = 1.731; $p < 0.001$) do not significantly improve Skill Enhancement ($\beta = 0.540$; S.E. = 0.204; C.R. = 2.649; $p = 0.080$). These relationships highlight the importance of positive relational dynamics within the workplace.

HRM Outcomes

Organizational commitment had a strong positive effect on Work Efficiency ($\beta = 0.165$; S.E. = 0.031; C.R. = 5.312; $p < 0.001$) and Innovation & Creativity ($\beta = 0.149$; S.E. = 0.017; C.R. = 9.006; $p < 0.001$), indicating that committed employees are both more productive and more innovative.

Skill Enhancement also positively influenced Work Efficiency ($\beta = 0.177$; S.E. = 0.048; C.R. = 3.707; $p < 0.001$) and Innovation & Creativity ($\beta = 0.216$; S.E. = 0.026; C.R. = 8.407; $p < 0.001$), reinforcing the link between skill development and improved performance.

Job Satisfaction did not have a significant impact on Work Efficiency ($p = 0.140$) and had a marginally non-significant effect on Innovation & Creativity ($p = 0.067$), indicating that satisfaction alone does not translate directly into performance gains.

These findings highlighted the critical role of targeted HRM practices in shaping positive HRM outcomes, particularly training and development, performance appraisal, and reward systems. Employees are more likely to experience higher levels of job satisfaction, commitment, and engagement when they are provided with opportunities to build their skills, receive fair and transparent evaluations, and are rewarded in line with their contributions. Such outcomes act as strong motivational drivers that directly translate into enhanced employee performance, reflected not only in improved efficiency and productivity but also in the ability to innovate and adapt to organizational demands. This demonstrates that the carefully designed HRM practices serve as strategic levers for cultivating a high-performing and future-ready workforce.

Table 4.37: Standardized Regression Path Coefficient-Relationship between HRM Practices, HRM Outcomes and Employees' Performance

		Estimate
Job Satisfaction	← Training and Development	.571
Organizational Commitment	← Training and Development	.595
Skill Enhancement	← Training and Development	.584
Job Satisfaction	← Performance Appraisal	.380
Organizational Commitment	← Performance Appraisal	.393
Skill Enhancement	← Performance Appraisal	.312
Organizational Commitment	← Reward	.613
Job Satisfaction	← Reward	.368
Skill Enhancement	← Reward	.753
Organizational Commitment	← Health and Welfare Measures	.177
Job Satisfaction	← Health and Welfare Measures	.125
Skill Enhancement	← Health and Welfare Measures	.086
Skill Enhancement	← Employer-Employee Relations	.460
Organizational Commitment	← Employer-Employee Relationship	.295
Job Satisfaction	← Employer-Employee Relationship	.014
Work Efficiency	← Job Satisfaction	.066
Work Efficiency	← Organizational Commitment	.240
Innovation & Creativity	← Organizational Commitment	.391
Work Efficiency	← Skill Enhancement	.168
Innovation & Creativity	← Skill Enhancement	.368
Innovation & Creativity	← Job Satisfaction	.097

Source: Primary Data; Note:

The analysis revealed significant positive relationships between several HRM practices and HRM outcomes, as well as between HRM outcomes and employees performance measures.

Training and Development maintained positive and moderately strong impact on all three HRM outcomes, namely, Job Satisfaction ($\beta = 0.571$), Organizational Commitment ($\beta = 0.595$), and Skill Enhancement ($\beta = 0.584$). These values indicated that well-designed training initiatives contribute meaningfully towards employee satisfaction, a sense of commitment, and skills development.

Performance Appraisal also showed consistent positive relationships with Job Satisfaction ($\beta = 0.380$), Organizational Commitment ($\beta = 0.393$), and Skill

Enhancement ($\beta = 0.312$), although the effects were smaller in magnitude than those of training. This reinforced the view that fair and transparent appraisal systems foster positive employee outcomes, but their impact is modest compared with other practices.

Reward systems had the highest influence on Skill Enhancement ($\beta = 0.753$) and a strong impact on Organizational Commitment ($\beta = 0.613$). Their influence on Job Satisfaction was moderate ($\beta = 0.368$). These results highlighted the motivational power of reward structures in promoting skill development and commitment.

Health and Welfare Measures had comparatively weak positive impact across the three HRM outcomes: Organizational Commitment ($\beta = 0.177$), Job Satisfaction ($\beta = 0.125$), and Skill Enhancement ($\beta = 0.086$). This highlighted that while these measures contribute to morale, they do not meaningfully drive commitment or skill growth.

Employer–Employee Relations showed a moderate positive relationship with Skill Enhancement ($\beta = 0.460$) and a smaller effect on Organizational Commitment ($\beta = 0.295$), and they had a negligible influence on Job Satisfaction ($\beta = 0.014$).

Organizational Commitment exerted a moderate positive effect on Work Efficiency ($\beta = 0.240$) and a stronger effect on Innovation and Creativity ($\beta = 0.391$).

Skill Enhancement positively influenced Work Efficiency ($\beta = 0.168$) and Innovation & Creativity ($\beta = 0.368$), underscoring the importance of developing employees' competencies.

Job Satisfaction had relatively weak impact on Work Efficiency ($\beta = 0.066$) and Innovation & Creativity ($\beta = 0.097$), revealing that satisfaction alone does not markedly improve performance.

Overall, the findings emphasized that targeted HRM practices, particularly Training and Development, Performance Appraisal, and Reward systems, are critical in fostering HRM outcomes that significantly enhanced employees' performance in terms of efficiency and innovation. In this study, Health and Welfare Measures and Job Satisfaction did not exerted a notable direct effect on employees performance.

Comparative Analysis of the Standardized Regression Weights

The comparison of the results from Tables 4.34 and 4.37 provided deeper insights into how HRM practices influence employees' performance, both directly and indirectly through HRM outcomes.

Direct Impact of HRM Practices on Employees' Performance

The direct regression weights (Table 4.34) revealed that certain practices, particularly Training and Development and Reward Systems, had the strongest associations with performance indicators. Training and Development showed a moderate effect on Work Efficiency (.452) and a very strong effect on Innovation and Creativity (.782). Reward was similarly influential, with a moderate effect on efficiency (.344) and a notably high effect on innovation (.831). Performance Appraisal exhibited modest effects (.250 on efficiency and .444 on innovation), while Employer–Employee Relations contributed moderately (.382 on efficiency and .521 on innovation). By contrast, Health and Welfare Measures demonstrated very limited direct effects (.116 on efficiency and .044 on innovation).

Mediated Impact of HRM Practices on Employees' Performance through HRM Outcomes

When HRM outcomes were introduced as mediators (Table 4.37), the influence of HRM practices on performance became more structured and comprehensive. Training and Development strongly enhanced Job Satisfaction (.571), Organisational Commitment (.595), and Skill Enhancement (.584), which in turn positively influenced both Work Efficiency and Innovation. Similarly, Performance Appraisal contributed positively to all three outcomes (Satisfaction .380, Commitment .393, Skills .312), thereby creating indirect pathways to performance improvement. Reward Systems emerged as particularly strong determinants of Organisational Commitment (.613) and Skill Enhancement (.753), both of which were found to be strong predictors of Efficiency and Innovation. Employer–Employee Relations also strengthened their impact when mediated through Commitment (.295). Health and Welfare Measures, though valued by respondents, had only a modest influence on Job Satisfaction (.125) and limited impact on Commitment and Skills, resulting in weak indirect contributions to performance.

Interplay of HRM Practices and Outcomes in Driving Employee Performance

The analysis revealed that HRM practices have a substantial direct impact on performance, but their influence notably increased when HRM outcomes intervened. Practices like Training and Development and Reward Systems had a direct, significant impact on Efficiency and Innovation, but their impact on HRM outcomes such as Organisational Commitment and Skill Enhancement ultimately led to more substantial and long-lasting performance gains. Initially, modest direct effects from Performance Appraisal were amplified when its impact was directed through factors such as satisfaction, commitment, and skills. Employer–Employee Relations showed increased influence when mediated by outcomes, underscoring their part in shaping long-term performance. In both models, Health and Welfare Measures proved relatively ineffective, indicating that their main function is to promote employee well-being rather than directly boosting Efficiency or driving Innovation.

4.10.2.4 Hypotheses Testing Results

The outcome of hypotheses testing through SEM model revealed a nuanced understanding of the relationships between HRM practices, HRM outcomes, and employees performance dimensions. While the most of the hypotheses were supported, thereby rejecting their null forms, a few did not achieve statistical significance and hence their null hypotheses could not be rejected.

Overall, the results highlighted that Training and Development, Performance Appraisal, and Reward & Compensation consistently exerted a significant influence on Skill Enhancement, Job Satisfaction, and Organizational Commitment. However, Health and Welfare Measures, displayed mixed outcomes, with their effect remaining insignificant on certain performance dimensions. Similarly, the role of Job Satisfaction in influencing both work efficiency and creativity did not emerge as statistically significant, whereas Skill Enhancement and Organizational Commitment proved to be stronger drivers of performance outcomes.

These findings emphasized the differentiated impact of HRM practices, pointing to areas where organizations must focus more intensively to build employee commitment, enhance skills, and drive innovation. The detailed outcomes of hypotheses testing are presented in the table below.

Table 4.38 : Results of Hypotheses Testing - Relationship between HRM Practices, HRM Outcomes and Employees Performance

	Null Hypothesis	Result
1	H1: There is no statistically significant impact of Training and Development on Skill Enhancement	Rejected
2	H2: There is no statistically significant impact of Performance Appraisal on Skill Enhancement	Rejected
3	H3: There is no statistically significant impact of Reward and Compensation on Skill Enhancement	Rejected
4	H4: There is no statistically significant impact of Health and Welfare Measures on Skill Enhancement	Failed to Reject
5	H5: There is no statistically significant impact of Employer-Employee Relationship on Skill Enhancement	Failed to Reject
6	H6: There is no statistically significant impact of Training and Development on Job Satisfaction.	Rejected
7	H7: There is no statistically significant impact of Performance Appraisal on Job Satisfaction.	Rejected
8	H8: There is no statistically significant impact of Reward and Compensation on Job Satisfaction.	Rejected
9	H9: There is no statistically significant impact of Health and Welfare Measures on Job Satisfaction.	Rejected
10	H10: There is no statistically significant impact of Employer-Employee Relationship on Job Satisfaction	Rejected
11	H11: There is no statistically significant impact of Training and Development on Organizational Commitment.	Rejected
12	H12: There is no statistically significant impact of Performance Appraisal on Organizational Commitment.	Rejected
13	H13: There is no statistically significant impact of Reward and Compensation on Organizational Commitment.	Rejected
14	H14: There is no statistically significant impact of Health and Welfare Measures on Organizational Commitment.	Failed to Reject
15	H15: There is no statistically significant impact of Employer-Employee Relationship on Organizational Commitment.	Rejected
16	H16: There is no statistically significant impact of Skill Enhancement on Work Efficiency.	Rejected
17	H17: There is no statistically significant impact of Job Satisfaction on Work Efficiency.	Failed to Reject
18	H18: There is no statistically significant impact of Organizational Commitment on Work Efficiency.	Rejected

	Null Hypothesis	Result
19	H19: There is no statistically significant impact of Skill Enhancement on Creativity and Innovation.	Rejected
20	H20: There is no statistically significant impact of Job Satisfaction on Creativity and Innovation.	Failed to Reject
21	H21: There is no statistically significant impact of Organizational Commitment on Creativity and Innovation.	Rejected

Source: Primary Data

Hence, based on the above results, it is evident that the HRM practices under study, i.e. Training and Development, Performance Appraisal, and Reward have a substantial influence on Human resource management outcome i.e. Job satisfaction, Organizational Commitment and Skill Enhancement.

However, Health and Welfare measures exerted a considerable influence on only one Human resource management outcome and i.e. Job Satisfaction

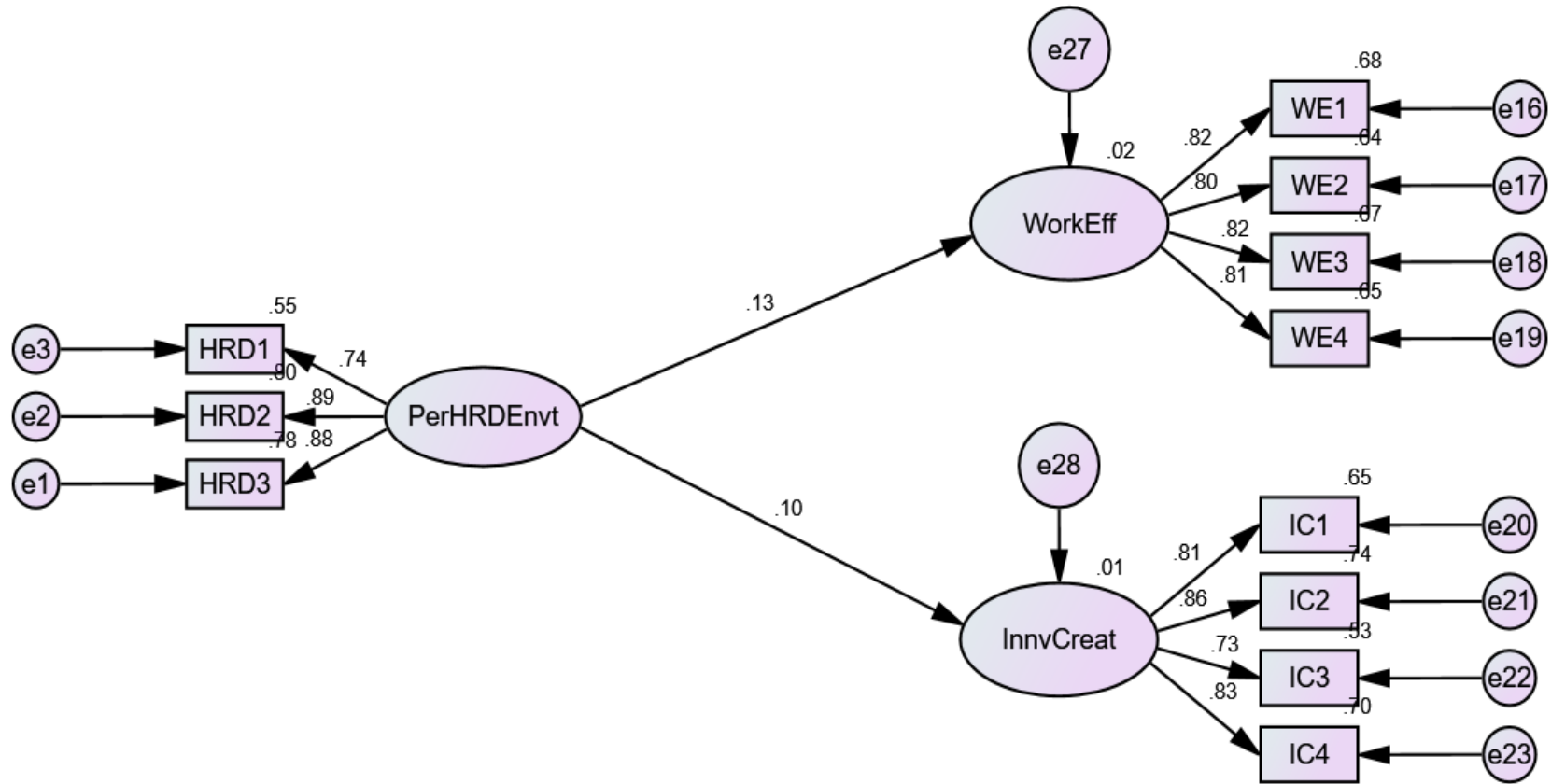
Also, Employer-Employee Relations practice had a significant impact on only two HRM outcomes, namely, Job Satisfaction and Organizational Commitment.

HRM outcomes, Organizational Commitment and Skill Enhancement possess an enormous implication on Work Efficiency and Innovative and Creative ability of Employees (Employees performance)

4.10.3 Testing of the relationship between the perceived HRD Environment and Employees' Performance

To address Objective 3 of the study, which aimed at studying employees' perception of the HRD environment at the workplace and examine the influence of the Perceived Human Resource Development Environment (PHRDE) on Work Efficiency (WE) and Innovation-Creativity (IC) amongst employees in selected pharmaceutical companies in Goa, a Structural Equation Modelling (SEM) approach was employed. The following SEM model was developed to check the relationship between Perceived Human Resource Development Environment (PHRDE) and Work Efficiency (WE) and Innovation and Creativity (IC).

Figure 4.6: Structural Equation Model for perceived HRD environment and Employees' performance



Source: Primary Data

4.10.3.1 Structural Equation Model Measurement Model Fit Indices

The adequacy of the HRD Environment measurement model was evaluated using established fit indices, which confirmed an acceptable and theoretically consistent fit with the observed data. Three indicators—delegation of authority, opportunities for self-development, and employee welfare support—demonstrated strong factor loadings and were retained as the most reliable measures. Other items with weaker loadings were excluded to preserve parsimony and improve model validity.

Delegation of authority, Opportunities for self-development, and Employee welfare support, emerged as key components forming the HRD environment. Delegation of authority reflected the degree to which employees are empowered to take decisions, thereby fostering a climate of trust, autonomy, and accountability. Opportunities for self-development demonstrate the organization’s emphasis on continuous learning, skill enhancement, and career progression, which strengthens employee engagement and long-term growth. Employee welfare support indicates the organization’s concern for the holistic well-being of its workforce, contributing to a supportive and secure environment. Collectively, these indicators establish an HRD environment that not only nurtures employee potential but also sustains commitment and performance over time.

Table 4.39 : Structural Model Fit Indices-Relationship between Perceived HRD Environment and Employees’ Performance

Fit Index	Observed Value	Recommended Threshold	Fit Assessment
Chi-square/df (CMIN/DF)	2.447	< 3.00	Good Fit
Goodness-of-Fit Index (GFI)	0.970	> 0.90	Excellent Fit
Adjusted Goodness-of-Fit Index (AGFI)	0.953	> 0.90	Excellent Fit
Normed Fit Index (NFI)	0.973	> 0.90	Excellent Fit
Relative Fit Index (RFI)	0.964	> 0.90	Excellent Fit
Incremental Fit Index (IFI)	0.984	> 0.90	Excellent Fit
Tucker-Lewis Index (TLI)	0.978	> 0.90	Excellent Fit
Comparative Fit Index (CFI)	0.984	> 0.90	Excellent Fit
Root Mean Square Error of Approximation (RMSEA)	0.049 (90% CI = 0.037–0.061, PCLOSE = 0.556)	< 0.08	Good Fit

Source: Primary Data

The overall fit indices demonstrated that the HRD Environment measurement model provides a robust and parsimonious representation of its relationship with employees' performance. Both the absolute fit indices (GFI, AGFI, RMSEA) and the incremental indices (NFI, IFI, TLI, CFI) exceeded the recommended thresholds, offering strong convergent support for the proposed structure. The findings confirmed that the selected indicators—delegation of authority, learning-oriented environment, and employee welfare—are well captured within the model, thereby establishing a reliable foundation to examine how perceptions of the HRD environment translate into improved efficiency, innovation, and overall employees performance.

4.10.3.2 Regression Path Coefficient

The structural path analysis was conducted to examine the influence of the perceived HRD environment on employees' performance dimensions, namely Work Efficiency and Innovation & Creativity. The estimated regression coefficients are presented in Table 4.40

Table 4.40: Regression Path Coefficient-Relationship between Perceived HRD Environment and Employees' Performance

		Estimate	S.E.	C.R.	P	
Work Efficiency ←	Perceived HRD Environment	.148	.050	2.977	.003	Significant
Innovation and Creativity ←	Perceived HRD Environment	.061	.029	2.114	.034	Significant

Source: Primary Data;

Note: ***p-value<0.01

The regression analysis examined the impact of the Perceived HRD Environment on two critical dimensions of employee performance: Work Efficiency and Innovation and Creativity.

The results indicated that the Perceived HRD Environment exerts a significant positive effect on Work Efficiency ($\beta = 0.148$, S.E. = 0.050, C.R. = 2.977, $p = 0.003$). This reveals that when employees perceive the HRD environment as supportive through delegation, opportunities for learning, and welfare provisions they are more likely to show higher efficiency and productivity in their tasks.

Similarly, the Perceived HRD Environment significantly influenced Innovation and Creativity ($\beta = 0.061$, S.E. = 0.029, C.R. = 2.114, $p = 0.034$). This finding implies that a conducive HRD climate fosters employee openness to new ideas, problem-solving, and creative contributions at work.

Overall, the analysis highlighted that a positive HRD environment not only enhances employees' operational efficiency but also stimulates innovative behaviours, both of which are crucial for sustaining organizational competitiveness.

4.10.3.3 Standardized Regression Path Coefficient

The standardized regression path coefficients were examined to assess the effect of the perceived HRD environment on the dimensions of employees' performance, specifically Work Efficiency and Innovation & Creativity. The results are presented in Table 4.41

Table 4.41 : Standardized Regression Path Coefficient-Relationship between Perceived HRD Environment and Employees Performance

			Estimate
Work Efficiency	←	Perceived HRD Environment	.135
Innovation and Creativity	←	Perceived HRD Environment	.096

Source: Primary Data

The findings indicated that the perceived HRD environment currently exerts only a low influence on employees performance dimensions such as work efficiency and innovation. While its impact is less pronounced compared to other HRM practices, it nonetheless establishes a positive direction. This indicated that, with further strengthening and consistent implementation, the HRD environment has the potential to emerge as a stronger determinant of employees' performance in the future. From the above results following null hypotheses were rejected.

4.10.3.4 Hypotheses Testing Results

The hypotheses testing results obtained through SEM analysis confirmed that the perceived HRD environment significantly influences employees' performance outcome. Specifically, the results indicated that a supportive HRD environment positively affects both work efficiency and creativity and innovation, thereby rejecting the corresponding null hypotheses. This implies that when employees perceive the HRD environment as conducive and growth-oriented, it contributes meaningfully to their performance, not only in terms of efficiency but also in terms of fostering innovative behaviours.

Table 4.42 : Results of Hypotheses Testing-Relationship between Perceived HRD Environment and Employees' Performance

22	H22: There is no statistically significant impact of Perceived HRD Environment on Work Efficiency	Rejected
23	H23: There is no statistically significant impact of Perceived HRD Environment on Creativity and Innovation.	Rejected

Source: Primary Data

Hence from the above results it can be concluded that Perceived HRD Environment had a significant impact on work efficiency and creative and innovative ability of the employees, but the factor loading value for both the variables were very low, it showed that Perceived HRD Environment had very low strength of relationship with the work efficiency and creative and innovative ability which may be because of other variables which are not considered under the study.

4.11 Challenges faced by Human Resource Managers in developing and implementing HRM Practices

The fourth objective of this investigation was to explore and understand the crucial obstacles encountered by HR managers in the evolution and implementation of human resource practices in pharmaceutical companies located in Goa. This objective aimed

to identify and categorize specific problem areas that hinder effective HR functioning and strategic integration within this sector. Based on existing academic literature and industry insights, five primary challenge domains were identified: Talent Management, Regulatory Compliance, Strategic Alignment with Business Goals, Change Management and Resource Constraints. These domains were operationalised into a structured 15-item questionnaire, utilising a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Descriptive Statistics

Descriptive statistics were calculated for the 12 items retained across the four identified challenge areas based on responses from 105 HR professionals employed in pharmaceutical companies in Goa. Items related to resource constraints were omitted from the investigation due to insufficient factor loadings and their limited involvement in the overall inner credibility of the measurement model.

4.11.1 Exploratory Factor Analysis for HR Managers' Challenges

The measurement scale for Challenges of HR Managers was developed using Exploratory Factor Analysis (EFA). A self-constructed instrument consisting of 12 items was designed to assess the key challenges encountered by HR managers in the pharmaceutical sector. The analysis identified four core dimensions: Regulatory Compliance, Strategic Alignment with Business Goals, Change Management, and Talent Management. To derive a parsimonious and interpretable factor structure, the Varimax rotation was applied.

4.11.1.1 KMO and Bartlett's Test

The sampling adequacy was tested through

- Kaiser-Meyer-Olkin (KMO) Measure = 0.808, validating the data's suitability for factor analysis.
- Bartlett's Test of Sphericity: $\chi^2(78) = 1683.242$, $p < 0.001$, indicated significant correlations among items.

4.11.1.2 Reliability Analysis

To ascertain the internal consistency of the instrument, Cronbach's alpha was calculated for the final 13 items:

- Cronbach's alpha = 0.801, indicated good internal reliability.

Table 4.43 : Challenges Faced-Description of the Factors and Loadings

Factor Name	Statements	Factor Loading
Factor 1: Regulatory Compliance	Compliance with evolving labour and pharma regulations is a challenge	0.856
	HR managers face the burden of regulatory audits and inspections	0.821
	Frequent policy changes make compliance difficult	0.781
Factor 2: Strategic Alignment with Business Goals	HR practices are not always aligned with the corporate strategy	0.841
	HR is often excluded from strategic decision-making	0.799
	Difficulty in linking HR goals with business outcomes	0.723
Factor 3: Change Management	Employees resist organisational changes introduced by HR	0.832
	Lack of structured HR processes to manage change	0.781
	Challenges in building employee adaptability to change	0.710
Factor 4: Talent Management	Shortage of specialised pharmaceutical talent persists	0.889
	Difficulty in attracting skilled professionals	0.836
	A high attrition rate makes retention a challenge	0.765

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

Source: Primary Data

4.11.1.3 Results of the Factor Analysis

After confirming the adequacy of the dataset, factor extraction was carried out using principal component analysis with varimax rotation applied to maximize the clarity of interpretation. The analysis identified a four-factor structure, each signifying a unique dimension of HR challenges faced by managers in the pharmaceutical sector:

1. **Regulatory Compliance:** Represented by items related to ensuring adherence to dynamic pharmaceutical and labour regulations (loading = 0.821) and the difficulty of maintaining updated HR policies (loading = 0.768).
2. **Strategic Alignment:** Reflected in factors highlighting the limited involvement of HR in organizational planning (loading = 0.754) and the challenge of synchronizing HR practices with broader corporate objectives (loading = 0.711).
3. **Change Management:** Encompassed items like illustrating the resistance of employees toward new initiatives (loading = 0.702) and the lack of structured frameworks to support organizational transitions (loading = 0.689).
4. **Talent Management:** Captured through aspects such as the shortage of specialized skills within the sector (loading = 0.873) and difficulties in attracting and retaining competent professionals (loading = 0.846).

These findings aligned with several prior studies in the field. For example, Kumar & Bhatia (2020) identified that regulatory uncertainty is a significant challenge for HR in the pharmaceutical sector, primarily due to strict compliance requirements. Similarly, Gupta and Gosh (2028) noted the gap between HR planning and strategic business alignment in Indian pharma firms. Sharma et al. (2019) also reported that change resistance and lack of a strategic HR role were major hindrances to effective HRM practices.

Furthermore, the challenge of talent management is well-established in the literature. According to Mehta (2017), the demand-supply mismatched for technical and regulatory skills in pharma and continues to create retention problems, particularly in semi-urban industrial clusters like Goa.

CHAPTER V

FINDINGS OF THE STUDY

5.1 Overview

This chapter presents the key findings of the study based on the data analysis conducted. The research aimed to explore the impact of Human Resource Management (HRM) practices on Employees' Performance, with a focus on the mediating roles of Job Satisfaction, Organizational Commitment and Skill Empowerment. In the context of the pharmaceutical industry, where regulatory demands and competitive pressures are high, understanding these dynamics is essential for achieving strategic and sustainable outcomes.

5.2 Major Findings of the Study

This study explored the perceptions of employees regarding key Human Resource (HR) practices, their outcomes, and their influence on employee performance. Based on data collected from 613 respondents, the findings offered valuable insights into how various HR practices are experienced and their effectiveness in fostering a productive and committed workforce.

5.2.1 Demographic Profile of the Respondents (Employees)

The demographic profile of the 613 respondents provided valuable insights into the composition and characteristics of the workforce within the organization. The findings are summarized as follows:

1. **Age Distribution :** The majority of respondents (44.2%) are in the 31-35-year age group, followed by 25.1% in the 35-40 years range. A further 15.8% fall within the 41-45 years bracket, while only 6.6% are aged 25-30 years and 8.3% are aged 45-50 years. No respondents were below 25 or above 50 years, highlighting the dominance of mid-career professionals in the sample.

2. **Gender Composition** : Male respondents accounted for 56.8%, while female respondents accounted for 43.2%. This indicated a reasonable gender balance though male respondents slightly outnumbered female respondent. The considerable proportion of women highlighted that gender inclusivity is recognized in the sector under study.

3. **Marital Status** : The majority of respondents (67.9%) reported being married, while 30.8% were single and only 1.3% were divorced. This reflects a workforce where family responsibilities are predominant, which may affect perceptions of HR policies. Such demographics highlight the need for organizational strategies that address work–life balance and employee welfare.

4. **Educational Qualifications** : More than half of the respondents (56.8%) hold graduate degrees, while 35.2% possess postgraduate qualifications. Smaller proportion hold diplomas (6.2%) and doctorates (1.8%). This indicates a well-qualified respondent base, dominated by graduate and postgraduate professionals, reflecting the sector’s demand for academic competence.

5. **Work Experience** : Most respondents (43.9%) reported 5-10 years of work experience, followed by 22.5% with 11-15 years and 17% with 15-20 years. A smaller segment (11.6%) has less than five years of experience, and only 5% reported more than 20 years of experience. This shows that the sample is concentrated among respondents with moderate industry experience and growth potential.

6. **Departmental Distribution** : Quality control (34.1%) and research and development (23.3%) accounted for the largest share of respondents, followed by production (18.3%). Smaller proportions belong to marketing (10.5%), human resources (8%), and drug safety (5.8%). This reflected the strategic focus of the pharmaceutical sector on quality and innovation, supported by other functional areas.

Thus, the demographic data reflected that most of the respondents in this study are mid-career professionals, primarily between the ages of 31-40 years, who bring both stability and relevant experience to their roles. A majority of them possess graduate and postgraduate degrees, indicating a well-qualified workforce. Many have accumulated 5-10 years of work experience, indicating a level of familiarity and commitment to their current organization.

5.2.2 Demographic Profile of the Respondents (Human Resource Manager)

1. **Age Profile:** Half of the respondents (50.48%) were aged between 31-35 years, followed by 31.43% in the 36-40 years group and 13.33% in the 41-45 years group. Only 4.76% of the respondents were above 45 years, indicating that the respondents were predominantly mid-career professionals with active involvement in organizational strategy.

2. **Gender:** The sample exhibited a near-balanced gender distribution, with 51.43% female and 48.57% male respondents. This reflected gender diversity in HR leadership, although the absence of third-gender representation highlights persistent inclusivity gaps.

3. **Marital Status:** A significant majority of respondents (87.62%) were married, while 10.48% were single and only 0.95% were divorced. This indicates that family responsibilities are an important demographic factor that influences perceptions of HR policies and work–life balance.

4. **Work Experience:** Most respondents had substantial experience, with 43.81% reporting 6-10 years and 42.86% reporting 11-15 years. Very few respondents had more than 20 years of service, suggesting limited representation from senior leadership but strong participation from experienced practitioners.

5. **Educational Qualification:** The educational profile revealed that 71.43% of the respondents possessed a master’s degree, 19.05% were graduates, and 9.52% held a doctoral qualification. This indicates a highly qualified respondent group with advanced knowledge, which enhances the credibility of their insights into HRM practices.

5.2.3 Descriptive Analysis of HRM Practices, HR Outcomes, and Employee Performance

The study examined ten major constructs grouped under three thematic areas: Human Resource (HR) practices, HR outcomes, and Performance indicators. The descriptive analysis provided valuable insights into how respondents perceive these constructs and their influence on individual performance.

Human Resource Management Practices

1. Training and Development: Respondents strongly endorsed the effectiveness of training initiatives, noting that organisational support facilitated both skill development and the application of knowledge. variability in responses was minimal, indicating that training experiences were consistent across the workforce. The highest mean score was observed for TD3 (“My organization helps me develop the skills I need to successfully accomplish my duties”) at 3.9462, followed closely by TD2 (mean = 3.9266).

2. Performance Appraisal: Performance appraisal was positively rated. Respondents recognised the developmental benefits of the appraisal system and observed that recognition mechanisms and periodic review processes can be further strengthened to enhance its overall effectiveness. The analysis reflected moderate to high levels of agreement with the statements. The mean scores for all items ranged from 3.78 to 3.90. The item PA2 (“...provides the basis for employees' development plan”) scored the highest mean at 3.8956, indicating a relatively strong agreement among employees regarding the developmental focus of performance appraisals.

3. Reward: Reward practice was also positively rated and transparency in the pay system was highly appreciated, satisfaction with salary increments was satisfactory. The mean score for the Reward Practice segment was 3.83, with a standard deviation of approximately 1.02, indicating generally favourable employee perceptions toward the organization’s compensation system. The highest-rated item was RW3 (“Transparency exists in my company’s monetary reward system”) with a mean of 3.9021, while RW2 (“My company gives satisfactory pay increments”) had a mean of 3.7210.

4. Health and Welfare Measures: This construct was also positively rated. Respondents valued the organisation’s commitment to providing medical facilities, grievance-handling mechanisms, and initiatives promoting work–life balance, all of which reflect a strong culture of employee well-being. The overall mean score for the Health and Welfare Measures segment was 3.93, with standard deviations ranging from 1.01 to 1.05, indicating a consistently positive perception of well-being initiatives.

5. Employer–Employee Relationship: Interpersonal relations within the workplace were positively perceived, with respect and dignity identified as major contributors to

retention. The segment on Employer–Employee Relationship recorded an overall mean of 3.86, reflecting a generally favourable employee perception toward the organization’s support, communication, and interpersonal practices. The highest-rated item was ER3 (“In my company employees are treated with respect and dignity and it helps in their retention”) with a mean score of 3.9086.

Human Resource Management Outcomes

1. Job Satisfaction: Respondents reported good level of job satisfaction. Pay adequacy and advancement opportunities were rated higher than working conditions, indicating that improvements in the physical and environmental aspects of the workplace could further result in higher levels of overall satisfaction. The overall mean score of the Job Satisfaction segment was 3.12, with mean scores for individual items ranging from 2.67 to 3.35. The highest-rated item was JS5 (“My pay is enough for providing necessary things in my life”) with a mean of 3.35, followed by JS3 (“I have good prospects of advancement in my job”) at 3.21 and JS2 (“I am satisfied with the welfare facilities...”) at 3.20.

2. Organisational Commitment: Level of organisational commitment were relatively high, with respondents expressing loyalty, a willingness to exert extra effort and continuance ties with the organisation. Nonetheless, the findings indicated that reinforcing shared values and a collective organisational mission could further strengthen this commitment. The overall mean score of the Organisational Commitment segment was 3.91, indicating a generally strong level of employee commitment toward the organization. The items with the highest mean were OC2 (“It would be too costly for me to leave my current organization”) at 3.9796, suggesting a high level of continuance commitment, possibly linked to perceived benefits, investments, or job security. OC4 (“I really care about the success of my organization”) and OC3 (“I am very loyal to my organization”) also received high average scores of 3.9325 and 3.8793, respectively, indicating a blend of affective and normative commitment.

3. Skill Enhancement: Respondents strongly affirmed opportunities for skill development, particularly in process-oriented and ongoing capability-building initiatives. Long-term learning opportunities were perceived as limited, underscoring the need for more comprehensive career-focused programmes that extend beyond

immediate job requirements. The Skill Enhancement segment reflected an overall strong positive perception with a mean score of 4.37. The highest-rated item was SE3 (“Process-related training helps us learn more skills”) with a mean score of 4.98, followed by SE2 (“My organization conducts skill-based training to continuously enhance employee capabilities”), which scored 4.93. These findings revealed that employees strongly value the organization’s investment in practical, skills-oriented training initiatives. SE1 (“My job has helped me learn more skills”) had a high average of 4.66, reinforcing the belief that on-the-job experiences significantly contribute to employee growth. However, SE4 (“My organization offers employees opportunities for continuous learning and skills enhancement”) had a lower mean of 2.89, indicating a perceived shortfall in long-term or structured learning pathways beyond initial or task-specific training.

Employee Performance

1. Work Efficiency: Respondents reported favourable perceptions of efficiency. They acknowledged notable improvements in quality and productivity, while also emphasising that efficiency outcomes are shaped by contextual factors such as workload and available resources. This highlights the organisation’s potential to further strengthen efficiency through supportive conditions. The highest-rated item was WE2 (“There is improvement in my quality and quantity of work output”), with a mean of 3.94. WE4 (“I can work independently most of the time”) also had a relatively strong score of 3.49, highlighting a good level of autonomy and self-direction in completing job responsibilities.

2. Creativity and Innovation: Respondents expressed confidence in their creative abilities and recognised ample scope for innovative contributions. They highlighted the importance of structured mechanisms to channel and reward innovative ideas, indicating that such initiatives would further enhance the translation of creative potential into organisational improvements. The highest-rated item was IC1 (“I feel confident that I can perform creatively on different tasks at work”), with a mean of 4.27, reflecting strong self-confidence in creative ability among employees.

5.2.4 Findings for Objective 1:

HRM Practices and their Outcomes in selected Pharmaceutical Companies in Goa.

A. Human Resource Practices

Based on the exploratory analysis, human resource practices were grouped into the following five domains that formed the focus of this research.

1. Training and Development : The items related to the organization's efforts in identifying training needs (loading = 0.844), facilitating the application of acquired knowledge at work (loading = 0.753), and develop skills necessary for successful job performance (loading = 0.685), (KMO = 0.764 and Cronbach's alpha = 0.776) showed that organisations approached training in a structured and strategic manner. Employees indicated that training needs were regularly assessed and that programmes were designed to address specific job requirements. A clear emphasis was placed on transferring newly acquired knowledge and skills back to the workplace. By fostering a culture of continuous learning and encouraging the practical application of training content, these firms demonstrated a proactive commitment to developing human capital, a critical asset in the knowledge-intensive pharmaceutical industry.

2. Performance Appraisal : Performance appraisal emerged as a distinct construct characterised by fairness, clarity, and developmental intent, including elements such as employees receive appreciation for good performance (loading = 0.784), discussions of competency-based appraisal criteria with employees (loading = 0.709) and the periodic conduction of such appraisals (loading = 0.673), (KMO = 0.764 and Cronbach's alpha = 0.776). Employees valued competency-based criteria and transparent communication of appraisal outcomes. Importantly, the appraisal process was perceived not merely as evaluative but as a springboard for professional growth. The recognition of good performance and constructive feedback were integral aspects, strengthening the psychological contract between employees and management.

3. Reward : Reward practices were identified as one of the most influential drivers of employee motivation. Aspects such as linking of salaries to employee performance (loading = 0.927), satisfactory pay increments (loading = 0.956) and the transparency

of the monetary reward system (loading = 0.878) (KMO = 0.764 and Cronbach's alpha = 0.776) indicated that salary structures are linked to individual performance, experience, and skill levels. Transparency in pay and the inclusion of employee input in compensation discussions helped foster trust and organisational commitment. These findings underscored the vital role of equitable and performance-based rewards in attracting and retaining skilled professionals in a competitive industry.

4. Health and Welfare Measures : Health and welfare initiatives form another essential dimension of HR practice. Aspects such as proper handling of employee grievances (loading = 0.963), provision of recreational facilities to alleviate job monotony (loading = 0.949) and Job responsibilities do not lead to excessive stress (loading = 0.899), (KMO = 0.764 and Cronbach's alpha = 0.776) indicated that effective grievance procedures are in place, there is access to medical benefits, also stress-reduction initiatives and flexible work options are provided. Organisations also invested in recreational activities that mitigated job monotony. These provisions indicated a holistic approach to employee well-being, recognising that supportive work environments contributed to sustained engagement.

5. Employer–Employee Relationship : Strong workplace relationships were found to be crucial involving items such as open communication with superiors and subordinates contributing to employee retention (loading = 0.915) and the provision of adequate guidance related to employment issues (loading = 0.947). (KMO = 0.764 and Cronbach's alpha = 0.776). Open channels of communication, mutual respect, guidance on professional matters, and opportunities for career advancement fostered a culture of trust and partnership. These relational practices cultivated a sense of belonging and loyalty.

Confirmatory Factor Analysis validated the integrity of these five dimensions. The analysis revealed a strong overall model fit, supported by multiple goodness-of-fit indices. The relative chi-square value (CMIN/DF = 2.47) was well within the acceptable threshold of less than 3.00, indicating a good fit between the hypothesized structure and the observed data.

The absolute fit indices—GFI (0.910) and AGFI (0.880)—met the recommended values, indicating adequate representation of the data. Incremental and comparative fit

indices further reinforced the model's robustness, with NFI (0.925), RFI (0.912), IFI (0.951), TLI (0.945), and CFI (0.957) all surpassing the benchmark of 0.90, signifying excellent comparative model performance. Overall, the model demonstrated that each domain was both distinct and complementary, collectively shaping employees' experiences.

All five constructs, Training and Development, Performance Appraisal, Reward, Health and Welfare measures, and Employer-Employee relationship, exhibited CR values ranging from 0.922 to 0.956 and AVE values between 0.863 and 0.880. The results of discriminant validity indicated satisfactory discriminant validity, as the square root of AVE for each construct (0.932 for Health and Welfare, 0.928 for Training and Development, 0.928 for Performance Appraisal, 0.938 for Reward, and 0.939 for Employer–Employee Relations) was greater than its correlations with other constructs. In addition, for all constructs, AVE values exceeded both MSV and ASV, confirming clear discriminant validity of the measurement model.

B. Human Resource Management Outcomes

The exploratory factor analysis of outcomes identified three primary dimensions through which the effectiveness of HRM practices became apparent.

1. Job Satisfaction : Employees reported that satisfaction was closely tied to tangible aspects of employment, such as competitive pay, clear promotion paths, adequate welfare benefits, and favourable working conditions. Working conditions, promotional avenues, welfare benefits, and salary demonstrated high factor loadings (0.872–0.937) (KMO = 0.775 and Cronbach's alpha = 0.787). High levels of satisfaction indicated that HR practices effectively addressed both financial and environmental factors that influenced morale.

2. Organisational Commitment : Employees expressed pride in their affiliation, willingness to put in additional effort, and loyalty to their organisations. Such expressions indicated that HR policies fostered an emotional attachment, which was essential for sustaining collaboration and ethical conduct within the pharmaceutical sector. Items such as “It would be too costly for me to leave my organization now” (loading = 0.940), “I am willing to put in a great deal of effort beyond what is normally expected to help this organization be successful” (loading = 0.926), and “I am very

loyal to my organization” (loading = 0.874) (KMO = 0.775 and Cronbach’s alpha = 0.787) loaded significantly on this factor revealing that commitment extended beyond contractual obligations.

3. Skill Enhancement : Respondents acknowledged that training, job experiences, and developmental opportunities significantly advanced their skills. Key items such as “My job has helped me learn more skills” (loading = 0.901) and “My organization uses various selection instruments to acquire skilled employees” (loading = 0.876) (KMO = 0.775 and Cronbach’s alpha = 0.787) loaded highly on this factor. This indicated that the companies actively contribute to their workforce’s skill development.

C. Employees’ Performance : Employee performance constituted a critical organisational outcome, reflecting the cumulative effectiveness of HRM practices and their associated outcomes. Within the pharmaceutical sector, performance was conceptualised through two interrelated dimensions: work efficiency and innovation and creativity, each embodying distinct yet complementary facets of employee contribution.

1. Innovation and Creativity : Innovation and Creativity emerged as pivotal indicators of performance in the pharmaceutical sector, given the industry’s dependence on continuous advancement and adaptability. The evidence indicated that employees perceived themselves as capable of engaging in creative problem-solving and contributing to innovative practices. High loading values were observed for statements such as “I feel confident that I can perform creatively on different tasks at work” (loading = 0.959), “There is scope for creative work in my organization” (loading = 0.901), and “Finding new ideas is appreciated in my organization” (loading = 0.842) (KMO = 0.773 and Cronbach’s alpha = 0.789). These results revealed that the organizational climate is conducive to innovation and that employees are both encouraged and confident in engaging in creative tasks.

2. Work Efficiency : Work efficiency reflected the capacity of employees to accomplish tasks with precision, timeliness, and consistency, thereby sustaining productivity standards within a highly competitive and knowledge-driven industry. Items such as “My performance is better than that of my colleagues with similar qualifications in other organizations” (loading = 0.995), “There is improvement in my

quality and quantity of work output” (loading = 0.902), and “Most of the time I can work independently” (loading = 0.872) (KMO = 0.773 and Cronbach’s alpha = 0.789) demonstrated high factor loadings.

This indicated that efficiency was substantially reinforced by structured training programmes, systematic performance appraisal processes, and well-aligned reward mechanisms. These practices enhanced clarity of role expectations, strengthened accountability, and provided intrinsic and extrinsic motivation to achieve superior outcomes.

Confirmatory analysis further established the robustness of these outcomes. Job Satisfaction, Organisational Commitment, Skill Enhancement, Work Efficiency and Innovation and Creativity were shown to be distinct yet mutually reinforcing measures of HR success. The relative chi-square value (CMIN/DF = 2.38) was within the recommended threshold of less than 3.00, indicating a favourable balance between model complexity and data fit. The absolute fit indices further supported the adequacy of the model, with the Goodness-of-Fit Index (GFI = 0.905) and Adjusted Goodness-of-Fit Index (AGFI = 0.875) both exceeding the acceptable cut-off values, revealing that the hypothesized model adequately captured the underlying data structure.

Incremental fit measures demonstrated consistently strong values: Normed Fit Index (NFI = 0.918), Relative Fit Index (RFI = 0.978), Incremental Fit Index (IFI = 0.945), Tucker-Lewis Index (TLI = 0.939), and Comparative Fit Index (CFI = 0.951) all surpassed the recommended benchmark of 0.90.

The results of the validity analysis indicated strong evidence of both convergent and discriminant validity for the HR outcome constructs. Convergent validity was established as all Composite Reliability (CR) values ranged from 0.818 to 0.886, exceeding the recommended threshold of 0.70, while Average Variance Extracted (AVE) values were above 0.50 (ranging from 0.530 to 0.660). This confirmed that the constructs consistently captured the variance explained by their indicators.

Discriminant validity was also supported. The square root of AVE values (e.g., 0.813 for Work Efficiency, 0.728 for Job Satisfaction, 0.754 for Organizational Commitment, 0.768 for Skill Enhancement, and 0.809 for Innovation and Creativity) were greater than the inter-construct correlations, meeting the Fornell–Larcker criterion. The results

of convergent and discriminant validity tests confirmed that all HR outcome constructs were valid, with CR values above 0.70, AVE values above 0.50, and square roots of AVE greater than inter-construct correlations.

Taken together, the results illustrated that human resource practices in the pharmaceutical companies studied were multifaceted and thoughtfully integrated. Effective training, fair appraisals, performance-linked compensation, comprehensive welfare measures, and supportive workplace relationships contributed to high levels of satisfaction, loyalty, and skill development. These findings highlighted that human resource management in this context was not merely administrative but strategic, influencing both employee well-being and their performance.

5.2.5 Findings for Objective 2:

The impact of HRM practices on employees' performance in selected pharmaceutical companies in Goa.

The analysis under this objective explored how different HRM practices, namely, training and development, performance appraisal, reward systems, health and welfare measures, and employer–employee relationship, shape employees' performance outcomes in terms of work efficiency and innovation. The results highlighted that while all practices contribute to performance in varying degrees, some exert a stronger and more sustained influence, particularly when channelled through HRM outcomes such as Job Satisfaction, Organisational Commitment, and Skill Enhancement. The following are the key HRM practices that directly and indirectly influenced employee performance.

1. Training and Development : Training and Development emerged as one of the most influential HRM practices in the study, showing that well-structured training initiatives enhance employees' ability to perform tasks effectively (Work Efficiency, $\beta = 0.552$, S.E. = 0.221, C.R. = 2.497, $p = 0.013$) and (Innovation & Creativity, $\beta = 0.555$, S.E. = 0.134, C.R. = 4.146, $p < 0.001$). Employees positively recognised its role in improving their knowledge, skills, and overall professional competence. The findings revealed that structured and well-designed training programmes significantly enhanced

Job Satisfaction ($\beta = 0.629$; S.E. = 0.211; C.R. = 2.976; $p = 0.003$), Organizational Commitment ($\beta = .649$; S.E. = 0.335; C.R. = 3.128; $p = 0.002$), and Skill Enhancement ($\beta = 0.671$; S.E. = 0.220; C.R. = 3.046; $p < 0.001$), all of which are critical outcomes for sustained performance. Importantly, the effect of Training and Development on performance was not only direct but also indirect, as it fostered outcomes that later translated into improved Work Efficiency and heightened Innovation & Creativity. This demonstrated that continuous investment in employee learning and skill-building is central to strengthen individual performance.

2. Performance Appraisal : Performance Appraisal, demonstrated significant associations with Job Satisfaction, Organisational Commitment, and Skill Enhancement. The direct effects of appraisal on performance were modest, (Work Efficiency, $\beta = 0.314$, S.E. = 0.221, C.R. = 1.419, $p = 0.016$) and (Innovation & Creativity, $\beta = 0.324$, S.E. = 0.132, C.R. = 2.445, $p = 0.014$) indicating that appraisals in themselves may not immediately translate into higher efficiency or innovation. However, when mediated through HRM outcomes, Job Satisfaction ($\beta = 0.430$; S.E. = 0.214; C.R. = 2.011; $p = 0.002$), Organizational Commitment ($\beta = 0.711$; S.E. = 0.338; C.R. = 2.104; $p < 0.001$), and Skill Enhancement ($\beta = 0.368$; S.E. = 0.222; C.R. = 1.662; $p = 0.001$), their impact became more pronounced. This means that transparent, fair, and constructive appraisal systems build trust and motivation, which subsequently improve employee commitment and skills, thereby enhancing performance. Thus, the effectiveness of appraisal mechanisms lies in their ability to foster positive employee outcomes rather than in direct performance contributions.

3. Reward Systems : Reward systems were perceived as highly motivating and played a central role in strengthening employee outcomes. The study found that rewards were strongly associated with Organisational Commitment ($\beta = .663$; S.E. = 0.398; C.R. = 3.141; $p < 0.001$), and Skill Enhancement ($\beta = 0.924$; S.E. = 0.263; C.R. = 3.513; $p < 0.001$), both of which are powerful predictors of Work Efficiency and Innovation. Notably, Reward Systems showed strongest direct effects on Innovation & Creativity ($\beta = 0.629$, S.E. = 0.158, C.R. = 3.982, $p < 0.001$) and Work Efficiency ($\beta = 0.448$, S.E. = 0.261, C.R. = 1.718, $p = 0.046$) indicating that recognition, incentives, and fair compensation encouraged employees to think creatively and contribute innovative ideas. The findings highlighted that well-structured reward mechanisms not only drive

short-term motivation but also contributes to sustained organisational growth by reinforcing commitment and skills.

4. Health and Welfare Measures : Health and Welfare Measures, displayed limited influence on Organizational Commitment ($p=0.246$) and Skill Enhancement ($p=0.578$). Their contribution to Work Efficiency ($\beta = 0.144$, S.E. = 0.196, C.R. = 0.732, $p = 0.464$) and Innovation ($\beta = 0.032$, S.E. = 0.115, C.R. = 0.274, $p = 0.784$) remained weak and not significant in both direct and indirect pathways. This suggests that while welfare measures create a supportive and secure work environment, they do not directly stimulate higher performance or innovation. Their role may therefore be better understood as foundational—ensuring employee well-being and satisfaction, which indirectly supports other HRM practices in driving performance outcomes.

5. Employer–Employee Relationship : Employer–Employee Relations were recognised as important for fostering workplace harmony, trust, and collaboration. The results showed that while the direct effects of relational dynamics on performance (Work Efficiency, $\beta = 0.475$, S.E. = 0.220, C.R. = 2.163, $p = 0.031$) and (Innovation and Creativity, $\beta = 0.378$, S.E. = 0.131, C.R. = 2.890, $p = 0.004$) were moderate and significant. Their impact became stronger when channelled through Organizational Commitment ($\beta = 0.533$; S.E. = 0.308; C.R. = 1.731; $p < 0.001$) and Skill Enhancement ($\beta = 0.540$; S.E. = 0.204; C.R. = 2.649; $p = 0.080$). This revealed that strong interpersonal relationships and open communication contribute to higher levels of loyalty and skill development, which then translate into improved efficiency and innovation. Healthy workplace relations therefore act as a crucial enabler that strengthens other HRM practices and creates an environment where performance outcomes can flourish.

HRM Outcomes and their Impact on Employees' Performance

Further analysis revealed that HRM practices translate into performance primarily through the following employee outcomes.

1. Job Satisfaction : Job Satisfaction emerged as one of the key outcomes of HRM practices, particularly Training and Development, Performance Appraisal, Reward

Systems, and Health and Welfare Measures. Employees reported that opportunities for learning, recognition, and welfare support enhanced their sense of fulfilment at work. Job satisfaction acted as a reflection of how well HRM practices addressed employees' expectations and workplace needs.

However, when linked directly to performance (Work Efficiency ($p = 0.140$) Innovation & Creativity ($p = 0.067$)), Job Satisfaction demonstrated weaker effects. The results indicated that while satisfied employees were more content with their roles, this contentment did not always translate into higher efficiency or innovation. This suggests that Job Satisfaction functions primarily as a supportive and retention-oriented outcome, ensuring employee stability, morale, and engagement, but requires alignment with other outcomes such as commitment and skills to drive performance gains.

2. Organisational Commitment : Organisational Commitment was found to be the most influential HRM outcome in predicting employee performance (Work Efficiency ($\beta = 0.165$; S.E. = 0.031; C.R. = 5.312; $p < 0.001$) and (Innovation & Creativity ($\beta = 0.149$; S.E. = 0.017; C.R. = 9.006; $p < 0.001$)). Training and Development, Rewards, Performance Appraisal, and Employer–Employee Relations had strong positive effects on employees' sense of loyalty, attachment, and willingness to contribute beyond formal job requirements. Committed employees were more inclined to put in discretionary effort, remained with the organisation, and actively contributed to its goals.

The results revealed that Organisational Commitment had significant positive effects on both Work Efficiency and Innovation & Creativity. This implies that employees who feel emotionally and professionally invested in their organisation are more consistent in meeting performance standards and more motivated to explore innovative approaches. Thus, Organisational Commitment acts as a critical mediating pathway, strengthening the ability of HRM practices to influence long-term performance outcomes.

3. Skill Enhancement : Skill Enhancement was another central HRM outcome that influenced employee performance, Work Efficiency ($\beta = 0.177$; S.E. = 0.048; C.R. = 3.707; $p < 0.001$) and Innovation & Creativity ($\beta = 0.216$; S.E. = 0.026; C.R. = 8.407; $p < 0.001$), Training and Development, Rewards, and Employer–

Employee relations made substantial contributions to employees' acquisition of new competencies, technical expertise, and problem-solving abilities. Skill Enhancement not only reflected the effectiveness of HRM practices in building capabilities but also translated directly into improved productivity and innovation.

The study highlighted that employees who had greater opportunities to develop their skills were more efficient in executing tasks and more capable of contributing innovative ideas. Unlike Job Satisfaction, Skill Enhancement had strong direct effects on both Work Efficiency and Innovation & Creativity, showing that capability-building is a performance enabler that allows employees to convert their potential into measurable outcomes.

Integrative Role of HRM Outcomes

Together, Organisational Commitment, and Skill Enhancement created a powerful mediating structure that transformed HRM practices into sustainable performance improvements. While Job Satisfaction nurtured morale and workplace harmony, Organisational Commitment ensured loyalty and discretionary effort, and Skill Enhancement provided the technical and cognitive resources required for efficiency and innovation.

The analysis confirmed that the weights of HRM practices improved significantly when mediated through HRM outcomes. Training and Development strongly enhanced Job Satisfaction ($\beta = 0.629$, $p = 0.003$), Organizational Commitment ($\beta = 0.649$, $p = 0.002$), and Skill Enhancement ($\beta = 0.671$, $p < 0.001$), Organizational Commitment and Skill Enhancement positively influenced efficiency and innovation. Performance Appraisal also contributed positively to Job Satisfaction ($\beta = 0.430$, $p = 0.002$), Organizational Commitment ($\beta = 0.711$, $p < 0.001$), and Skill Enhancement ($\beta = 0.368$, $p = 0.001$), creating indirect (through Organizational Commitment and Skill Enhancement) pathways to performance improvement. Reward Systems emerged as a strong determinant of Organizational Commitment ($\beta = 0.663$, $p < 0.001$) and Skill Enhancement ($\beta = 0.924$, $p < 0.001$), both of which were strong predictors of efficiency and innovation. Employer–Employee Relationship also gained influence when mediated through Commitment ($\beta = 0.533$, $p < 0.001$). Health and Welfare Measures

had only a modest effect on Job Satisfaction ($\beta = 0.140$, $p = 0.004$) and limited effects on Commitment and Skill Enhancement, resulting in weak indirect contributions to performance.

5.2.6 Findings for Objective 3:

To study employees' perception of the HRD environment at the workplace

The findings pertaining to the Human Resource Development (HRD) environment highlighted three dominant dimensions that shape employees' perceptions of developmental climate within pharmaceutical organizations. These dimensions revealed the essential conditions under which employees experience empowerment, growth, and well-being at the workplace.

1. First, delegation of authority as a means of encouraging juniors to assume higher responsibilities emerged as a central feature of the HRD environment. Employees perceived such delegation not merely as an administrative practice but as a deliberate developmental strategy. It signifies managerial trust, fosters accountability, and cultivates leadership potential among subordinates. This perception highlighted the importance of empowerment as a foundation for a robust HRD climate.
2. Second, the presence of a favourable working environment that facilitates the acquisition of new knowledge and skills was regarded as another defining component. Employees interpret HRD effectiveness through the availability of opportunities for continuous learning, skill enhancement, and professional advancement. This reflects the recognition that organizations committed to sustained employee development must institutionalize mechanisms for learning that align with both individual aspirations and organizational objectives.
3. Third, employee welfare as a mechanism to preserve mental energy for productive work was identified as a significant determinant of HRD climate. Employees' view welfare measures not simply as peripheral benefits but as integral to their capacity to engage meaningfully in developmental activities. A supportive welfare framework enables individuals to channel their energies towards professional growth rather than

personal concerns, thereby reinforcing the developmental orientation of the organization.

While other elements such as mentoring, motivational inputs from top management, and collegial support were acknowledged, they did not emerge as the most salient indicators of HRD environment in this context. This indicated that employees conceptualize HRD primarily through the interplay of empowerment, learning opportunities, and welfare provision, rather than through broader motivational or relational factors.

In essence, the results revealed that the HRD environment, as perceived by employees, is not a monolithic construct but a multidimensional phenomenon grounded in empowerment, developmental facilitation, and welfare support. These dimensions collectively foster a developmental climate that advances both individual capability and organizational effectiveness, thereby reinforcing the strategic significance of HRD practices within the pharmaceutical sector.

Influence of Perceived HRD Environment on Employees Performance

1. The hypotheses testing results obtained through SEM analysis established that the perceived HRD environment plays a pivotal role in shaping employee performance, Work Efficiency ($\beta = 0.148$, S.E. = 0.050, C.R. = 2.977, $p = 0.003$) and Innovation and Creativity ($\beta = 0.061$, S.E. = 0.029, C.R. = 2.114, $p = 0.034$). The findings confirmed that employees who view their organizational environment as supportive, empowering, and development-oriented are more likely to demonstrate higher work efficiency as well as greater creativity and innovation. Both null hypotheses relating to these performance dimensions were therefore rejected, affirming significant relationships.
2. This demonstrated that a favourable HRD environment not only enhances employees' ability to perform tasks effectively but also nurtures their capacity to think innovatively and contribute novel ideas. In the context of the pharmaceutical sector, where both precision and innovation are critical, the presence of a strong HRD environment emerged as a strategic enabler of sustained employee performance and organizational competitiveness.

5.2.7 Findings for Objective 4:

The challenges faced by HR managers in developing and implementing HRM practices

The results revealed four major challenges confronting HR managers in pharmaceutical companies.

1. **Regulatory Compliance** was a significant concern, as managers struggled with frequent policy changes, inspections, and the burden of keeping HR practices aligned with evolving regulations.
2. **Strategic Alignment with Business Goals** posed difficulties, with HR often excluded from strategic planning and facing challenges in linking HR objectives with overall business outcomes.
3. **Change Management** emerged as another obstacle, marked by employee resistance to organisational change and the absence of structured frameworks to manage transitions effectively.
4. **Talent Management** remained a persistent issue, with shortages of specialised pharmaceutical skills, difficulty in attracting professionals, and high attrition rates impacting retention.

Overall, these findings highlight that HR managers face multi-dimensional challenges that restrict the smooth development and implementation of HR practices in the sector.

5.3 Theoretical Contribution

This research provided valuable understanding into the multifaceted and growing dynamics of Human Resource Management (HRM) in the pharmaceutical industry. These served as a critical resource for HR professionals, company executives, policy makers, and researchers from academia by enhancing the knowledge of how strategic HRM approaches influence employees' happiness, commitment, and performance. The findings may assist pharmaceutical firms in developing effective HR interventions that integrate employee aspirations with corporate goals, enhance workforce engagement,

and boost superior operations in an extremely regulated and competitive business environment.

This study highlighted the need of employing an integrative and evidence-based approach to HRM, wherein endeavours like training, performance evaluation and reward system are not implemented in isolation but are part of a broader strategic framework focused on enduring organizational success. It reinforces the necessity for continued skill enhancement and fostering organizational dedication to support creativity and efficacy within the workforce.

This study offered a compact framework for future research and tactical planning in the domain of Human Resource Management, especially in knowledge-intensive and highly controlled sectors like pharmaceuticals. The study provides empirical statistics about the success of key HRM practices and the effect they have on employees' outcomes, therefore aligning theoretical frameworks with realistic needs of the organizations. It not only explicates the HRM- performance linkages but also shows the actual obstructions encountered in the implementation of HR strategies. These outcomes are invaluable for HR professionals, policymakers, and scholars aiming to design agile and responsive HR systems. The findings endorse data-driven, context-dependent decision making and assist in the formation of adaptive, prospective human resource strategies that align with both corporate objectives and employees' ambitions within growing pharmaceutical industry.

5.4 Practical Implications of the Study

Pharmaceutical companies function in a highly competitive and regulated landscape; performance of staff members and efficiency of the organization are extensively mandatory for enduring success. The findings of this study provided significant information that can guide strategic HRM approaches within the industry.

The study reaffirms the significant connection between HRM practices that include training and development, reward systems, performance appraisal, and their impact on employees' satisfaction and performance. Pharmaceutical companies could make use of this data to bring about HR initiatives that enhance employee involvement, build

skills, and harmonize personal ambitions with the overarching goals of the organization. Along with that the research highlights the importance of stimulating organizational commitment and encouraging uninterrupted skill enhancement. In the wake of the fast-paced nature of the pharmaceutical sector, coupled with its concentration on quality and obeying to regulations it is asserted that enhancing employees' loyalty and boosting technical expertise may lead to elevated innovation, improved efficiency in operations and lowered turnover rates. Organizations should develop structured educational initiatives for leaning and professional growth strategies to enhance these results.

The analysis indicated that the modest impact of health and welfare initiatives warrants a critical evaluation and transformation of existing employee well-being strategies. Pharmaceutical companies could look into designing the holistic health and welfare programs that cater to physical, mental, and emotional needs, of their employees' thus guaranteeing that these initiatives remain relevant and effective in the current dynamic workplace.

Furthermore, the study underscores the importance of profound employer – employee relationships, formed on trust, transparent communication, and mutual respect. Having a motivated, excellent performing staff, and improving rates of retention, both can be achieved when companies nurture and stimulates work environment and provides clear growth opportunities to the employees.

CHAPTER VI

CONCLUSIONS AND SUGGESTIONS

6.1 Conclusions

Introduction

This study provides comprehensive insights into the role of human resource (HR) practices in shaping employee outcomes in the pharmaceutical sector of Goa. The study clearly established that structured HR interventions namely Training and Development, Performance Appraisal, Compensation and Reward Systems, Health and Welfare Measures, And Employer–Employee Relations moderately and significantly enhanced key outcomes such as Job Satisfaction, Organisational Commitment, and Skill Enhancement.

Following are the Conclusions:

Training and Development maintained positive and moderately strong effects on all three HRM outcomes, namely, Job Satisfaction ($\beta = 0.571$), Organizational Commitment ($\beta = 0.595$), and Skill Enhancement ($\beta = 0.584$). These values indicated that well-designed training initiatives contribute meaningfully to employee satisfaction, a sense of commitment, and skills development.

Performance Appraisal also showed consistent positive relationships with Job Satisfaction ($\beta = 0.380$), Organizational Commitment ($\beta = 0.393$), and Skill Enhancement ($\beta = 0.312$), although the effects are smaller in magnitude than those of training.

Reward systems had the highest impact on Skill Enhancement ($\beta = 0.753$) and a strong effect on Organizational Commitment ($\beta = 0.663$). Their influence on Job Satisfaction was moderate ($\beta = 0.368$).

Health and Welfare Measures had no significant impact on Skill Enhancement ($\beta = 0.086$), Organizational Commitment ($\beta = 0.177$), and had comparatively weak positive effects on Job Satisfaction ($\beta = 0.125$).

Employer–Employee Relations showed a moderate positive relationship with Skill Enhancement ($\beta = 0.460$) and a smaller effect on Organizational Commitment ($\beta = 0.295$), and they have a negligible influence on Job Satisfaction ($\beta = 0.014$).

Organizational Commitment exerted a moderate positive effect on Work Efficiency ($\beta = 0.240$) and a stronger effect on Innovation and Creativity ($\beta = 0.391$).

Skill Enhancement positively impacted Work Efficiency ($\beta = 0.168$) and Innovation & Creativity ($\beta = 0.368$), underscoring the importance of developing employees' competencies.

Job Satisfaction had no significant effect on Work Efficiency ($\beta = 0.066$) and Innovation & Creativity ($\beta = 0.097$), revealing that satisfaction alone does not markedly improve performance.

Direct impact of HRM Practices on Employee Performance

The direct regression weights revealed that certain practices, particularly Training and Development and Reward Systems, had the strongest associations with performance indicators. Training and Development showed a strong effect on Work Efficiency ($\beta = 0.552$, $p = 0.013$) and a very strong effect on Innovation and Creativity ($\beta = 0.555$, $p < 0.001$). Reward was similarly influential, with a moderate effect on Efficiency ($\beta = 0.448$, $p = 0.046$) and a notably high effect on Innovation ($\beta = 0.629$, $p < 0.001$). Performance Appraisal exhibited modest effects on Efficiency ($\beta = 0.314$, $p = 0.016$) and on Innovation ($\beta = 0.324$, $p = 0.014$) while Employer–Employee Relations contributed moderately on Work Efficiency ($\beta = 0.475$, $p = 0.031$) and on Innovation ($\beta = 0.378$, $p = 0.004$). By contrast, Health and Welfare Measures demonstrated very limited direct effects on Efficiency ($\beta = 0.144$, $p = 0.464$) and on Innovation ($\beta = 0.032$, $p = 0.784$).

Mediated Influence of HRM Practices on Employee Performance through HRM Outcomes

When HRM outcomes were introduced as mediators, the influence of HRM practices on performance became more structured and comprehensive. Training and Development strongly enhanced Job Satisfaction ($\beta = 0.629, p = 0.003$), Organisational Commitment ($\beta = .649; p = 0.002$), and Skill Enhancement ($\beta = 0.671, p < 0.001$), which in turn positively influenced both Work Efficiency and Innovation. Similarly, Performance Appraisal contributed positively to all three outcomes, Job Satisfaction ($\beta = 0.430, p = 0.002$), Organisational Commitment ($\beta = 0.711, p < 0.001$), Skill Enhancement ($\beta = 0.368, p = 0.001$), thereby creating indirect pathways to performance improvement. Reward Systems emerged as particularly strong determinants of Organisational Commitment ($\beta = .663, p < 0.001$) and Skill Enhancement ($\beta = 0.924, p < 0.001$), both of which were found to be strong predictors of efficiency and innovation. Employer–Employee Relations also strengthened their impact when mediated through Commitment ($\beta = 0.533, p < 0.001$). Health and Welfare Measures, though valued by respondents, had only a modest influence on Job Satisfaction ($\beta = 0.140, p = 0.004$) and limited effects on commitment and skills, resulting in weak indirect contributions to performance.

For Work Efficiency, the strongest direct predictor was Training and Development ($\beta = 0.552, p = 0.013$), followed by Employer–Employee Relationship ($\beta = 0.475, p = 0.031$) and Reward ($\beta = 0.448, p = 0.046$). Performance Appraisal contributed modestly ($\beta = 0.314, p = 0.016$), while Health and Welfare Measures had no significant effect ($\beta = 0.144, p = 0.464$).

For Innovation and Creativity, the most powerful predictors were Reward ($\beta = 0.629, p < 0.001$) and Training and Development ($\beta = 0.555, p < 0.001$), supported by Employer–Employee Relationship ($\beta = 0.378, p = 0.004$) and Performance Appraisal ($\beta = 0.324, p = 0.014$). Health and Welfare Measures once again displayed no significant effect ($\beta = 0.032, p = 0.784$).

Here, it is concluded that Training and Development and Reward Systems exerted the strongest direct and indirect influences (through Organizational Commitment and Skill Enhancement) on Employees' Performance, Performance Appraisal and Employer–

Employee Relations became more impactful through mediation by HR outcomes Organizational Commitment and Skill Enhancement whereas Health and Welfare Measures failed to show significant direct or indirect influence, and it had significant impact only on Job Satisfaction, underscoring that their role is more aligned with employee well-being than with efficiency or innovation.

Based on the results of hypotheses testing it is concluded that most of the null hypotheses were rejected, confirming that most HR practices have a significant impact on HR outcomes and employees' performance in the pharmaceutical sector. Training and Development, Performance Appraisal, and Reward are strong predictors of Skill Enhancement, Job Satisfaction, and Organizational Commitment. Health and Welfare Measures demonstrated limited influence, failing to significantly impact Skill Enhancement and Organizational Commitment. The Employer–Employee relationship positively affected Job Satisfaction and Commitment although it did not significantly contribute to Skill Enhancement.

At the performance level, Skill Enhancement and Organizational Commitment significantly enhanced both Work Efficiency and Creativity and Innovation, while Job Satisfaction did not demonstrate a significant effect on either outcome.

The role of the perceived human resource development (HRD) environment in influencing employee performance was slightly less significant. A developmental climate that promotes learning opportunities, growth support, and a culture of continuous improvement was found to contribute positively to efficiency and innovation. Although its impact was somewhat less pronounced than that of core HRM practices, the HRD environment emerged as a complementary factor, reinforcing the value of investing in developmental initiatives alongside structured HRM systems.

The study further uncovered the challenges faced by HR managers in implementing and sustaining HRM practices in the pharmaceutical industry. Four broad areas of concern were identified: regulatory compliance with dynamic pharmaceutical and labour laws, the lack of alignment of HR initiatives with strategic organisational goals, difficulties in managing change due to employee resistance and inadequate processes, and persistent issues in talent management, particularly in attracting and retaining skilled professionals. These challenges highlighted the complex environment in which

HR managers operate and accentuate the necessity of strategic HR leadership to mitigate such obstacles. Failure to effectively address these issues could dilute the long-term benefits of HRM practices, making it imperative for organisations to treat HR as a critical business partner.

This study affirms that robust HRM systems, complemented by a supportive HRD environment, are indispensable for driving employee success in the pharmaceutical sector. By fostering satisfaction, commitment, and skill development, HRM practices directly enables superior performance outcomes, while developmental climate factors offer additional reinforcement. At the same time, recognising and addressing the challenges that HR managers encounter remains central to sustaining these gains. Overall, the findings strongly advocate for the elevation of HRM from a support function to a strategic role, capable of shaping competitiveness, innovation, and resilience in an increasingly dynamic and demanding business landscape.

6.2 Suggestions from the study

1. Continuous training and skills development

This study demonstrates that training and development exert the strongest influence on employee outcomes and performance. Organisations that institutionalise structured and ongoing learning opportunities are better positioned to enhance job satisfaction, strengthen commitment and foster innovation. Therefore, pharmaceutical companies should prioritize training not only as a compliance requirement but also as a strategic investment in human capital, extending beyond immediate job tasks to long-term career progression.

2. Reinforce Appraisal and Reward Systems as Strategic Drivers

Findings revealed that performance appraisal and reward systems in themselves show only modest direct effects, but their influence becomes highly significant when channelled through organisational commitment and skill enhancement. Companies are advised to redesign their appraisal systems to be transparent, fair, and development-oriented while simultaneously linking rewards to creativity, innovation, and

performance excellence. This integration would enhance employee motivation and align personal aspirations with organisational goals.

3. Reconceptualise Health, Welfare, and HRD Climate as Performance Enablers

Although health and welfare measures have a relatively weaker direct impact on performance, they serve as foundational supports for employee satisfaction and well-being. A favourable HRD environment—characterised by empowerment, learning opportunities and welfare support—plays an enabling role in enhancing efficiency and innovation. Therefore, organizations should adopt a holistic approach to welfare and HRD climate, recognising them not merely as peripheral initiatives but as strategic levers that sustain long-term engagement and productivity.

4. Position HR Leadership to Tackle Strategic Challenges

The study identified persistent challenges for HR managers in regulatory compliance, strategic alignment, change management, and talent retention. These findings highlight the need to elevate the role of human resources from an administrative to a strategic leadership function. Organisations should integrate human resource (HR) leadership into business planning processes, develop structured talent pipelines, and adopt proactive change management frameworks. Such positioning will enable HR to function as a critical partner in driving competitiveness and resilience within the pharmaceutical sector.

6.3 Scope for Further Research

This study affirms the pivotal role of human resource management (HRM) practices and the perceived HRD environment in shaping employee outcomes and performance within the pharmaceutical sector. While the findings provide substantial insights, the scope of inquiry may be extended in several directions. Comparative studies across industries and regions would enrich generalisability and uncover sector-specific variations in HRM effectiveness. Furthermore, longitudinal designs are strongly recommended to capture the temporal dynamics of HRM practices and their evolving influence on job satisfaction, organisational commitment, skill enhancement, and

performance over time, especially in light of changing market conditions and regulatory landscapes.

The investigation also revealed persistent challenges such as regulatory compliance, strategic alignment, change management, and talent management. Future research could profitably examine how contextual variables—such as leadership approaches, organisational culture, employer branding, and diversity and inclusion initiatives—can moderate or mitigate these challenges. Integrating such dimensions would provide a more holistic understanding of the institutional and cultural contexts within which HRM practices operate, thereby advancing both theoretical and practical perspectives on strategic HRM.

Moreover, with the acceleration of digital transformation, the study of emerging practices warrants particular attention. Digital HRM applications, predictive HR analytics, e-learning platforms, and flexible work policies (remote and hybrid models) have the potential to redefine the contours of employee outcomes. Systematic inquiry into the integration of technology-driven HR strategies alongside traditional practices would illuminate how organisations can cultivate a workforce that is simultaneously adaptive, innovative, and resilient.

In sum, future research that combines cross-sectoral comparisons, longitudinal evidence, and contemporary themes such as digitalisation, inclusivity, and cultural alignment will substantially deepen scholarly discourse on HRM. Such directions would not only refine theoretical frameworks but also equip practitioners with nuanced strategies to enhance human capital performance and sustain competitive advantage in complex and evolving business environments.

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QUESTIONNAIRE

Dear Participant,

The proposed survey is being conducted in my individual capacity for my doctoral research work titled “Impact of Human Resource Practices on Employees’ Performance: A Study on Pharmaceutical Companies in Goa”. It is assured that the information supplied by you shall only be used for academic purpose and shall be confidential. It will in no way disclose your identity or the identity of your organization.

This questionnaire is designed to study the Human Resource Practices, in Pharmaceutical Sector in Goa. The study also aims at examining the relationship between HR Practices, HR Outcomes and Employee Performance.

Your response to this questionnaire is highly valuable and extremely important to assess and evaluate the status of the HR practice in the Pharma sector.

Personal Profile:

- a. Name (optional): _____
- b. Email id: _____
- c. Age
 1. 21 – 25
 2. 26 – 30
 3. 31 – 35
 4. 36 – 40
 5. 41 – 45
 6. 46 – 50
 7. 50 & above
- d. Gender
 1. Male
 2. Female
- e. Educational Qualification
 1. Diploma
 2. Graduation
 3. Master degree
 4. Doctorate
 5. Any Other (Specify): _____
- f. Annual Income
 1. less than 1,00,000
 2. 1,00,000 - 3,00,000
 3. 3,00,000 - 6,00,000
 4. 6,00,000 - 9,00,000
 5. Above 9,00,000 (Specify): _____

g. Name of the organization: _____

h. My organization is

- 1. Foreign Multinational company
- 2. Indian company (Large size company)
- 3. Indian MNC

i. Department:

- 1. HR
- 2. Quality Control
- 3. Quality Assurance
- 4. Production
- 5. Packaging
- 6. Engineering Section
- 7. Store
- 8. Others _____

j. Designation: _____

k. Work Experience in present company (in Years)

- 1. 1 – 3 years
- 2. 4 – 6 years
- 3. 7 – 9 years
- 4. 10 – 12 years
- 5. 13 – 15 years
- 6. More than 15 years

1. Please mention the HR practices that are prevalent in your organization?

Sr. No	HR practices	Yes	No
1	HR Planning		
2	Recruitment & Selective staffing		
3	Induction Programme		
4	Training & Development		
5	Performance Appraisal		
6	Reward/ Compensation		
7	Fair Promotion Policies		
8	Career Planning		
9	Employment security		
10	Self-managed & effective team		
11	Employee relation		
12	Health and welfare measures		
13	Exit Policy		

Human Resource Development practices followed in the organization.

1. Please indicate the extent to which you agree to the following statements by ticking(√) the appropriate response.

HRM Practices

Sr. No.		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	In my company Process related Training helps me perform my job well and sustain my job for a long time.					
2	I can use knowledge and behaviours learned in training at work					
3	My organization helps me develop the skills I need for the successful accomplishment of my duties					
4	My organization inspires learning and application of knowledge					
5	In the organization where I work, training needs are identified periodically.					
6	Employees are encouraged and sponsored to attend seminars and workshops					
7	My organization discusses with its employees' competency-based performance appraisal criteria and results.					
8	In the organization where I work, competency-based performance appraisal provides the basis for employees' development plan.					
9	My organization circulates competency-based performance appraisal criteria and results to its employees.					
10	My organization periodically conducts competency-based performance appraisals					
11	I receive recognition for my good job done.					
12	In the organization where I work, my salary is influenced by my results.					

Sr. No.		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13	My company gives satisfactory pay increments to the employees					
14	Transparency exists in my company's monetary reward system.					
15	To retain competent employees my company offers good monetary rewards for their work-related achievements.					
16	To retain capable employees my company pays salaries according to skills & experience					
17	My organization considers the expectations and suggestions of its employees when designing a system of employee rewards.					
18	In my company grievances of the employees are handled properly					
19	The amount and nature of work in my job do not result in excessive stress.					
20	My company provides good recreation facilities to break the monotony of a job and facilitate employee retention.					
21	My company provides proper medical facilities and health benefits to the employees					
	My organization promotes a good work-life balance through flexible working hours and time off policies.					
22	In my company open Communication with superiors & subordinates contributes well towards retention of employees.					
23	In my company employees are offered adequate guidance related to their employment issues and it helps in retention					
24	In my company employees are treated with respect & dignity and it helps in their retention					
25	My company provides avenues for career development to be					

Sr. No.		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
	able to retain competent employees.					
26	My company offers appreciation and proper compensation for employee inputs, which increases employee satisfaction and retention.					

2. Please indicate the extent to which you agree to the following statements by ticking(√) the appropriate response.

HR Outcome

Sr. No.		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	I have been getting promotion as per my qualification and experience and I am satisfied with that.					
2	I am satisfied with welfare facilities (medical etc.) provided by the organization					
3	I have good prospects of advancement in my job.					
4	The working conditions in this organization are satisfactory.					
5	My pay is enough for providing necessary things in my life.					
6	My job has helped me learn more skills.					
7	In my company, process-related training helps us learn more skills.					
8	I really care about the success of my organization					
9	I am willing to put in a great deal of effort beyond what is normally expected in order to help this organization succeed.					
10	It would be too costly for me to leave my current organization.					
11	I am very loyal to my organization					
12	My organization conducts skill-based training to continuously enhance employee capabilities.					

Sr. No.		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13	My organization offers employees opportunities for continuous learning and skills enhancement.					

3. Please indicate the extent to which you agree to the following statements by ticking(√) the appropriate response.

Employees Performance

Sr. No.	HR Practices	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	My performance is better than that of my colleagues with similar qualifications in other organizations.					
2	There is improvement in my quality of work output					
3	There is improvement in my quantity of work output					
4	I complete the target given to me well in time					
5	I can work independently most of the time.					
6	Coming up with new idea is appreciated in my organization.					
7	I feel confident that I can perform creatively on different tasks at work.					
8	My organization has scope for creative work.					
9	I can develop adequate plans and schedules for implementing new ideas.					
10	My overall performance has been improved in this organisation					

4. Please indicate the extent to which you think the following statements are important in creating favourable environment for employee's development at workplace by ticking (√) the appropriate response.

Sr. No.	HR Practices	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Delegation of authority to encourage juniors to develop higher responsibilities is required					
2	Support and encouragement from team members enables creating better work environment					
3	Motivation from top management is required to work confidently.					
4	Guidance and mentoring from superiors help employees take on challenging roles.					
5	The working environment should be favorable to the employees in developing himself by acquiring new knowledge and skills.					
6	Ensuring employee welfare can save a lot of employees' mental energy for work purposes.					
7	Opportunities for continuous learning and career advancement enhance employee growth.					

Thank You

QUESTIONNAIRE

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This questionnaire is designed to study the challenges faced by Human Resource Managers in developing and implementing HRM practices. The study also aims at examining the relationship between HR Practices, HR Outcomes and Employee Performance.

Your response to this questionnaire is highly valuable and extremely important to assess and evaluate the status of the HR practice in the Pharma sector.

Personal Profile:

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m. Email id: _____

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1. 21 – 25

2. 26 – 30

3. 31 – 35

4. 36 – 40

5. 41 – 45

6. 46 – 50

7. 50 & above

o. Gender

1. Male

2. Female

p. Educational Qualification

1. Diploma

2. Graduation

3. Master degree

4. Doctorate

5. Any Other (Specify): _____

q. Annual Income

1. less than 1,00,000

2. 1,00,000 - 3,00,000

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4. 6,00,000 - 9,00,000

5. Above 9,00,000 (Specify): _____

r. Name of the organization: _____

- s. My organization is
1. Foreign Multinational company
 2. Indian company (Large size company)
 3. Indian MNC
- t. Department:
1. HR
 2. Quality Control
 3. Quality Assurance
 4. Production
 5. Packaging
 6. Engineering Section
 7. Store
 8. Others _____
- u. Designation: _____
- v. Work Experience in present company (in Years)
1. 1 – 3 years
 2. 4 – 6 years
 3. 7 – 9 years
 4. 10 – 12 years
 5. 13 – 15 years
 6. More than 15 years

2. Please mention the HR practices that are prevalent in your organization?

Sr. No	HR practices	Yes	No
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2	Recruitment & Selective staffing		
3	Induction Programme		
4	Training & Development		
5	Performance Appraisal		
6	Reward/ Compensation		
7	Fair Promotion Policies		
8	Career Planning		
9	Employment security		
10	Self-managed & effective team		
11	Employee relation		
12	Health and welfare measures		
13	Exit Policy		

2. Please indicate the challenges faced by the HR manager in developing and implementing HR practices in pharma companies in Goa.

Sr. No.	Challenges faced	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	HR practices are not always aligned with the corporate strategy					
2	Compliance with evolving labour and pharma regulations is a challenge					
3	There is a burden of regulatory audits and inspections					
4	Frequent policy changes make compliance difficult					
5	HR is often excluded from strategic decision-making					
6	Difficulty in linking HR goals with business outcomes					
7	Lack of structured HR processes to manage change					
8	Shortage of specialised pharmaceutical talent persists					
9	Difficulty in attracting skilled professionals					
10	A high attrition rate makes retention a challenge					
11	Employees resist Organisational changes introduced by HR					
12	Challenges in building employee adaptability to change					

Thank You