# *INNOVATIVE HUMAN RESOURCE PRACTICES AND EMPLOYEE ENGAGEMENT WITH SPECIAL REFERENCE TO IT SECTOR*

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# Preface

Welcome to "Innovative Human Resource Practices and Employee Engagement with Special Reference to IT Sector," a comprehensive exploration that researches deep into the evolving world of Human Resources (HR) within the dynamic Information Technology (IT) industry. This book is designed to offer an insightful and detailed analysis of how innovative HR practices can significantly influence employee engagement and productivity, especially in the fast-paced IT sector.

Our journey in this book begins with an in-depth look at the IT industry, a sector known for its rapid growth and constant innovation. The initial chapters lay the groundwork by introducing the concept of innovative HR practices and their growing importance in today's corporate landscape. We examine various aspects of employee engagement and how they are influenced by these modern HR practices.

A significant portion of the book is devoted to exploring the direct relationship between innovative HR practices and employee engagement, and how this relationship further impacts employee productivity. The comprehensive analysis provided in these chapters is grounded in extensive research and rich literature on the subject.

The book also presents a detailed review of the existing literature, creating a solid foundation upon which our research and analysis are built. We identify gaps in the current body of knowledge and propose a conceptual framework to guide our study. This thorough approach ensures that the book is not only informative but also contributes to academic discourse.

In the chapters dedicated to research methods, we outline the approach taken in this study, including the formulation of research questions, objectives, hypotheses, and the overall research strategy. The book details the sample design, data collection tools and techniques, and the plan of analysis, ensuring a robust and comprehensive research methodology.

The analysis and interpretation of data form the core of this book. We meticulously examine the demographic profiles of IT employees, their engagement levels, innovative HR practices in place, and the resultant productivity levels. The book takes a deep dive into testing various hypotheses to unravel the complex interplay between these variables.

Finally, we present the findings from our study, offering valuable suggestions and highlighting the implications of our research. The concluding chapters discuss the broader impact of our findings on the IT sector and HR practices. We also outline the scope for further research, paving the way for future explorations in this field.

This book is a vital resource for HR professionals, organizational leaders, researchers, and anyone interested in understanding the transformative power of innovative HR practices in the IT sector. It's a guide that blends academic rigor with practical insights, providing readers with a comprehensive understanding of the critical role HR plays in shaping employee engagement and productivity in one of the world's most dynamic industries.

Happy Reading!

***Dr. BHUPENDRA BAHADUR TIWARI***
***Dr. E ESWARA REDDY***
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**Abstract**

The industry of information technology in India includes the following services namely IT and software services, IT enabled services, hardware (engineering) services, and e-businesses/e-governance associated with government services. IT services are outsourcing of software support/installation, processing services, systems integration, exports of products and services, and training/education of the information technology science. The significant improvements in the industry have brought about a vital need for systematic process of managing the majority of employees in the IT industry. There was also a need created for technology in the subject matter of managing the employees and other aspects that came into picture. Hence, Innovative Human Resource practices came into existence for upgrading the skills and building the employees to work towards the goal of the organization. This gave birth to HR technology, Employee Engagement, ERP and so on. The study focuses on identifying various applications of Innovative Human resource practices in IT industry, the role of demographics and the factors influencing employee engagement and productivity. The study also analyzes the impact of innovative human resource practices on employee engagement and productivity and finally examines the mediating role of employee engagement upon the relationship between innovative human resource practices and employee productivity.

To support the study, review of the relevant literature (Books, Research thesis and research papers) available in the innovative human resource practices space (both Global and Indian) was done. The research gap was identified in 4 categories i.e. empirical gap, evidence gap, methodological gap and population gap. The conceptual framework for the study was also designed. The literature review was categorized into national and international, theoretical and empirical to keep the study relevant according to the current global standards. Based on the research gap and the conceptual framework, the questionnaire was framed and according to the hypothesis the plan of analysis was structured to further

the study. The data collection was completed through offline and online method, based on sample design.

The analysis included Structural Equation Model, ANOVA, Independent t test and Mediation analysis - Andrew Hayes, Model 4 using SPSS and AMOS software. The study found out that HR Technology, HR Analytics, Collaboration Tools, AI in HR and Employee Pulse survey, are contributors to Innovative Human resource practices but there is no significant impact of demographic variables on perception of IHRM. Also, Employee retention, Reward and recognition, Personality development and Performance appraisal are factors influencing Employee engagement and Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are factors influencing Employee Productivity. IHRM has significant impact on employee engagement and the employee productivity. Employee engagement mediates the relationship between IHRM and employee productivity.

To conclude, this study provides insights into how employees are affected by innovative HR practices and provides practical solutions for organizations looking to encourage staff. By using motivational strategies that are directly tied to employees' immediate interests and that are intended to affect their views and attitudes, innovative HR practices can assist firms in projecting a sense of employee engagement. Employees are further encouraged to be selfless and altruistic by the degrees of perceived satisfaction with the creative HR methods. As a result, they become more open to doing tasks that aren't directly relevant to their professions but nevertheless helpful to their businesses. This would increase the efficiency of enterprises in managing their human resources, particularly those businesses that are team-based.

**Keywords:** ***Innovative Human Resource Practices, Employee Engagement, Employee Productivity, IT Sector, Bengaluru, Human Resource Technology, Trends of IHRM, Innovative Human Resource Technology tools, IHRM Strategies, Information Technology.***

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# Chapter 1

# INTRODUTION

**"In order to build a rewarding employee experience, you need to understand what matters most to your people."**

**– Julie Bevacqua**

## 1.1 Introduction

In India, the information technology sector encompasses the following services: IT and software services, IT enabled services, hardware (engineering) services, and e-business/e-governance related to government services. Outsourcing software maintenance and setup, data processing, system integration, product and service exports, and IT education and t raining are all examples of IT services. Services such as remote maintenance, back-office tasks, data processing, medical record transcription, business process outsourcing (BPO), knowledge process outsourcing (KPO), and legal process outsourcing (LPO) are all examples of IT-enabled services. Industrial design, mechanical design (CAD/CAM), electrical system design (chip/board and embedded software design), design validation testing services, industrialization, and prototyping are all examples of what might be classified as engineering/hardware services. A new mantra has emerged as IT, and India has emerged as a leader in software development, application, and networking, as well as a top location for software/ITES services. A systematic approach to managing the vast majority of IT workers has become critically important in light of the aforementioned significant advancements. The issue of personnel management, along with other related factors, also spawned a need for technological solutions. As a result, cutting-edge HR methods emerged to equip workers with better tools and prepare them to contribute to the company's mission. As a result, industries dedicated to human resources (HR), employee engagement (Engagement), enterprise resource planning (ERP), and similar fields emerged. Human resource (HR) technology and employee engagement in the information technology (IT) sector are the main focuses of this research.

Five emerging trends in HR technology, as identified by EY, are: an emphasis on employees, an integrated strategy, Appification, forecasting the future, gamification, and the use of social media. Human resources directors and other top executives should put money into apps and other employee-focused technological resources. E-learning, virtual classrooms, and virtual meetings make learning and development easier; technology is also helping with employee engagement. A survey by EY found that 52% of HR functions use analytics, but only 10% use

predictive analytics, indicating that this field is still in its infancy within HR. Thus, Predictive analytics in the context of Employee Engagement offers a vast landscape to investigate and comprehend its efficacy in boosting productivity and so on. This research intends to examine the efficiency of employee engagement and Human Resource Technology in the Information Technology industry.

Despite the difficulty that many businesses have in establishing and maintaining HRM programs, little is known about the conditions under which Innovative HRM techniques take root and those under which they quickly die out. Despite the widespread use of such programs, few businesses regularly assess their efficiency. Despite upper management's best efforts, these initiatives rarely produce the desired changes in morale and productivity.

Human resources (HR) today are critical to the success of any firm. As a result, businesses' productivity and prosperity are directly tied to the quality of their human resource management. Businesses are under increasing pressure to be competitive, and this has prompted them to take a more proactive approach to HR diagnosis and to adopting cutting-edge HR practices, which were once a fad but are now essential to the company's existence. Despite the fact that the economics of people-intensive businesses like the IT Sector are often overlooked, new Deloitte Global Human Capital Research demonstrates that organizations today must work hard to create a meaningful, humanistic work environment in order to drive engagement and performance. Changes in IT worker productivity, no matter how small, have a big effect on the bottom line.

With this Background the current study is an attempt to understand the various Innovative HR practices prevailing in the IT industry, and to measures its impact on employee engagement and employee productivity.

### 1.2 Information Technology Industry

Companies in the IT industry range from those that develop computer programs to those that manufacture computer hardware or semiconductors.

Software and services, technology hardware and equipment, and semiconductors and semiconductor equipment are the three primary subsectors that make up the IT industry as a whole. All the industries and sub-industries that make up these three categories are themselves broken down into even more specific categories. All businesses fall into one of several sub-industries that are most relevant to what they do for a living.

According to IBEF reports [1]

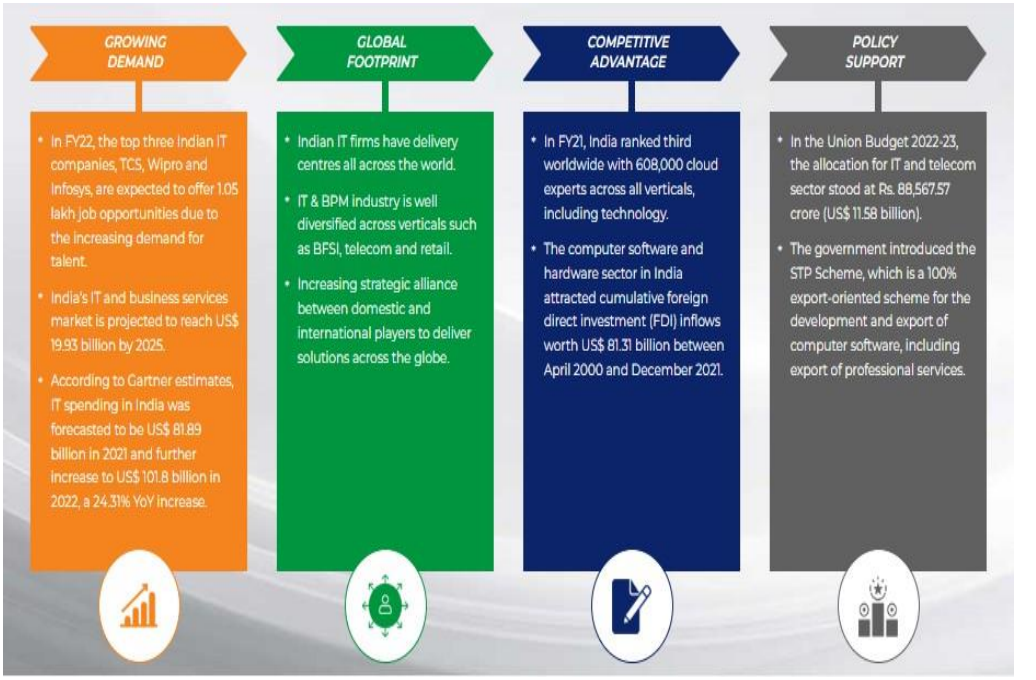
- Information Technology (IT) business in India is a major industry sector which covers IT services, consulting, and outsourcing. The IT industry accounted for 8% of overall India's GDP in the year 2020.
- The Indian IT industry has crossed the $200-billion revenue mark in FY2022 as per NASSCOM. This is a major milestone for India's technology services sector which is growing consistently
- The IT–BPM sector overall employs 4.5 million people as of March 2021. The Indian IT–BPM industry has the highest employee attrition rate. As a global outsourcing hub, the Indian IT industry is known for low-cost outsourcing
- IT expenditure in India is predicted to rise from an estimated US$ 81.89 billion in 2021 to an estimated US$ 101.8 billion in 2022, according to Gartner forecasts.
- It is predicted that by 2025, India's software product business would be worth over $100 billion
- In FY21, Indian IT exports were US$ 149 billion. Export of IT services has accounted for more than 51% of the overall IT exports (including hardware). There were 20.78 percent of overall IT exports in FY21 that came from BPM, Engineering and R&D (ERD), and software exports. By 2022, the ER&D market is estimated to reach a value of $42 billion.
- In FY22 (as of February), the IT industry hired 4.5 lakh new workers, the most ever in a single year. Almost half of the new staff were female.
- Between April 2000 and December 2021, India's computer software and hardware sector received cumulative FDI inflows of US$ 81.31 billion.
- US$ 23.4 billion was invested in the IT sector by private equity in 2021. From 2020 to 2021, India's IT start-up ecosystem has received a record investment of almost US$ 36 billion in privately owned enterprises.
- Google announced in January 2022 intentions to spend $1 billion in India's Bharti Airtel Ltd. to advance India's digital ecosystem.
- Amazon Web Services (AWS) has teamed up with Airtel and plans to invest US$1.6 billion in two new data centres in Hyderabad

[1] https://www.ibef.org/industry/information-technology-india

- Wipro and TEOCO formed a partnership in November 2021 to develop network automation, efficiency, flexibility, and reliability solutions for communication service providers (CSPs).
- To help young women from poor backgrounds pursue professions in the technology industry, SAP India and Microsoft announced the launch of TechSaksham in August 2021. AI, cloud computing, web design and digital marketing will be taught to 62,000 female students as a result of this partnership.
- Over the course of the next three years, Wipro expects to invest $1 billion on cloud technology acquisitions and collaborations.
- An Automotive Digital Technology and Innovation Center was announced by Infosys in Stuttgart, Germany, in July 2021. Infosys and Daimler have agreed to shift Daimler's IT infrastructure staff to the new Digital Technology and Innovation Center in Germany.
- It was stated in February 2021 by Tata Consultancy Services that they will be hiring 1,500 new technology professionals in the UK over the following year. TCS would be able to better serve its clients in the UK with the new development.
- A total of Rs 88,567.57 crore (US$ 11.58 billion) was been out for IT and telecommunications in the Union Budget for 2022-23.
- For the development and export of computer software, including professional services delivered via communication networks or physical media, the government implemented the STP Scheme, a programme geared only at export.
- The Karnataka government has inked three memorandums of understanding (MoUs) totalling US$ 13.4 million (Rs 100.52 crore) to assist the state's rapidly developing technology industry.
- IT exports would reach US$ 400 billion by March 2022, according to the Union Minister for Electronics and Information Technology, Mr. Rajeev Chandrasekhar. Cybersecurity and hyper-scale computing will also be prioritised by the federal government in the future.
- The 'Online Capacity Building Programme on Crime Investigation, Cyber Law and Digital Forensics' launched by the Indian government in September 2021 would create a cyber-lab to enhance the country's cyber security capabilities.
- Visvesvaraya PhD Scheme Phase II was announced in September 2021 by the Indian government to promote research in 42 emerging technologies in Information

Technology (IT), Electronics System Design & Manufacturing (ESDM) and Information Technology Enabled Services (ITES) (ITES).

**Figure 1.1 – Government support for IT Projects in India**




Source: Press Information Bureau (PIB)[2]

- India opened several National Institute of Electronics and Information Technology (NIELIT) centres. It is an autonomous scientific society under the administrative control of Ministry of Electronics and Information Technology (MeitY), Government of India. This is promote training facilities and job possibilities in the field of electronics and information technology.
- In order to improve collaboration in the areas of 5G technologies, telecom security, and the undersea optical fibre cable system, India's Department of Telecom and Japan's Ministry of Communications inked an MOU.
- Mr. Piyush Goyal, Minister of Commerce and Industry, Consumer Affairs, Food and Public Distribution and Textiles praised the Indian IT industry in November 2021 for

[2] Media Reports, Press Information Bureau (PIB), Department for Promotion of Industry and Internal Trade (DPIIT), Department of Information and Technology, Union Budget 2022-23

achieving its competitive strength without any meddling from the government. In addition, he said that India's service exports might reach $1 trillion by 2030.

### 1.2.1 Information Technology Industry in Bangalore

Bangalore, India's southern tech powerhouse, has the most high-growth firms of any Asian city, according to the FT's most recent list of Asia-High Pacific's Growth Companies, collected by research firm Statista.

Approximately 4% of the 500 largest firms in the world are located in Bangalore, which is home to twenty of them. There are 13 enterprises in India's financial hub, Mumbai, which is Bangalore's closest rival.

Despite losing the title of India's start-up capital lately, Bangalore has kept its high growth crown. New Delhi had 5,000 start-ups between April 2019 and December 2021, while Bangalore saw 4,514, according to the government's Economic Survey.[3]

Bangalore is sometimes referred to as "India's Silicon Valley" because of the many Indian information technology (IT) firms that have set up shop in the city, notably Wipro and Infosys, which has a training campus in Mysore, Karnataka, which was established in the early 1980s.

## 1.3 Innovative Human Resource Practices

### 1.3.1 Human resource Practices

Human resource Practices (HRP) entails planning for and executing methods of acquiring, developing, and retaining a qualified workforce. Human resource management has evolved significantly over the past two decades, making it an increasingly vital function in modern businesses. In the past, human resource management was more of an administrative position than a strategic one, focused on tasks such as processing payroll, sending birthday gifts to staff, scheduling business outings, and ensuring forms were filled out correctly.

Human resource Practices is responsible for seven core functions, according to most experts. Here are some explanations:

Staffing

Work cannot be completed or accomplished without the involvement of humans, and businesses recognize this fact. The most advanced machinery will never be able to

[3] Source: https://www.ft.com/content/022aa805-3699-4bac-a845-81c95d015bc2

replace human beings. Thus, staffing is a crucial part of human resource management. From advertising a position to negotiating a salary, staffing encompasses it all. There are primarily four stages throughout the staffing process:

- Formulation of an approach for allocating personnel. Human Resources will be able to use this plan to determine how many new employees to take on in light of projected income.
- Formulation of programs to foster multiethnic environments in the workplace. There are now more people from more diverse origins than ever before in the labor sector, heightening the importance of multiculturalism in the workplace.
- Recruitment. Finding suitable candidates for the available roles is a necessary step.
- Selection. At this point, we conduct interviews, make our final hiring decisions, and discuss and agree upon pay and benefits. This is then followed by training, then retention, then motivation.

Policy Making in the Workplace

Every company has policies in place to guarantee consistency and fairness. HR professionals often work to craft the language used in such documents. Human resources management, management, and executives all have a hand in crafting company policy. A human resource management professional, for instance, will likely identify the need for a policy or a change to an existing policy, solicit feedback on the policy, draft the policy, and then disseminate it to staff. It's important to remember that human resources does not (and cannot) function in a vacuum. To be successful, their efforts must involve everyone else in the company. The following are a few possible examples of policies that could be implemented in the workplace:

- Discipline process policy
- Vacation time policy
- Dress code
- Ethics policy
- Internet usage policy

Benefits and Wages Administration

Human resource managers are responsible for ensuring that employees are paid a wage that is competitive in the market and attractive enough to retain talented employees. In general, compensation refers to anything the worker receives in exchange for

performing the job. Also, HR managers must check to see if the salary is in line with what others are earning for similar work. In order to do this, it is necessary to implement compensation structures that take into account factors such as length of service, level of expertise, and education. Below are some common types of employee compensation:

- Pay
- Health benefits
- Retirement plans
- Vacation time
- Sick leave
- Bonuses

Retention and Employee engagement

The term "retention" refers to the process of keeping and encouraging current employees to remain with the company. The ability to pay workers a living wage is a crucial component in keeping them on the job, but it isn't the only one. Ninety percent of employees leave an organization for the following reasons:

Problems at work include: not fitting in with the culture of the company, having trouble with management, being underappreciated, and having a negative impact on productivity.

Despite this, 90 percent of managers assume employees quit as a result of wages (Rivenbark, 2010). (Rivenbark, 2010).

Training and Development

Employee motivation relies heavily on training as well. Employees that believe they are expanding their abilities tend to be happier in their jobs, which results in increased employee retention. Examples of training programs might include the following:

- Job skills training, such as how to run a certain computer program
- Training on communication
- Team-building activities
- Policy and legal training, such as sexual harassment training and ethics training

Discussing Employment Laws

Managers in human resources need to be up-to-date on every legislation that could potentially impact their business. A human resource management expert could have to deal with the following regulations:

Regulations prohibiting discrimination and mandating access to medical care

Worker safety regulations, minimum wage requirements, and labor laws are all examples of mandatory compensation.

Keeping up with the ever-evolving HR legal landscape is essential, as is informing the rest of the management team of the latest developments.

Worker Protection

Protecting Employees Health and safety is a top priority for every business. Frequently, new laws are enacted to establish federal or state requirements to guarantee the safety of workers. Additionally, unions and union contracts can affect how strict employers must be with regards to safety regulations. The HR manager is responsible for keeping up with government and union rules for worker safety in the workplace. Possible concerns regarding the safety of employees include:

- Risks posed by chemicals
- Temperature and ventilation needs
- No-scent areas should be implemented.
- Keeping employees' personal information secure

Communication

In addition to these key functions, human resource management and general management effectiveness depends on the practitioner's capacity for clear communication and effective leadership.

Awareness of External Factors

Human resources practices take into account both internal dynamics inside the company and external variables that may have an impact on it. To put it simply, external influences are everything beyond an organization's control that may have an effect on its human resources department. The following are examples of potential external factors:

Layoffs and downsizing Technology used, such as HR databases Increased use of social networking to disseminate information to employees Globalization and offshoring

Changes in employment law Health care costs Employee expectations Diversity of the workforce Changing demographics of the workforce More highly educated workforce One example of an external element that has an impact on human resources is the growing popularity of telecommuting and flexible work schedules, where employees can choose when and where they do their job. Human resource management must be aware of these external factors in order to craft policies that cater to the interests of both the business and its employees.

Human resource management, or HRM, is organizing and leading a company's employees in order to advance the company's goals and uphold its values. If they do their jobs successfully, human resources managers may assist in the hiring of new professionals with the abilities essential to advance the company's goals and in the development and training of present workers so that they, too, can reach those goals. Human resource management (HRM) is essential to a company's success since it determines the quality of its workforce. In addition, HR leaders can keep an eye on the labor market to better position their company for the future. Fair salary and benefits, activities to prevent burnout, and a rethinking of work descriptions in light of market conditions are all examples of what this may include.

### 1.3.2 Innovation

An innovation can be anything from a novel idea or method to a novel product or method that is adopted by a group. A person's reaction to a novel concept depends on how novel that thought seems to them. An innovation is a novel concept, even if it is only fresh to one person.

This definition's important features are (a) the identification of the type of innovation at work (thought, practice, or item) and (b) the concept of subjective newness (new to the adopter, but not necessarily new for all).

This definition is sufficiently wide to encompass the most crucial aspects of the creative procedure. It's not spelled out, but the idea of utility—to the person, group, or organization that puts the innovation to use—is implicit in that statement. As stated in their definition, "to be real an invention has to be beneficial or, more precisely, considered to be useful," this is what all innovations are meant to achieve, according to Grnhaug and Kaufmann (1988). The person, group, or organization adopting it must see some sort of financial gain as a result of its usefulness.

**Figure 1.2- Definition of Innovation**

| Author | Definition | Focus |
|---|---|---|
| Amabile (1988) | A product or process is innovative to the extent that appropriate observers independently agree it is innovative. Appropriate observers are those familiar with the domain in which the product or process was introduced. | Invention |
| Haeffner (1973) | Innovation: creating, developing and marketing new industrial products and processes. | Invention Process |
| Coopey, Keegan, & Emler (1998) | Innovation is a particular form of change characterized by the introduction of something new. This "something" may relate to a product, service or a technology or it may involve the introduction of new managerial or administrative practices or changes in other elements of the organization. Ultimately innovation brings about beneficial change. | Process |
| Knight (1967) | An innovation is the adoption of a change which is new to an organization and to the relevant environment | Process |
| Damanpour (1991) | Innovation is defined as adoption of an internally generated or purchased device, system, policy, program, process, product or service that is new to the adopting organization. | Product |
| Grønhaug and Kaufmann (1988) | Innovation represents something *new*. To be genuine an innovation has to be useful or, more correctly, perceived to be useful. | Product |

Source: Aliaga, O. A. (2005)[4]

According to Roberts (1998), innovation occurs "through the collecting of economically viable ideas or innovations by entrepreneurial figures who stimulated product development and spread," which is a paraphrase of the economist Schumpeter's definition of innovation.

In a business setting, "the adoption of innovation is often intended to contribute to the performance or effectiveness of the adopting firm," as Damanpour (1991) phrased it. This perspective is applicable to innovation within the scope and mission of businesses and other organizations, but it can be easily generalized to innovation diffusion in social groupings if there is a discernible positive impact on society as a result of the introduction of a new idea. Once the innovation process is complete, an idea's value can be seen (Van de Ven, 1986).

[4] Aliaga, O. A. (2005). *A study of innovative human resource development practices in Minnesota companies*. University of Minnesota.

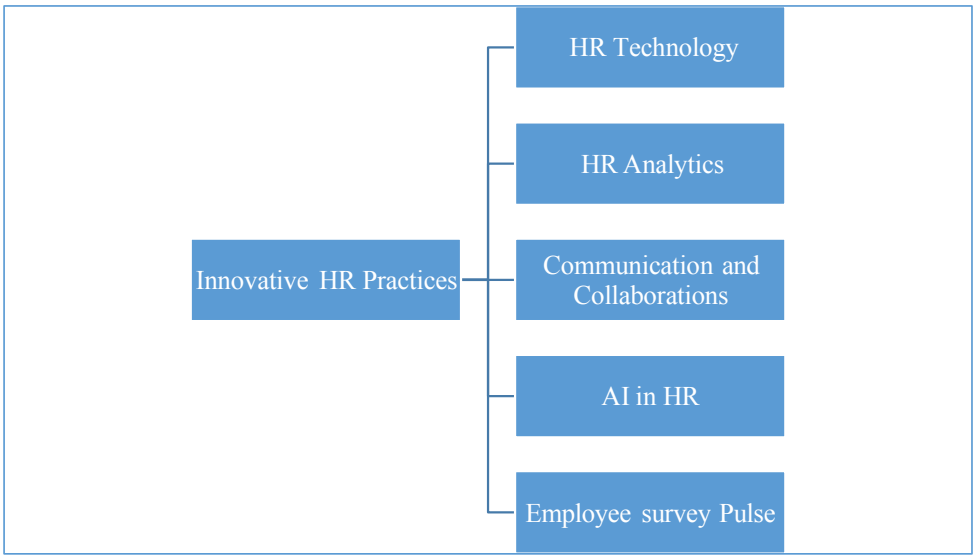
### 1.3.3 Innovative HR Practices

The first definition of creative HRM places an emphasis on revitalizing organizational processes through rethinking HRM policies and practices, while the second highlights the role that HRM plays in the creation of novel goods and services. Hence, innovative HRM is explored as the independent variable.

When it comes to human resources, innovation means adopting fresh approaches and tools to better serve the shifting needs of both the business and its employees. It's about predicting future wants and circumstances rather to simply finding a reaction to a changing existing scenario. Without supporting innovation, employees can get dissatisfied with their day-to-day work, and not have a visible career path. As a result, companies may see a rise in turnover as employees go elsewhere for career advancement.

Innovative HR Practices covered in the current study are:

**Figure 1.3 – Innovative HR Practices**




Source: Author Compiled

(A) HR Technology

Software and other kinds of technology in human resources can provide support for a wide variety of complicated business tasks, including payroll, time and attendance, benefits, talent acquisition, and more. Technology in HR management, such as modern employee self-service

and ongoing education resources, frees up HR practitioners to play a more strategic role in their organizations.

Figure below shows some of the examples of HR Technologies used in Todays Organizations:

**Figure 1.4 – HR Technologies**


Source: HR Tech stack, 2022[5]

Leaders in human resources can rely heavily on HR technology even as a global pandemic rages on. Having reliable online means of communication facilitates the dissemination of information to a dispersed workforce. Additionally, small businesses may understand that now is the moment to take advantage of HR technology trends and modernize their systems to better manage time, process payroll, and store employee information, all while remaining in compliance with applicable employee-related rules and regulations. For larger corporations, HR directors can now participate more actively in the company's broader strategic goals thanks to developments in human resource technology.

The Paychex Pulse of HR Survey for 2021[6] found that 98% of HR leaders feel the COVID-19 epidemic has altered their responsibilities. As a result of this shift, technology has taken on an even greater significance, with 81% of HR leaders reporting that HR technology is now their top priority. Surveyed professionals all agreed that technology "allows them to be more strategic in their roles" and "improves the employee experience." This strategy-first approach

[5] https://www.aihr.com/blog/hr-tech-stack/
[6] https://www.paychex.com/articles/hcm/technology-trends-in-hr

can give effective staff management a significant competitive edge in a time when retention issues are at an all-time high.

(B) HR Analytics

Human resources analytics, sometimes referred to as "people analytics," is the process of utilizing personnel data for strategic commercial purposes. Leaders in HR analytics equip HR managers with the tools they need to create data-driven insights that enhance the quality of talent management, streamline administrative tasks, and boost morale in the workplace.

Human resource analytics involves gathering and analyzing information on a company's employees in order to boost productivity. Talent analytics, people analytics, and workforce analytics are all terms that might be used to describe this method. Information acquired on a regular basis by HR is analyzed in this way, and the results are then linked to HR and business goals. Taking this approach gives quantifiable proof that HR activities are helping to advance the company's objectives.

A software engineering organization, for instance, is not functioning at peak efficiency if it has a high turnover rate of employees. Employees need time and money to be brought up to their maximum potential. To help businesses optimize their HR strategies and better prepare for the future, HR analytics can shed light on what's working and what isn't. As in the last illustration, understanding the root cause of the company's high turnover helps shed light on potential solutions. The company's income and productivity will rise as employee turnover falls.

Having hard data to back up decisions allows businesses to prioritize where they should put their efforts and where they can see the most success. It's no surprise that many companies are attributing gains in performance to HR initiatives now that HR analytics can answer crucial questions without guesswork. The benefits of using HR analytics are illustrated in the figure below:

**Figure 1.5- Benefits of HR Analytics**


Source- AIHR, 2022[7]

Instance of Human Resource Analytics

Employers want to find people who not only have the technical chops to do the job, but also have the personal qualities that will mesh well with their company's culture and help them achieve their goals.

To make matters worse, potential applicants may be missed while sifting through hundreds or thousands of resumes and making a recruitment decision based on basic facts. If one organization finds that inventiveness is a more reliable predictor of success than prior experience in the field, that would be an example.

Analytics for human resources can:

- Encourage quick, hands-off aggregation of suitable information from a wide variety of sources for potential candidates.
- Learn more about candidates than ever before by taking into account a wide range of factors, such as career growth potential and cultural compatibility.
- Seek out people who share qualities with the company's most productive workers.

[7] https://www.aihr.com/blog/benefits-of-hr-analytics/

- Stay away from unconscious bias and give everyone a fair shot by using a data-driven approach to hiring.
- Give departments data on how long it takes to fill various positions within the business so that they can be more prepared and informed when the need to hire occurs.
- Give businesses insight into past over- and under-hiring trends so they may improve their recruitment strategies in the future.

(C ) Communication and Collaboration

In today's hyper-accelerated business environment, radical, game-changing technologies disrupt entire industries overnight. Companies can't take years to build capabilities in emerging markets; they must mobilize quickly or lose competitive advantage. This is why organizations can no longer afford to count on a select number of "problem solvers." Relevant knowledge and ideas exist at every organizational level—but it's difficult to find and exploit them. To do this, organizations need to create the right motivation, infrastructure and social climate for encouraging employees to speak up, share knowledge and collaborate to achieve common goals.

Having talented employees is important, but research shows it's not the only factor impacting a firm's ability to consistently innovate. Employees must also be motivated to work together, and have access to other employees who can communicate and evaluate new ideas, and who value exchanging ideas and collaborating.

In their research, Chris Collins, director of the Center for Advanced Human Resource Studies (CAHRS) at Cornell University's ILR School, and University of Maryland's Ken Smith found that firms can motivate employees to contribute their efforts to company goals by using certain HR practices, including high-commitment ones such as stock ownership, group or organizational incentives, internal promotion policies, and flexibility programs. These practices show an organization's commitment to employees' success and motivate employees to return the favor.

In their study, they also found that collaboration and information sharing were significantly related to networking practices, which include team-based job design, job rotation, mentoring, and socialization activities. Previous research shows these practices facilitate the flow and usage of information among employees by exposing them to new information via cross-functional teams, giving them access to people and departments beyond their own,

strengthening their social connections, and passing new knowledge to them directly from more experienced colleagues.

Finally, Collins and Smith found clear evidence that commitment-based HR practices enhance company performance by creating greater trust, cooperation and shared codes and language among employees, which leads to knowledge-sharing and collaboration.

(D) AI in HR

Human Resources (HR) plays a crucial role in any organization since it affects the lives of the people who work there directly. To be effective and efficient at work, people need open lines of communication and a safe and healthy workplace. Human resources is responsible for creating a work environment where all employees feel respected and valued, where they can freely express their ideas, intelligence, and empathy, and where they can thrive professionally. The human resources department has benefited greatly from artificial intelligence, one of the most cutting-edge and rapidly developing technologies of the modern day. Artificial intelligence automates and completes most low-value HR chores, freeing up resources for the work's strategic scope. Artificial intelligence's ability to rapidly and effectively handle large volumes of data has the potential to transform many aspects of the employee experience, from hiring to talent management.

*Bringing together HR and AI*

Decisions in artificial intelligence systems are made in real time using both pre-programmed algorithms and coherent computing technologies. The HR field might expect certain changes as a result of AI. The all-seeing human element of Human Resources, coupled with the shrewdness of technology, will result in an improved and developed situation for applicants and employees at companies. On top of that, the use of AI in HR will help spread the word about how important it is to consistently deliver high-quality results quickly.

*The Role of Artificial Intelligence in Human Resources*

It's a lot of work for HR to find and train new workers. Artificial intelligence has many potential uses that can help make human resources workers' jobs easier. Examples of such uses include:

Find and hire the best people:

Recruiting top-notch employees is a top priority for any HR division because of the positive impact it may have on a company's bottom line. It's possible that talent acquisition is where AI shines brightest in HR. Artificial intelligence (AI) streamlines the process of tedious tasks like candidate screening, database upkeep, scheduling

interviews, and answering contestants' questions. The HR department is freed up to concentrate on more strategic endeavors like sourcing, personnel management, and recruitment marketing as the hiring process and time are drastically cut down. To help find a candidate who is a good fit for the firm overall, recruiters are turning to AI. Therefore, it is easy, quick, and worthwhile to go through the screening process. Chatbots are used to track down and engage with the most promising applicants. When a new worker is hired, their information is sent to an automated chatbot, which then decides what roles are most suited for them based on their qualifications. To fill the position, it will select the best candidate who is also the best fit for the role. This means only the most qualified applicants will be contacted for an interview.

Induction of Fresh Faces:

New hires will be introduced to the company's culture and policies through a unified set of AI-based technologies on day one. All of the information a new hire needs to know about their position, the company's rules and procedures, their responsibilities and those of their coworkers will be provided to them in an organized style, either through a mobile app or on a laptop. There is a phrase for this process: onboarding. If you want your human resources personnel to be more effective and efficient, onboarding is a must. An effective onboarding procedure increases the likelihood that a new hire will remain with the company. Since new hires may have a lot of questions, the AI for HR provides comprehensive responses to all of them. The use of AI in human resources allows for discrete processes to be designed for different types of employees and their respective responsibilities. Artificial intelligence (AI) also manages the company's crucial contact information and does other crucial functions like verifying legal documents, etc.

Recruit Training:

The use of AI development services will allow workers to self-educate on topics like job responsibilities and requirements. It will help them keep up with the times by informing them of the latest software and hardware developments in their field. Artificial intelligence will automatically understand and assign training to the employee based on their papers and tests. Based on their job description, pertinent skill set information will be offered for development. Artificial intelligence (AI) in HR software could analyze data and notify HR of any training gaps within the staff. The efficiency and intelligence of workers will both increase thanks to this ingenious method, and they will also learn new things more rapidly and efficiently. So that workers may learn on their own and

carry out tasks in accordance with the needs of the business, they might be taught to use specific software and methods of instruction.

Improvements to the Working Conditions:

Because of the high level of automation and the heavy emphasis on customer experience, employees know they will have a positive and productive experience in tailored engagement. Consumer technology is shaping the modern workplace, and employees are looking for new ways to be engaged and supported in their work.

Recruiting and onboarding, HR service delivery, and career development are just few of the areas where AI has the potential to be integrated efficiently, all leading to a more individualized employee experience. With the help of individualized feedback questionnaires and employee appreciation programs, human resources departments may gauge employee engagement and job satisfaction with greater accuracy than ever before. Given the importance of understanding employees' broad needs, this is particularly helpful, but there are also many substantial advantages for the business as a whole.

As a result of AI's positive impact on training and development, managers and team leaders should expect to see an uptick in productivity. By polling their respective squads with a series of questions, the AI will determine how the leader's personality attributes are organized, and then provide them with the missing abilities or requisite flexibility.

To continue, the dashboard can be used as a tool for self-reflection and development for leaders, allowing them to better adapt their abilities to the needs of the business.

*Using AI in Personnel Administration*

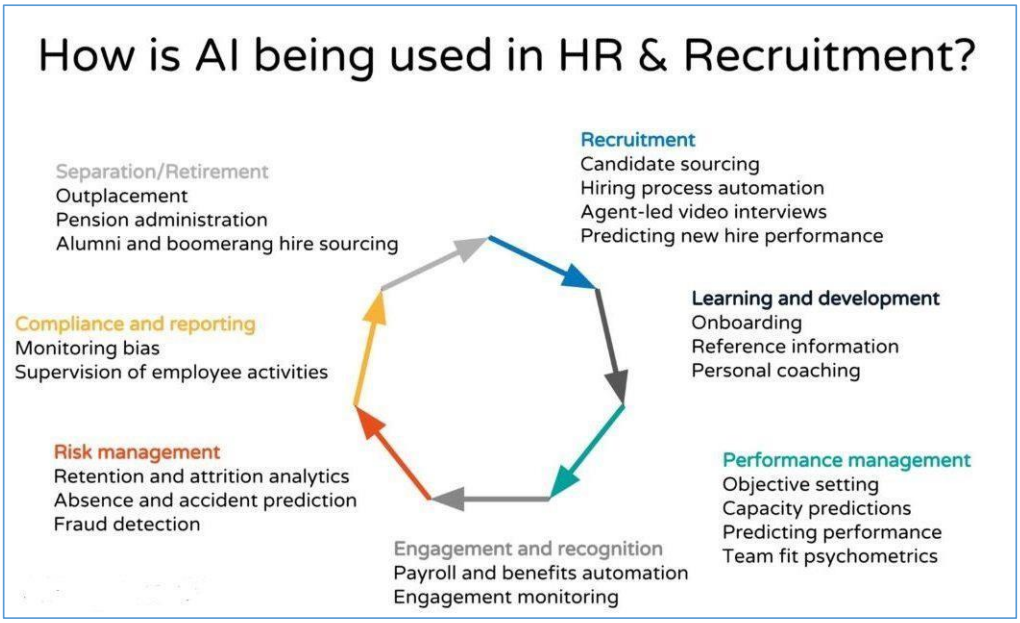
• Artificial intelligence (AI), like any other technology, requires cautious deployment. If you're looking to implement AI in HR, check out Cute HR's list of considerations.

• Real-time, high-quality data is essential for AI to produce useful results. Therefore, it is vital to first collect accurate information and then ensure that the output-driven objective is crystal clear. When compared to other IT ecosystems, the AI one is truly unique. Certain skills and knowledge are required for actualization. The Human Resources department must pay close attention to detail when collecting data and processing it for analysis.

• It is crucial to recognize and comprehend the insights that will be driven. It follows that there needs to be guidance and explanations about how to spot the right patterns for analysis and action.

• AI has the potential to generate reliable and unbiased outcomes based on the inputted algorithms and logics. In addition to making sure the data is correct, businesses should keep in mind that AI will only act in ways that its users instruct it to.

**Figure 1.6- Applications of AI in HR**




Source: Eternal University Baru sahib- (2019)

*The Difficulties Artificial Intelligence Faces in Human Resource Management*

Human resource professionals should be aware of the challenges that may arise as a result of AI's undeniable future positive impact on the HRM area.

Making AI more accessible and secure is a top concern for HR managers. Individuals' main reservations about implementing AI in the workplace stem from fears over invasion of privacy and the potential for unintended consequences.

At work, 31% of people surveyed by Oracle stated they'd rather talk to a person than a computer. Human resource professionals also need to be prepared to deal with these difficulties by keeping up with the latest developments and innovations in their field and in technology more generally.

Workers anticipate that their employers will take precautions to safeguard their personal information and will get their permission before using any sort of technology to collect data about them. As a result, this requires a leap of faith on the part of HR professionals, whose employers understandably prioritize protecting their data.

The upkeep of AI is another difficulty that must be overcome. Keeping AI running smoothly is a time-consuming process due to the requirement for regular reviews and updates. The transition to SAAS (Software as a Service) has reduced access to data, limiting the feasibility of fully integrating HR processes through technology.

(E ) Employee survey Pulse

As part of an employee listening program, pulse surveys are especially useful since they provide companies the flexibility to gauge whatever they deem most essential. Everything short of an annual or biannual employee engagement survey is commonly referred to as a "pulse." When compared to lifecycle surveys (onboarding, exit, applicant reaction, etc.) and ad hoc employee surveys, pulse surveys have unique characteristics. The purpose of pulse surveys is to gauge opinion through more frequent, shorter polls that are not limited to any one topic or body of work. Because of this, the information being measured can and should shift from one organization to the next and even from one survey to the next.

Pulse Surveys

- Keep tabs on a consistent metric, such as the answer to the question "Would you suggest working for this company to your friends and family?"
- differ from an engagement survey in that they take less time and effort to finish
- polls that used to be conducted every few years (more than once a year)
- occur at predetermined intervals (most organisations use them quarterly or monthly)

**Figure 1.7 – Advantages of Employee Pulse survey**


Source: Qulatrics, 2022[8]

[8] https://www.qualtrics.com/au/experience-management/employee/what-is-employee-pulse-survey/

Not only do pulse surveys cut down on the amount of time it takes for employees to provide feedback, but they also add a new dimension to results analysis by allowing for monitoring of changes over time. A pulse allows Organizations to track items on a more regular basis, whether it be once a month or four times a year, as opposed to the annual snapshot that an engagement survey provides. Pulse allows for more regular feedback collection from employees and quicker responses from businesses.

### 1.4 Employee engagement

The literature begins with the difficulty of defining employee engagement because no single concept seems to have gained widespread acceptance. Engaged employees "use and express themselves physically, cognitively, and emotionally during role performances," as defined by Kahn (1990:694). What employees think about their company, their superiors, and the workplace as a whole is a big part of the "cognitive" portion of employee engagement. Employees' favorable or negative feelings regarding the company and its management constitute the emotional dimension. Employees' physical efforts to carry out their jobs effectively make up the physical dimension of engagement. Kahn (1990) argues that to be "engaged" in one's work requires more than just showing up to the office every day.

***Employee engagement is typically defined as a combination of employees' emotional and intellectual commitment to the organization and the amount of extra effort they put into their work*** (Baumruk 2004, Richman 2006, and Shaw 2005). (Frank et al 2004). Truss et al. (2006) describe employee engagement simply as "passion for work," a psychological state which is thought to incorporate the three elements of engagement discussed by Kahn (1990) and catches the common feature running across all these definitions.

Since each study investigates employee engagement using a unique procedure, it is impossible to ascertain the current state of knowledge about employee engagement. Additionally, management cannot take place, nor can it be known if efforts to promote employee engagement are successful, until the phenomenon can be generally defined and assessed (Ferguson, 2007). This exemplifies the issues with comparability that arise from variations in definition.

Employee engagement has been characterized in a variety of ways, and while this is true, it has been suggested that many of these definitions are too close to other, more well-known concepts, such as "organisational commitment" and "organisational citizenship behavior" (OCB) (Robinson et al 2004). So, "engagement" is "one step up from commitment," according to

Robinson et al. (2004). Therefore, employee engagement may seem like "old wine in a new bottle," or just another passing fad.

HR professionals use the term "engagement" to characterize an employee's level of interest in and commitment to their work. Employees that are engaged in their work and the success of the firm do so because they believe their efforts matter. An engaged worker has a vested interest in the success of their firm beyond financial gain; they may see their own happiness as intrinsically related to their work.

Employee Engagement: A Better Understanding

Employee engagement is correlated with higher levels of job satisfaction and higher morale, both of which can have a significant impact on a company's bottom line. Employee engagement is built and maintained through effective communication. When workers are invested in their work, they are more likely to achieve their organization's goals. They also tend to show more dedication to the company's ideals and objectives.

Employees are more likely to be invested in their work when their employers set clear goals, recognize and reward good performance, share information about the company's progress, and offer constructive criticism on a regular basis. One further tactic is to make an effort to show employees they are appreciated and their suggestions are being taken into account. Employees that are invested in their work feel a sense of ownership over the company's performance and a sense of responsibility for its outcomes.

Throughout the 1990s and 2000s, employee engagement was discussed as a theoretical component of management. Employee involvement has been discovered to have clear correlations to a company's profitability and financial health, although it has its critics, largely due to how difficult it can be to evaluate.

Employees that are invested in their work and in the success of their firm are more likely to be dedicated to achieving those goals. Companies have the freedom to define employee engagement however they see fit, but all engaged workers share certain traits which as discussed below:

- They have a clear understanding of their function and are enthusiastic about carrying it out.
- They work hard and are dedicated to their employer.
- They have bought in to the vision for the organization's future and are ready to put in the necessary effort to realize it (and how to work toward it).

- Both emotionally and intellectually invested, they are highly motivated to provide their best work for the company.
- According to the outsourcing firm Aon Hewitt, these people have a strong mental and emotional investment in the success of their company, as evidenced by three key actions: To wit: (he or she is always singing the praises of the company to friends, family, and acquaintances) Continue working for the company even though alternative chances have arisen; Work hard; make an effort; contribute to the success of one's company.

Employee engagement may be suffering in the modern workplace due to the decline in face-to-face communication and the rise of instantaneous digital communication channels such as instant messaging, social networking sites, and news aggregators.

*Organizational Drivers*

Some studies pinpoint company-wide factors that contribute to engaged workers.

The research organization Quantum Workplace, which is responsible for the "Best Places to Work" programs in more than 47 cities, has found six determinants of employee engagement that have the biggest impact:

- The top brass is dedicated to making their company a fantastic spot to work.
- Have faith that the organization's leaders will make the correct decisions.
- Hope that the company will grow and succeed.
- Knowledge of my place in the organization's long-term objectives.
- Management places a premium on their staff since they recognize them as their company's most valuable asset.
- The company is committed to the growth and prosperity of its employees.

*Management Drivers*

When workers have good interactions with their managers and supervisors on a daily basis, employee engagement grows significantly. The following are examples of supervisory behaviors that have been shown to increase staff engagement:

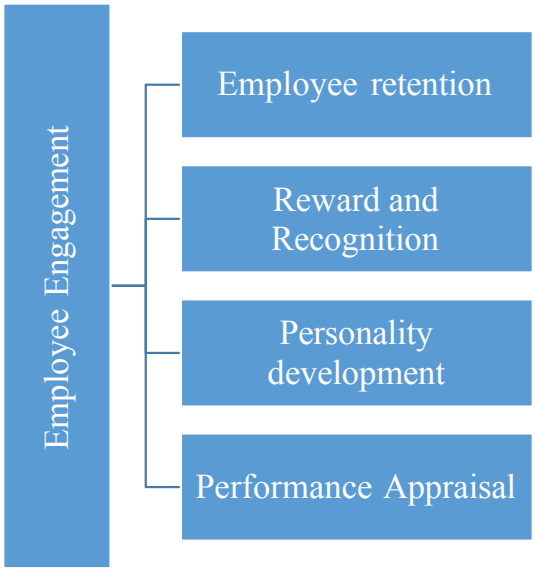
The Gallup "Q12" are a set of 12 pillars found to have substantial associations with important business results. Employees are more likely to stay with a company if they are satisfied with their work, their position within the company, their coworkers, and their possibilities for professional development (e.g., by getting feedback about work and opportunities to learn).

- The rapport between management and staff is positive.
- All workers have access to the tools they need to do a good job.

- Staff members have the autonomy they need to do a good job in their positions.
- Workers are given latitude to make choices within established guidelines.

With the above background the Employee engagement in the current research is studies under the following 4 aspects

**Figure 1.8 - Employee engagement aspects covered in the current study**




The level of interest and participation from workers is significantly affected by HR policies and procedures. Employee motivation can be improved using the following methods:

- Job improvement: Jobs and tasks should have meaning, variety, autonomy, and respect for coworkers in order to encourage workers to see themselves as more than just their job title suggests.
- Recruiting: Seek out people who will find the position both intriguing and demanding. Make it easier for people who know they aren't a good fit for a job to pass on applying.
- Selection: Select those who are most likely to succeed in their roles, contribute generously, and behave ethically.
- The cultivation of skill and knowledge: Give an overview of the role's significance to the company and how it will be fulfilled during the orientation. Provide training aimed at improving employees' abilities, attitudes, and performance on the job.

- Economical remuneration plans: Put in place a pay-for-performance system to direct workers' attention toward the activities that will earn them a higher salary. Adopt a competency-based compensation plan to boost productivity and staff learning.
- Management based on performance: Establish ambitious targets that are in line with the strategic goals of the organization, offer constructive criticism and praise, and acknowledge employees' achievements and extra efforts.

Increasing employee involvement is ranked among the top five global business strategies by executives from around the world. Besides its obvious effects on retention, productivity, and loyalty, employee engagement also directly correlates to metrics like customer happiness, brand equity, and shareholder value. As a means of gaining a competitive edge, more and more businesses are looking to human resources to build a culture of dedication and engagement among their staff. Most top-level managers are already aware of the correlation between employee satisfaction and business results. Gallup reports[9] that only 33% of U.S. workers are actively engaged in their work. Employers typically have a lot of work to do in order to bring out the best in their employees because 52% of them are "simply showing up" and 17% are "actively disengaged".

Trust, open communication, a shared vision, common goals, and a sense of belonging all play a role in increasing employees' motivation and output. A good way to keep employees happy and motivated is to show them that their contributions are important and that their opinions are taken seriously. Workers that are enthusiastic about their jobs are more dedicated to their employers.

### 1.5 Employee Productivity

According to Sinha (2001), an employee's productivity is determined by their own level of enthusiasm and candor at work. He said that if workers were more trusting and transparent with one another while on the job, it would lead to more productivity.

Stup (2003) likewise underlined the necessity of coordinating staff efforts toward a common goal or objective for a company to operate at peak efficiency. Employers might be able to keep tabs on workers and provide guidance to boost productivity if the task or job was organized in

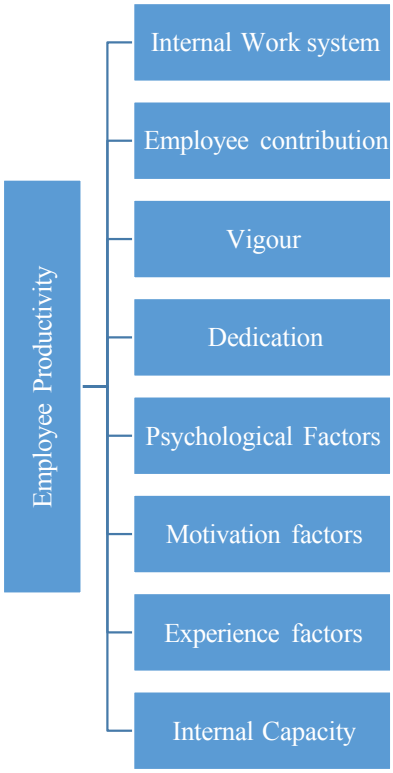
[9] Gallup, Inc. (2017). State of the American Workplace. Retrieved from https://news.gallup.com/reports/199961/7.aspx

a systematic way. Further, a system of rewards based on employees' output should be put in place. Employees will be encouraged in this way to increase their productivity.

Stup (2003) outlines a number of contributors to successful employee productivity. The physical work environment, tools, meaningful work, productivity expectation, feedback on productivity, rewards for good or bad systems, standard operating procedures, knowledge, skills, and attitudes are all important aspects of a productive workplace.

Productivity that is driven from inside was defined by Franco et al. (2002); nevertheless, the presence of external elements such as the skills, intellectual capacity, and resources to complete the task also play a role. Consequently, it is the responsibility of employers to create suitable working circumstances to guarantee that employees' output meets the necessary requirements.

Employee Productivity aspects covered in the current study




The productivity of workers can be evaluated in aggregate (over the whole economy) or in detail (across individual industries). Productivity is defined as the action of yielding desirable outcomes by most dictionaries. "Productive" connotes results that are financially beneficial. Productivity, in this sense, is synonymous with output (Briner, 2010). How much you get out of something depends on how much you put into it. Partial productivity refers to the ratio of

output to a subset of inputs, such as the quantity of output per unit of work or the number of labor hours per unit of output, respectively (Bernadin, 2008). Today's businesses must adapt to a constantly shifting environment, rife with challenges, making it more crucial than ever to have the appropriate people in the right roles with the necessary skills and experience to thrive. A company's future growth and prosperity rests on the shoulders of its employees, who must be knowledgeable, skilled, and experienced.

### 1.6 Impact of Innovative HR Practices on Employee Engagement and Employee productivity

Human resource managements leading thinkers, researchers, and academics have published articles calling for an affrmative approach to concentrate on personnel, engaging of the workforce rather to focus on solutions to cope with difficulties (Luthans & Avolio 2008; Bakker & Schaufeli 2008: Luthans & Youssef 2007; Seligman et al. 2005). A number of previous studies have demonstrated that companies get a competitive advantage from having a highly engaged staff. Multiple studies (Nazir & Islam, 2017; Hansen, Byrne, & Kiersch, 2014; Agarwal, 2014) have found positive correlations between employee engagement and organizational success. These days, the term "worker engagement" refers to a pleasant mental state that is directly connected to one's work. Academics and researchers reacted enthusiastically to this idea, as preliminary studies had previously shown a good correlation between employee engagement and organizational success (Mackay, Allen & Landis, 2017). Studies on the causes and effects of employee engagement have gained traction in recent years. More and more research has been conducted on the topic recently, which bodes well for the future. Researchers such as Saks (2006) distinguished between "job engagement" and "organizational engagement" among employees. Scholars contend that despite their similarities, these concepts are distinct. Beyond this, the author suggests that the psychological factors that contribute to job and organization engagement and their consequences are dist inct from one another, arguing that the relationship between involvement in one's work and its repercussions varies along a number of dimensions. The majority of HR experts and managers struggle with the question of how to involve their staff. A recent study by a global consulting firm indicated that, worldwide, only 4 in 10 workers are actively engaged in their jobs (AON Hewitt report, 2012), and research into the topic suggests that managers could benefit by interviewing staff about their experiences in the office. Depending on factors including size, resources, and company culture, each company may choose a slightly different course of action. Talent mapping, however, has been proved to have a significant effect on morale and

productivity in the workplace. This can be done by fostering a culture of accountability, ownership, and personal responsibility among leaders towards the organization's vision, as well as by providing a better platform for professional development, facilitating information and communication in promoting innovation, celebrating creativity, and encouraging risk taking. This can be done by fostering a culture of accountability, ownership, and personal responsibility among leaders towards the organization's vision, as well as by providing a better platform for professional development, facilitating information and communication in promoting innovation, celebrating creativity, and encouraging risk taking. "Employee engagement" (Presbitero, 2017) stresses the importance of employees' dedication and enthusiasm for their jobs and the companies that provide them with services. There is room for and a need for more research in the field of human resource management, as evidenced by the findings of a different study presented by Arrowsmith and Parker (2013). Furthermore, Chen (2017) said that different IHRM methods might have different effects on employee behavior, thus it's important to create the IHRM practices that work, rather than a plethora of IHRM practices providing in-depth data on motivation. According to research by Parker and Griffin (2011), negative job-related variables on employee engagement are not inevitable, especially for entry-level employees, because other organizational resources, such as perceived organization support, may mitigate the effects of poor job-related factors. Human resource management (HRM) policies and procedures are evaluated by Wright et al., (1994) according to their impact on workers' perspectives, actions, and attitudes.

Productivity and Employee Motivation In today's rapidly evolving economy, management has recognized employee engagement as a top responsibility. There is no doubt that a company's growth, prosperity, and very survival depend on its ability to attract and retain high-performance people. In today's competitive talent market, companies are realizing that a highly engaged workforce is essential to attracting and retaining top talent while also improving productivity, efficiency, and profitability. The majority of respondents in an empirical study on the Impact of Employee Engagement on Performance rated employee engagement highly in terms of its importance to the organization's success as a whole. Most respondents said that rewarding outstanding performance had a significant impact on morale (Harvard Business Review, 2013 The Impact of Employee Engagement on Performance). Leaders in most companies are well aware of the importance of maintaining a highly engaged and devoted workforce. Top-level management must put in a lot of time and energy to establish a link between employee enthusiasm and actual output. According to the Meta-Analysis performed

by Harter et al., (2002), there is a strong connection between employee engagement and satisfaction and corporate performance. Employee engagement and satisfaction, the author of Human Resource Management Practices and Its Impact on Employees, found, are linked to the relevant business (organization) outcome. Employee involvement can be greatly influenced by a person's outlook, goals, and actions. According to the research of Kahn (1992), increased employee involvement results in higher standards of work, expansion, and productivity.

## 1.7 Conclusion

Human resources software powered by Technology increases worker output. It focuses on the needs and results of the workforce and is able to analyze, foresee, and diagnose issues as it evolves into a more potent resource. Organizations should implement Technology solutions that are tailored to their specific needs, align with the company's culture, and allow for the development of the appropriate digital road maps. In the future, personnel will be influenced by Technology in a number of ways, and they will be able to boast a rapid and precise customer service response. Therefore, it's important to pay close attention to the needs of workers and be cognizant of the consequences.

There are problems such as lack of proven applications, lack of privacy, a lack of employees, maintenance, integration, and others. However, difficulties associated with the installation of AI services can be avoided by exercising prudence. Important features of managing AI systems include locating reliable learning data sets, using the right implementation method, achieving clarity, minimizing bias, and taking unintended consequences into account.

# Chapter 2

# REVIEW OF LITERATURE

**"Hire character. Train skill."**

**– Peter Schutz**

## 2.1 Introduction

Writing a literature review entails investigating what has already been written about a topic, then synthesizing and presenting that information in a clear and convincing manner. Written by the researcher, it documents the current knowledge about the topic.

A literature review has four main purposes:

- It looks at previous work in the area of study chosen, and
- It condenses the relevant information from that prior work into a coherent
- It conducts an unbiased analysis of the data gathered, pointing out gaps in knowledge, showing where ideas and opinions fall short, and suggesting new avenues for research and closer inspection of points of contention.

## 2.2 Literature method and Map

### 2.2.1 Literature method- Systematic Literature review

An explicitly stated topic is the focus of the systematic literature review (SLR), a research methodology that discovers, selects, and critically evaluates material in order to provide a response to the problem (Dewey, A. & Drahota, A. 2016). Before beginning the review, the inclusion and exclusion criteria should be laid out in a clear and concise manner. The systematic review should be carried out in accordance with a protocol or strategy that has been defined in a transparent manner. This exhaustive and open-source search was conducted across a number of databases in addition to grey literature. The findings of this search can be replicated and reconstructed by other academics. It requires coming up with a well-planned search strategy that either focuses on a certain aspect of the problem at hand or offers a response to a particular question. The review identifies the kind of materials that were searched for, assessed, and reported on within certain timeframes. The search terms, search strategies (including database names, platforms, search dates, and limits), and search limitations should all be included in a comprehensive analysis of the search results.

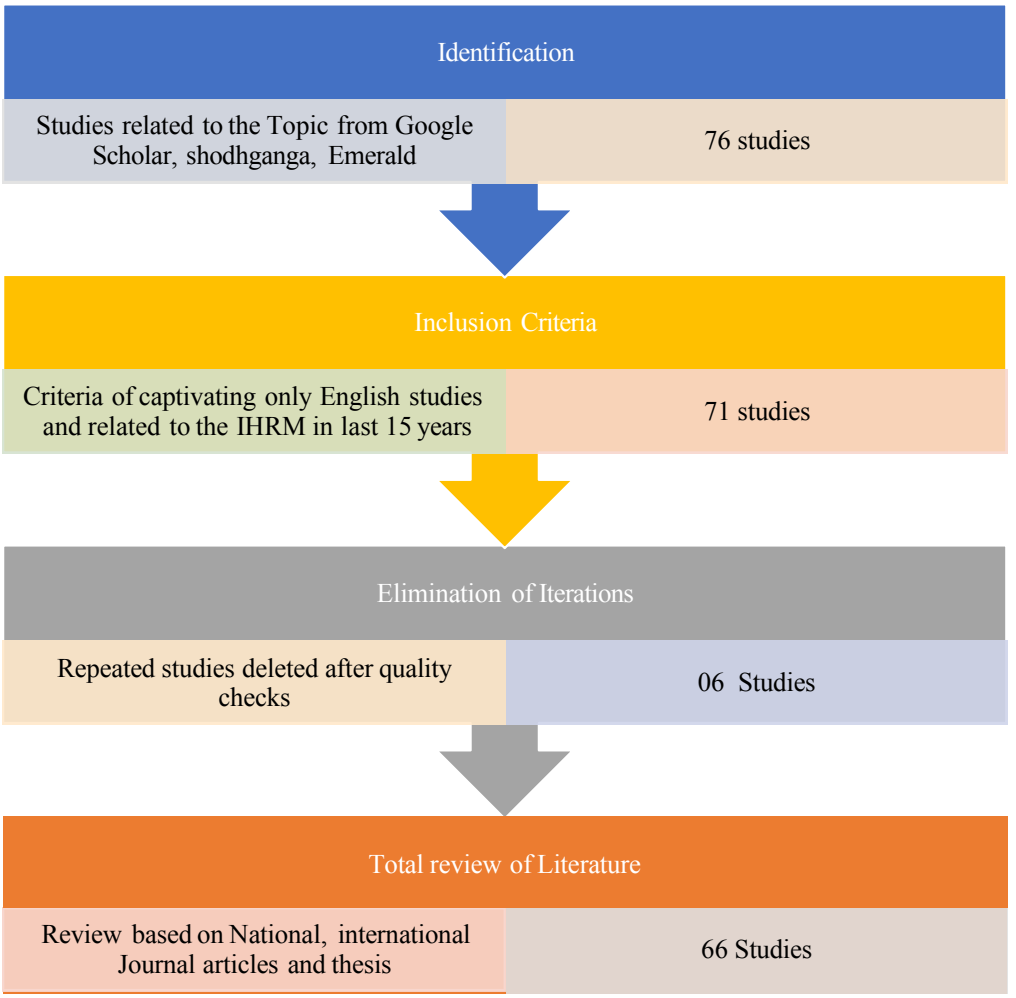
According to Pittway (2008), there are seven primary ideas that guide the process of conducting systematic literature reviews (SLRs).

- Transparency
- Precision
- Integration
- Emphasis
- Fairness
- Availability
- Reporting

Medical research was the first field to make use of systematic literature reviews, and these types of reviews are now commonly linked with evidence-based studies. The "development of evidence-based practising has resulted in an expanded number of review styles," as Grant and Booth (2009) point out. The authors of the study by Tranfield et al. (2003) provide an explanation of the origins of the evidence-based technique of doing a literature review as well as its relevance to a variety of fields, including management and science.

In the current research, a technique known as a systematic literature review was utilized to evaluate previous works that were pertinent to the research issues. Using the keywords "Innovative Human resource practices ...," "Employee engagement in IT industry...," "Employee productivity in IT industry, "Impact of IHRM on employee engagement "and "Impact of IHRM on employee productivity.....," a total of 76 studies were found. 71 papers were chosen for inclusion in the study after meeting the inclusion criteria of being published in English and being connected to the Innovative HR Practices, Employee engagement and productivity during the past 15 years. After getting a copy of the entire text of the study paper, a total of 71 pieces of published literature (including studies published in recognized journals) were reviewed to determine their level of quality. The current study is based on 63 Articles of prior research that are pertinent to the subject matter, after 8 previous works were disregarded owing to iterations and quality concerns.

**Figure 2.1- Systematic Literature review**



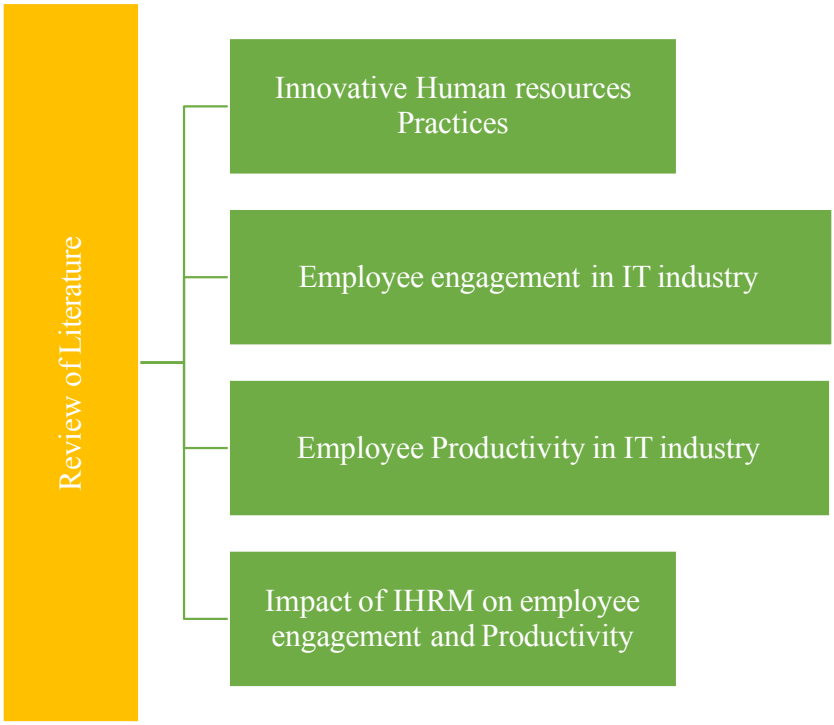

### 2.2.2 Literature Map

It is vital to have a strategy of the areas that need to be researched with this in mind, in order to illustrate how they might link with one another. Within the larger context of the literature review, there should be a consistent flow of ideas, and a clear framework should be offered in each paragraph to explore and improve concepts that are analogous to those discussed previously. Since of this, a literary map could be useful because it enables you to graphically represent the topics and the ways in which they might connect with one another.

A literature map (Cresswell, 2011) is a graphic of facts that is two-dimensional and links concepts with arrows (which could be annotated to define the nature of these links). By creating a map of the literature, the researcher is able to:

- Increase their familiarity with the most important themes
- Look at the findings that have been published in the past to acquire an understanding of how various experiments connect to one another.
- Group the results of the similar experiments together.

**Figure 2.2- Literature Map**




## 2.3 Literature Analysis

### 2.3.1 Literature review on Innovative Human resources Practices

(A) Theoretical studies

(i) International studies

1. **Eubanks, B. (2022)** Artificial intelligence (AI) powers several applications that relieve HR professionals of some of their workload while also boosting customer happiness. Even if it seems inconsequential at first, this investigation proves otherwise. Using a simple but effective criteria for measuring software usability, we found that high-performing companies (defined below) have eight times fewer employees reporting that their HR technology is difficult. Also, usability has risen to the top of the list of needs

when evaluating vendor options, so it's no longer a "nice to have" but a "must have" for businesses looking to invest in HR software.

2. **Bankins, S. (2021)** Human resource management (HRM) includes activities such as recruiting and hiring new employees, scheduling and assigning tasks, and even providing one-on-one guidance to employees. While there are certainly advantages to employing AI for such activities, there is also evidence to suggest that it can cause serious problems if not implemented properly. This prompts a number of moral questions about the application of AI to fields like human resource management, which deals with the handling of personal information in the context of employees' work lives. However, research at the interface of HRM and technology continues to mostly rely on researching what AI can be used for, rather than focusing on the salient variables related to its ethical usage and examining how to successfully engage human workers in the use of AI. Alternatively, there is a lot of room to investigate how these principles can be implemented in specific situations of use, despite the fact that the ethical AI literature gives strong guiding principles for AI implementation broadly. This study builds a decision-making framework to aid in the ethical deployment of AI for HRM and help determinations of the best mix of human and machine engagement for various HRM activities by drawing on literature on ethical AI and task-technology fit. Doing so provides academic and practical outputs that help deploy AI for the good of work and workers.
3. Choubey, S., and B. Zohuri (2021) In this paper, the researchers explore the history of HR, HRM, and the more recent HR incarnation, Human Capital Management (HRM). We then examine how AI has changed HRM, and discuss the possibilities and caveats of using AI in HRM. Chatbots, virtual assistants, and other AI-integrated tools are increasing AI's worth in HR. Human resources teams often find it helpful to collaborate with Innovative technologies and robots. Candidates' resumes are hosted digitally, accessible from any smart device or computer. Digital resumes can be processed by an AI using natural language processing. Technology for managing employee referrals and recruitment processes has been created by American AI firms. They pay attention to the data's upkeep, organization, and backup so that they may learn more about the data's resources. The most humorous and useful application of Innovative Practices in human resources will be to facilitate natural, uninhibited communication between employees via chatbots.

4. **DemetrisVrontis, Michael Christofi, Vijay Pereira, Shlomo Tarba, Anna Makrides & Eleni Trichina (2021)** Despite the explosion of academic work in intelligent automation (e.g., AI, robotics), we still don't have a good grasp on how organizations and employees will be affected by the widespread adoption of these technologies in HRM. Therefore, the purpose of this research is to systematically compile the existing academic contributions to the field of intelligent automation, with the goal of elucidating the most salient contributions and problems that this field poses to human resource management. Researchers uncovered 45 publications investigating the use of AI, robots, and other cutting-edge technologies in HRM contexts after conducting a comprehensive search of 13,136 potentially relevant research published in the leading HRM journals. Intelligent automation technologies, as demonstrated by the results, provide a novel approach to HR management and company performance enhancement, posing significant technological and ethical issues as well as a number of promising potential. Human resource management (HRM) operations such as hiring, training, and job performance, as well as HRM tactics such as job replacement, human-robot/AI collaboration, decision-making, and learning opportunities, are all likely to feel the effects of these technologies in the near future. These changes, as well as the study's key theoretical and practical contributions and recommendations for further study, are discussed in depth.

5. **Shi Xuanbei.( 2021 )** Subtle adjustments are being made to how people work and live as a result of the advent of the era of artificial intelligence and big data. The vast majority of this paper is devoted to the examination and evaluation of data collected in earlier investigations. Employee training, performance management, and welfare management have all benefited from the introduction of big data and AI into the HRM field. Big data and AI have the potential to revolutionize corporate management and boost companies' fundamental competitiveness in the market.

6. **Abdeldayem, M. M., and S. H. Aldulaimi (2020)** The research aims to provide light on the growing trend of AI implementation in HR, with a focus on the situation in Bahrain. The findings of this study provide light on how AI might be used in the future to better comprehend HR professionals' viewpoints across a variety of theoretical frameworks. The research showed that the public sector in the Kingdom of Bahrain will

have a fantastic chance to stay up with the digital revolution if its vision (2030 vision) is put into action. Because of this, business organizations have had to adjust the make-up of their personnel. A new challenge for human resource management has emerged as a result of the push for gender parity in the workplace. This also makes room for a fantastic incorporation of feminist ideas. The use of modern artificial intelligence (AI) is advocated as a crucial strategy for businesses operating in an unstable setting. Since Vision 2030 has been adopted in the Kingdom of Bahrain, the government has a fantastic chance to adapt to the ongoing technological revolution. Because of the prevalence of IT resources in corporate administration, the make-up of the staff has shifted. This allows for a far greater incorporation of the feminist element and also means that women and men can now compete for numerous jobs traditionally held by men. Consequently, upper management must make preparations (sponsorship) to accommodate the hiring of the opposite gender, and HR must be ready to respond accordingly. Employees' requirements and potential results should be prioritized because of the wide range of ways in which the AI function could affect them. Human resource managers will have more time to focus on strategic initiatives and less time on administrative work if artificial intelligence is used to handle HR transactions and answer regular questions at shared service centers and help desks.

7. **Nishad Nawaz (2020)** The research sheds light on how Innovative technology can be used in HR. The study analyzed Scopus online database from 1991 to 2020 and discovered 23 papers were relevant, and it is treated as a sample. In order to better address the needs of its clients, the study highlighted nine HRM functions where artificial intelligence applications may be implemented. Various other HRM sub-disciplines could also benefit from this research.

8. **Glikson, E., and A. W. Woolley (2020)** Artificial intelligence (AI) characterizes a new generation of technologies capable of interacting with the environment and trying to replicate human intelligence. Integrating AI into businesses relies heavily on people having faith in the capabilities of the new technology. This article provides an overview of artificial intelligence (AI), describing its unique characteristics and presenting the available empirical research on the causes of human "confidence" in AI, which has been undertaken across several academic fields over the past two decades. We propose a framework that addresses the elements that shape users' cognitive and emotional trust

based on our findings from a literature review that show that the type of AI representation (robot, virtual, and embedded) and the level of machine intelligence (i.e. its capabilities) are significant antecedents to the development of trust. Our analysis highlights the significance of AI's anthropomorphism for emotional trust, as well as its tangibility, transparency, reliability, and immediacy in building cognitive trust. We also point out various gaps in the existing body of evidence, including the wide variety of trust measures and the focus on short-term, small sample, and experimental research, where trust formation is likely to be different than in longer-term, higher-stakes field settings. On the basis of our analysis, we offer recommendations on where research should go next.

9. **Y. Imam, A. U. Hashmi, and M. M. Baig (2020)** Today, AI technologies are ubiquitous and considered critical components of any effective management structure. The application of AI has resulted in a paradigm shift in the means through which tasks are completed. There is no doubt that Artificial Intelligence has entirely altered the human resourcesfield and has effectively produced a more comprehensive and competent approach of completing the numerous HR functions. The belief that AI will eventually eliminate the need for human involvement in business processes is widespread at this point. But like the two sides of a single coin, AI comes with it both benefits as well as negative repercussions. When implemented with moderation and forethought, cutting-edge technology can really be beneficial to businesses. When using technology, it is important to get the human and mechanical components in sync, thus businesses need to train, retrain, and alter their operations. When companies invest in their employees by providing them with the right training, they can effectively foster collaboration between their workers and cutting-edge technologies. This study provides an exploration of the ways in which the application of AI has altered HRM's several subfields. In this paper, we explore the ways in which some companies are really employing AI and the potential benefits and drawbacks of doing so. The answer to any new issues is to develop a more versatile and current set of abilities. Integration of AI into HR procedures has been shown to boost business efficiency. Despite AI's limited capacity for emotion and cognition, the technology does come equipped with robust methods for analyzing and forecasting HRM practices. One of the most common concerns about AI development is the potential for it to decimate human employment on a global scale. However, the reality is that it is merely redistributing employment

opportunities among those with varying degrees of capability. Some workers may be impacted by the rise of AI, but it is important for everyone to keep up with the times.

10. **E. Parry and V. Battista (2019)** The general public is led to believe that technology progress will have an increasingly profound effect on employment opportunities, yet it is difficult to separate the hype from the realities. Evidence about the effects of new technologies on the workplace and the HR department's role in assisting both workers and businesses in adapting to these shifts is analyzed in this study. There is mounting evidence that businesses are using cutting-edge technology like AI and robots to automate simple and repetitive operations and to make complicated decisions rapidly and correctly using predictive algorithms. Furthermore, new technologies are being employed to facilitate the adoption of more adaptable forms of employment including remote work and contracting. To counteract the potential negative effects of increasing connectivity and insecure working arrangements on employee wellness, human resources professionals will face new challenges in assisting workers in upgrading their abilities to compete in the future world of work. Evidence review results and the preceding discussion indicate that new technologies like artificial intelligence, robots, virtual and augmented reality, digital technologies, wearables, and blockchain may have far-reaching effects on the workplace and its workforce. Changes in these technologies and the openness of businesses to adopt them will determine the scope and velocity of their effects. This analysis also shows that the HR department plays a vital role in assisting workers in adapting to the modern workplace, especially in the areas of training and education, workplace structure, and psychological well-being. Although HRM's core purpose of assisting managers and workers in performing their duties (CEB, 2018) will likely not alter, the HR department's importance may grow as the advantages and disadvantages of new technology for workers become clearer. The HR department's ability to take on this responsibility will depend on the quality of their own training and knowledge of the technologies at play.

11. **Meister, J. (2019).** Human resource managers of the future will try to find the best ways to combine human and automated labor. This is prompting a shift in human resources' focus, with experts now emphasizing the need for HR managers and staff to become AI experts so that they may reimagine HR as something warmer, more

personable, and more in tune with workers' needs. On the basis of these case studies and reports, we discuss 10 core trends.

12. **Tambe, P., Cappelli, P., &Yakubovich, V. (2019).** When it comes to human resource (HR) management, artificial intelligence (AI) falls well short of its potential. This article identifies four obstacles to using data science techniques for human resources (HR) tasks: the complexity of HR phenomena, the limitations of small data sets, the accountability questions associated with fairness and other ethical and legal constraints, and the risk of negative employee reactions to management decisions made using data-based algorithms. Applying three overlapping principles—causal reasoning, randomization and experimentation, and employee contribution—it then suggests practical remedies to these issues that are both economically efficient and socially suitable for using data science in the management of people.

13. **Mathis, J. (2018)** The latest developments in Human Capital Management Technology were the topic of a recent roundtable discussion organized by Harbor View Advisors. Human Resources (HR) Directors, Talent Acquisition Managers, and Chief People Officers were among the participants. Companies that took part in this study came from the healthcare, transportation, finance, e-commerce, and utilities industries, which together account for around half of all private sector jobs in the United States. Growth in the HR tech sector and the accompanying influx of investment are fueling exciting new developments in areas such as talent acquisition, employee engagement, and leadership training and development. HR leaders are eager to try out cutting-edge technology like AI, which are gaining popularity in the sector. In this ideal HR world, multiple existing point solutions are integrated to create a comprehensive suite that is easy to use for both job seekers and HR staff.

14. **Reilly, P. (2018)** The Institute for Employment Studies (IES) has been around for 50 years, so in that time it has witnessed a wide range of forecasts about the effect of technology on people's work and jobs, from the complete elimination of jobs to a life of blissful leisure. The main idea is that the introduction of cutting-edge technologies like artificial intelligence (AI), robotics (drones), and autonomous cars will increase productivity and produce revenue that can be used for public good and R&D. (which will further boost the economy).

15. **Meskó, B., Hetényi, G., &Győrffy, Z. (2018).** Diagnostics, decisions, big data analytics, and administration are just a few of the areas where artificial intelligence (AI) could help alleviate the healthcare industry's severe shortage of human resources. We need to overcome technical, moral, and legal hurdles to get there. Clearly, it is impossible to deliver care in the face of a growing global human resource crisis. How can innovative healthcare IT address the many challenges associated with human resources? Is technology going to help doctors or replace them? How can professionals be better prepared for the meaningful use of technology within the medical curriculum, including post-graduate education? These concerns have been mounting for decades, but with the advent of pervasive digital health, potentially game-changing technology could soon be able to provide answers. This essay argues that artificial intelligence (AI) may help alleviate a shortage of human resources while also posing important ethical problems. While AI shows promising results in enhancing diagnoses, it is unlikely to address the healthcare industry's human resources challenge immediately. There is a better likelihood of enhancing physicians' working circumstances, which could eventually lead to better care for patients as a whole. If technology can eventually replace doctors and nurses, it might usher in a new era of trust between patients and their healthcare providers.

16. **Leong, C. (2018)** Newer technologies are entering the market to assist human resource managers in automating even more administrative tasks, such as keeping tabs on applications, sorting through resumes, sending out automated emails and reminders, scheduling interviews, updating a candidate's status as they progress through the hiring process, extending job offers, closing the role, and sending out thank you notes. In the not-too-distant future, businesses will be able to utilize AI technology for hiring purposes by analyzing collected data. To begin incorporating this process, Fare portal created the "CV Scorer," a cutting-edge technology that evaluates a candidate's resume to the essential material of a job advertisement, such as desired abilities or experience. To save time reviewing applications, HR specialists like myself can now go straight to contacting the top-scoring individuals.

17. **Guenole, N., &Feinzig, S. (2018).** IBM’s HR division was one of the first to use artificial intelligence (AI) technology and this means it has a lot of insights and

learnings to share to assist others get started. The IBM Smarter Workforce Institute has compiled a paper summarizing the insights gained from conducting in-depth interviews with IBM's top human resources executives about the company's implementation of artificial intelligence (AI) in the HR department. Interviews with high-level HR professionals showed that AI's usefulness in the field stems from its ability to: address business difficulties; recruit and train fresh talent; enhance the employee experience; assist sound decision-making with data; and stretch HR dollars further. IBM's human resources team has found that AI is useful for recruiting and hiring new employees as well as for training, salary and benefits administration, and employee development and counseling. Case studies covering the whole spectrum of the employee experience are included in this report. In each section, the authors highlight some of IBM's successes after using AI. The authors also discuss more theoretical concerns like fairness and the societal impacts of AI on occupations, in addition to more concrete matters like how to get started, the skills required, and the difficulties at hand.

18. **Jia, Q., Guo, Y., Li, R., Li, Y., & Chen, Y. (2018, June)** The purpose of this research was to develop a theoretical structure for the use of AI in HRM (HRM). Human resource management (HRM) is a field that combines the theory of HRM's six basic dimensions (human resource strategy and planning, recruitment, training and development process, performance management, salary evaluation, and the employee relationship management) with their potential corresponding AI technology applications. Case studies analyzing leap.ai's recruitment process and Baidu's online training expand on previous research into AI's potential in these areas. Finally, extensions to the study's practical implications and potential future directions are provided. This AIHRM conceptual model offers advice and guidelines for advancing AI in corporate HR operations. Based on the six HRM dimensions and the current state of AI technology, this research provides a conceptual AI framework for HRM. Human resource strategy and planning, when combined with data mining and knowledge discovery, can produce an intelligent decision support system; the interview process, when combined with face recognition and natural language processing technologies, produces an automated interview system; intelligent robots and visual scanning technologies can aid people in teaching and learning; the performance management process, when combined with analytics, can produce an automated evaluation of an employee's work. The incorporation of robots and voice interface technology into a

corporate advising system will allow for improved employee relationship management. Case studies on the hiring practices of leap.ai and Baidu's e-learning platform delve deeper into the AI-enhanced recruitment and education spheres, respectively. Finally, extensions to the study's practical implications and potential future directions are provided. The goal of this conceptual model is to guide the advancement of artificial intelligence in corporate human resource management by offering suggestions and directions.

19. **Strohmeier, S., & Piazza, F. (2015)** Computational Intelligence Techniques are a subset of AI techniques that have been used in HRM for some time. Since their inception, a wide variety of recommendations for AI and CI applications in HRM have accumulated. While these kind of contributions are helpful for gaining insight into specific areas of application, they don't provide a comprehensive picture of the full potential. Therefore, this chapter provides an introductory look at the broad potential of AI methods in HR administration. In order to do this, we provide a brief introduction to the task-technology fit methodology and its application to the fundamental functionality of Artificial Intelligence Techniques and the central requirements of Human Resource Management. Six different use cases are examined, including turnover prediction using artificial neural networks, candidate search utilizing knowledge-based search engines, staff rostering utilizing genetic algorithms, HR sentiment analysis utilizing text mining, resume data acquisition utilizing information extraction, and employee self-service utilizing interactive voice response, all of which point to the potential of AI in HRM.

**(ii) National studies**

1. **Dutta, B., & A. (2021)** Human Resources (HR) is an integral aspect of any organization because of the profound impact it has on the lives of the people who work there. For employees to be effective and productive, the workplace must foster open lines of communication and a positive atmosphere. Human resources is responsible for creating an environment where all workers feel respected and valued, where they can express their ideas and skills without fear of reprisal, and where they can collaborate and problem-solve with colleagues and clients. The human resources department has benefited greatly from artificial intelligence, one of the most cutting-edge and rapidly developing technologies of the modern day. The majority of low-value HR chores can

be automated and completed by AI, freeing up more time and resources to focus on the strategic scope of work. Artificial intelligence's ability to rapidly and effectively analyse large volumes of data has the potential to transform many facets of the employee experience, from hiring to talent management.

2. **ISME Report. (2020)** AI is a pattern-recognition technique that finds complementary resources. Machine learning is the study and implementation of algorithms to enable computers to do activities often requiring human intellect, such as visual perception, speech recognition, decision making, and language translation. In addition, it can improve by studying its past errors. Human resource information systems, human resource planning, and human resource analytics are all on the rise, and artificial intelligence (AI) plays a crucial part in the current scenario of business - forecasting. The use of AI is simplifying procedures and saving time. Human resource information systems, human resource planning, and human resource analytics are all on the rise, and artificial intelligence (AI) is playing an increasingly significant part in the development of future company plans. In many ways, AI is simplifying formerly complex procedures. There is a clearer picture of the interconnections between occupations, competencies, and individuals thanks to the use of artificial intelligence. AI Facilitates hiring, which is crucial in the business process outsourcing (BPO) sector, where finding qualified candidates is essential to success. Many BPOs focus on mass recruitment, an area where AI can be of great assistance.

3. .**Khatri, S., Pandey, D. K., Penkar, D., &Ramani, J. (2020)** One of the most cutting-edge innovations of our modern day is a form of artificial intelligence called deep learning (AI). Artificial intelligence (AI) is a cutting-edge technology that was created to promote economic growth, high productivity, and the liberation of humans from mundane, repetitive work. Artificial intelligence relies on large datasets and a collection of algorithms to "think" and "feel" and "see" and "hear" and "feel" and "do" in place of a human. The term "artificial intelligence" (AI) has become ubiquitous, and discussions on this topic may be overheard virtually anywhere. However, like with any emerging technology, AI has both advantages and disadvantages. The difficulty lies in making effective use of it, putting it into practice, and dealing with the fallout on human resources if one hopes to thrive in today's cutthroat business environment. The Fourth Industrial Revolution cannot exist without the incorporation of AI. Every revolution

necessitates a radical shift from the status quo. All of the moving parts of a new piece of technology, from the initial investment to the conclusion with respect to an employee's openness to learning and embracing it, are fascinating until the dust settles. How ready are HR departments to embrace and implement this game-changing technology? When it comes to artificial intelligence, how prepared are businesses? When thinking about HRM in its entirety, the interplay between these two questions is essential. One positive indicator of AI's potential to boost technical employment is the fact that it necessitates highly specialized technical skills for development and operation. However, this necessity presents a significant obstacle to the upgrading of skills, the employability of middle management, older personnel, and the organization's overall human resources

4. **Premnath, S. N., &Arun, A. (2020)** This article examines the potential and threats facing human resource management as a result of the increasing prevalence of AI-based technologies in businesses, with a particular emphasis on the intersection of the organizations' technical and nontechnical assets. The fast development of AI over the past few years has made it an essential resource for businesses around the world as they forge ahead into the smart future by integrating AI into their operations. However, Indian businesses have been sluggish to adopt new technology, and this reluctance has been especially noticeable in the HR department. This study is exploratory in nature and will use the information gathered from interviews to determine the many applications of AI in HR as well as the challenges inherent in its deployment and the advantages it offers.

5. **Saha, S., Kankekar, T., & Jain, R. (2019)** Understanding the perspectives of Human Resource Management specialists in a variety of settings is made easier with the aid of artificial intelligence (AI). As a result, companies have had to rethink how they structure their workforces. It is suggested that administrations working in an uncertain environment would find the applications of modern AI to be an essential strategy. To get things done these days, administration systems are increasingly reliant on Artificial Intelligence technologies. The implementation of AI has significantly changed the means through which goals are achieved. There is no doubt that AI technology has completely revolutionized the human resources field, creating a more comprehensive and effective approach to carrying out the many HR duties. The idea that Artificial

Intelligence (AI) will eradicate the need for human involvement in business processes has gained widespread acceptance. Modern technology may be a gift to businesses rather than a burden if it is implemented in a consistent and strategic manner. Workforce alliances between employees and cutting-edge technologies can be effectively generated by businesses if proper attention is paid to recruiting, selection, training, and development. The key to success in the face of mounting challenges is to continually expand and refine one's skill set.

6. **Nishad, N. U., &Gurav, M. D. (2019)** A company's human resources are an absolute necessity if they want to succeed in today's economy. The phrase "artificial intelligence" (AI) refers to the practice of programming computers to perform tasks normally performed by human beings. These robots have been designed to simulate human behavior and thought processes. Advances in areas such as automation, enhanced intelligence, robots, and Artificial Intelligence are causing Human Resource Management to diverge from its traditional administrative duties, such as recruiting and selection. An AI is a machine or a development program. It's a device that boosts efficiency by utilizing human cognition in different contexts. Human resources experts find that using AI makes their jobs easier. It effects in a favorable way like hiring and orientation process. The primary goal is to examine the effects of AI on HRM processes and to investigate the advantages of AI in the field. This study makes use of secondary sources to provide a descriptive analysis of the topic.

7. **Yawalkar, M. V. V. (2019)** It is critical for businesses to acquire precise data and analyze that data for the purpose of expanding and running more efficiently in today's global market. Artificial intelligence allows businesses to get their tasks done more quickly and effectively. Human resources, finance, marketing, and manufacturing are just a few of the areas where AI is making inroads. Incorporating AI into an organization's infrastructure can improve both its current performance and its ability to carry out its regular tasks. As the pace of business increased, harsh managers saw the value of AI in the workplace. The paper's focus is purely descriptive. The data used in this study came from secondary sources such as scholarly articles, websites, HR blogs, survey reports, etc. The study set out to do two main things: look at how AI is being used in HR, and identify the problems that arise there. According to the study's findings, artificial intelligence plays an increasingly important role in HR operations, allowing

robotics firms to take care of tasks like hiring and screening candidates, data analysis and collection, workload reduction, and productivity enhancement.

8. **Verma, R., &Bandi, S. (2019)** Adapting to the new IT landscape has necessitated the employment of AI in HR, and that topic is discussed here. All businesses in the IT industry are adopting AI to make their employees more productive. The effort kicks out with the automation of HR procedures starting with the hiring process and ending with the annual performance review. Executives and managers in charge of human resources (HR) at most companies are confident that incorporating AI into HR processes like onboarding and benefits management will boost satisfaction among workers. As can be seen from the previous examples, AI is already being used in the fields of both recruitment and predictive analysis. Humans are observing AI gradually replacing their roles in recruitment processes. In the realm of human resources, AI is expected to be useful through activities such as resume screening, the dispatching of preprogrammed messages, and the facilitation of reference checks. Finally, machines have been shown to outperform HR departments in terms of lowering turnover and increasing the likelihood of a company's top performers staying with the company. While AI has been shown to be effective at doing basic human resources tasks, it is still unclear how far it can be advanced to handle more complicated HR problems.

9. **Vaishnavi; Amritaa, K S; Achwani, Samay.Gavesana, (2018)** Machine learning, often known as artificial intelligence, is a type of software or computer-based robot programmed to mimic human thought. The development of AI in the current era is still in its infancy, and it has not yet been widely accepted by the public. Human resource management with the help of AI has come a long way in the past ten years, according to published works. Human resource planning and management are two areas where businesses can see significant improvements thanks to the introduction of AI. The role of AI in HR may seem different across organizations and industries. However, there are some constants, including those related to hiring, instruction, analysis of performance, and assessment of businesses. Researching how people in the workforce feel about AI is the first step. In what ways it is viewed and used by workers. Also, to evaluate how it affects their problem-solving abilities. The second goal is to compile an inventory of organizations that have begun using AI for HR functions. How advances in AI have eased the workload of workers throughout the years. The third goal

is to determine the potential applications of AI in HRM. The potential of AI in HRM and what more can be done with it. Last but not least, we intend to highlight the significance of AI in HRM. Human resources are needed to produce fresh ideas because artificial intelligence is only designed to carry out the tasks it is given. In the absence of emotions, AI is unable to empathize with humans or grasp the gravity of their predicament. In times of crisis, it takes human resources to reach out to real people and help them make sense of the situation.

10. **Kaur, Mandeep; A. G., Rekha; Vikas, Sona,(2021)** The introduction of AIT has revolutionized the human resource management industry. This study suggests a holistic strategy for thinking about the many variables that influence the uptake of AI in human resources. The research makes use of a framework derived from the Technology - Organization-Environment model and supplemented by the Technology-Adoption-Model. Key insights to help academics improve absorption and go forward with research on the organizational viewpoint of the adoption of AIT in HRM are provided by the suggested model. The decision-makers and HR experts in your organization are connected to the model in the right way. This work lays the groundwork for future empirical study on the factors influencing AIT's uptake

11. **Ahmed, O. (2018).** Sophia, a highly advanced AI robot, participated on a panel at the United Nations convention on sustainable development, where she was asked questions about the industry's increasing adoption of AI. Basic recruiting tools, intermediate apps, and cutting-edge AI solutions are all being developed by the AI community and made available to HR departments. The combination or use of these methods is helping HR better gauge an applicant's potential for success on the job. The HR industry is undergoing radical change due to the advent of AI. This research aims to shed light on the latest developments and consequences of AI as they pertain to human resources. Data from secondary sources - Artificial intelligence is continuing to shake up the HR IT market. Human resources departments must strike a balance between adopting new forms of cognitive technology and maintaining open communication with employees. In order to avoid unintentionally introducing bias into their initiatives, HR leaders and practitioners must gain a thorough comprehension of the decision-making process. This openness is crucial for gaining staff confidence in the new technology.

12. **Maduravoyal, C. (2018)** Human resource managers often worry that A.I. systems will eventually replace them. However, these technologies actually make their jobs easier by automating mundane but necessary tasks and offering useful insights free of cognitive biases. This paper explores the potential of AI to revolutionize and bolster HR operations like recruitment, training, talent management, and retention by providing real-world examples, providing insights into the intersection of AI and HRM in a variety of case studies, and concluding with a discussion of the long-term effects on the HR labor force.

13. .**Sivathanu, B., & Pillai, R. (2018)** For the efficient management of the next generation of workers, a new concept known as Smart Human Resources 4.0 (SHR 4.0) is emerging as part of the broader 4th Industrial Revolution. SHR 4.0 is characterized by innovations in digital technologies like the Internet of Things (IoT), Big Data Analytics (BDA), and artificial intelligence (AI), as well as fast data networks like 4G and 5G. To meet the difficulties of the Industry 4.0 revolution, a company needs an effective SHR 4.0 strategy. Most HR procedures will be automated thanks to new technologies like Big Data and AI, allowing HR departments to become more productive while simultaneously reducing overhead costs. Intelligent mobile apps, together with augmented and virtual reality, will entice the next generation of workers to join the company, and they will make it easier for teams to collaborate remotely. The most effective rollout of SHR 4.0, which would give HR a more strategic role in the organization's expansion, would necessitate adjustments to both the organizational structure and the leadership style now in place

**(B) Empirical studies**

**(i) International studies**

1. **Mikalef, P., and Gupta, M. (2021)** Many have hailed artificial intelligence (AI) as the next source of corporate value. Based on the resource-based theory of the firm and the latest research on AI in the business setting, this investigation: (1) defines AI capability; (2) creates an instrument to measure AI capability in businesses; and (3) investigates the connection between AI capability and innovation and productivity. A total of 143 responses were received after an initial invitation and three reminders, each sent out one week apart. The majority of respondents had titles like "chief information officer," "chief technology officer," "director of IT," "IT manager," and "chief digital officer,"

and they came from a wide variety of industries (e.g., financial services, manufacturing, high-tech enterprises). Due to the fact that we have information matching 46 indications, Business excitement about AI is on the rise, but reports and actual studies from early adopters show that many companies are having trouble getting a return on their AI investments. When put in context with the abundance of papers extolling the virtues of applying AI to fundamental company functions, the results are stunning. Brynjolfsson et al. nicely express this tension between expectations and reality when they suggest that much of the attention AI has received comes from vendors and popular press, which gives rise to false hope. Artificial intelligence (AI) is often presented as a silver bullet that will solve all of a company's problems, leading to inflated expectations. There is also a lack of theoretical grounding to integrate findings, as numerous reports on the business benefit of AI have been reported by technology and business consultants.

2. **Nankervis, J. Connell, R. Cameron, A. Montague, and V. Prikshat (2021)** The Fourth Industrial Revolution (FIR) is still in its infancy, but it will incorporate a wide spectrum of AI, robots, and machine learning technologies that will significantly alter the way many of us work and interact with one another. This technologically-driven shift brings with it a host of difficulties and possibilities, and it stands to reason that HR experts will be at the vanguard of this movement. Unfortunately, we don't yet have a good idea of how well-equipped human resources experts in Australia are to get their companies ready for the workforce of the future. In light of that, it can be said that this paper contributes to bridging that gap. More specifically, the goal of the research published here was to investigate how well-prepared Australian HRM professionals are for the effects of the FIR on their organizations, workplaces, employees' employment and abilities, and their own roles and responsibilities in the field. Using a sequential mixed methods research methodology, the study first gathered qualitative data through focus groups (n = 5), and then used that data to inform a quantitative online survey of 150 senior HR professionals. While the majority of respondents thought that FIR (Fourth Industrial Revolution) technologies could be beneficial for their businesses in terms of boosting performance, increasing productivity, and streamlining processes for workers, many said they had no plans to adopt such technologies in the near future. There was also some evidence of weak acceptance for the idea that FIR technology could help improve HR operations and productivity. The majority of respondents were

also unimpressed with the present FIR initiatives and policies of the Australian government.

3. **Y. Qamar, R. K. Agrawal, T. A. Samad, and C. J. C. Jabbour (2021).** To capture the present state of the art and to provide a unique research agenda for future studies, this article conducts a thorough evaluation of the academic literature on applications of AI in the HRM domain. Fifty-nine articles were chosen from the literature after a thorough search and evaluation of quality. This study uses content analysis and structural idea analysis to clarify the breadth and depth of AI application in HRM functions, and then it synthesizes a concept map showing how the use of various AI methodologies assists HRM decision-making. An exhaustive literature survey of the field of AI in HRM is provided. An organized taxonomy of AI's uses in HRM is presented in the form of a concept map. To aid in the advancement of the AI-HRM field, a novel research agenda is proposed, which includes pertinent research issues. In addition, a preliminary framework that serves as a guide toward the development of ethical AI is provided as an example.

4. **Chatterjee, S., R. Chaudhuri, D. Vrontis, and E. Siachou (2021)** This research aims to use the privacy calculus method to investigate the drawbacks of HR analytics software. In order to create a theoretical model, we drew on previous research and the concept of privacy calculus. Use this framework to assess the pros and cons of HR analytics software. With the help of PLS-SEM, a technique for validating theoretical models, 315 people from various organizations were polled. There are several ways in which both workers and businesses can profit from HR analytics. Nonetheless, confidential employee information could be exposed if it falls into the wrong hands. In addition, unauthorized usage of these apps raises security problems. The risk is raised when personnel are monitored without their knowledge or consent. According to the results of the research, HR analytics would benefit from proper oversight. Implications and restrictions of the research - This study relied on cross-sectional data from a single geographic area. More complete findings may have been obtained from a longitudinal study. In order to increase the model's ability to explain phenomena, this research takes into account additional boundary conditions as one of five predictors. The proposed model could also benefit from the addition of data from other nations. The suggested model has important practical implications for human resource professionals and other

organizational policymakers. The proper rules are crucial for HR analytics to work. The research also draws attention to the many concerns raised by HR analytics software with regard to the privacy and security of their employees. Leadership endorsement of HR analytics is also discussed in the study as a factor in its successful implementation. In terms of innovation and value, only a small number of studies have investigated the problems with HR analytics and the effects it has. First of its kind, the suggested theoretical approach uses privacy calculus theory to account for the drawbacks of HR analytics. The investigation is innovative from this point of view.

5. **Mohammad I. A. (2020)** Artificial intelligence's (AI) early deployment in the public sector is being evaluated in conflicting ways. However, there is scant evidence to back up the growing body of speculation regarding both the risks and benefits associated with this technology. The purpose of this research is to provide a map of the barriers to implementing AI in the public sector, as seen by influential players in the field. We use the framing theory to examine a real-world instance of AI system adoption. IBM Watson was used in China's public healthcare system to create a diagram depicting the perspectives of government policymakers, hospital administrators/doctors, and IT company executives on the obstacles to implementing AI in the public sector. The results reveal that many actors have varied and oftentimes competing perspectives on the problems. Providing an empirical foundation for claims of AI problems in the public sector, the study's researchers also contributed to practice by developing four sets of guidelines for the regulation of AI adoption in the public sector.

6. **R. A. A. Younis, Dr. H. M. Adel (2020)** The purpose of this study is to examine the connection between AIS (Artificial Intelligence systems, Computerised HRM, and the quality of knowledge sharing (KSQ). This article assesses the innovative work behavior (IIWB) and effective performance (OEP) of international organizations using AI-powered business practices in Egypt, both at the individual and organizational levels. After examining the existing literature, the authors presented a multilevel model and put it through its paces using a mixed-methods approach. In addition to 25 in-depth interviews, an AI-based focus group, and an international forum, we surveyed 168 AI specialists working in the IT departments of 20 international AI-powered organizations in Egypt to compile our data. "Using a PLS-SEM strategy, we found that AIS had a favorable and statistically significant effect on KSQ and CHRM. The KSQ and IIWB

benefit greatly from the incorporation of CHRM. KSQ has a notable and beneficial effect on both OEP and IIWB. It was found that although there was not support for a good direct AIS-OEP link, there was support for a positive indirect relationship through KSQ. This study is the first empirical examination of the connection between AIS, CHRM, and KSQ and the impact on IIWB and OEP of AI-powered enterprises across seven industries in a developing economy. The authors used a multidisciplinary approach conceptually, reviewing research on the use of AIS across a variety of business processes (production, operations and supply-chain management, human resources management, strategic management and marketing). These empirical findings and the examples of best AI-enhanced practices gathered from the literature are useful for strategic leaders and managers across a variety of functional domains."

7. **Ye, B. H.; Li, J. J.; Bonn, M. A. (2019).** There has been much discussion about the potential negative implications of the increasing prevalence of AI- and robotics-powered equipment on human employment in the hospitality business. However, published empirical studies that give persuasive evidence addressing what hospitality employees' awareness of such potential repercussions could be like in the context of their turnover intention and future employment chances is yet to appear in academic publications. This research aimed to shed light on the topic empirically by analyzing a representative sample (n=468) of full-time employees from five-star hotels in Guangzhou, China. Knowledge of AI and robotics was found to correlate with a decrease in workers' propensity to quit. Perceived organizational support and a competitive psychological climate affected this association. Future research directions and implications are discussed.

8. **Buzko, I.; Dyachenko, Y.; Petrova, M.; Nenkov, N.; Tuleninova, D.; Koeva, K. (2016).** Computing, especially AI technology, is an integral aspect of present-day management. These technologies of Artificial Intelligence attempt to mimic the workings of the human brain. The development of self-awareness and self-improvement are prerequisites to the emergence of general artificial intelligence. But we need Artificial Intelligence that is applied to specific challenges, such as those in management, in order to find a solution. Human resource development's biggest challenge is measuring the return on investment of training programs through better output from staff members who participated in the programs. To characterize the staff

training using the case study of ALC "Severodonetsk manufacturer of chemical non-standard equipment" using the cognitive system IBM Watson Analytics, and then to ascertain the impact on company performance (labor expenses, labor costs per person, income, profit, profit per person). We discovered that the company's net income from the previous year was the most significant factor in determining the total amount of training provided. Taking this into account, one could state that the enterprise's past period's profits are used to determine how much money would be allocated toward Human Resource Development.

**(ii) National Studies**

1. **Mishra and Venkatesan (2021)** The research team behind this study want to learn how workers feel about HRM departments using blockchain, a distributed ledger database technology. The current research seeks to gain insight into the perspectives of HR and non-HR personnel with regards to their perceptions of the HRM landscape at their respective firms, their familiarity with blockchain technology, and their thoughts on the technology's potential utility in HRM. Human resources (HR) and non-HR professionals from a wide range of companies made up the 158 people surveyed. Simple frequencies, loglinear analysis, and the chi-square test for homogeneity were employed to examine the data. It was found that, in all situations involving blockchain and human resource management, the perspectives of HR and non-HR staff were the same. Employee perceptions of the benefits, organizational hurdles, and potential applications of blockchain technology in human resource management were also analyzed. Implications/limitations of the study Employer decision-makers who are considering implementing blockchain-based HRM software as part of the Industry 4.0 revolution will gain valuable insight from this study into employee attitudes toward the potential benefits of this technology and their willingness to embrace organizational change. Importance/importance This research would be the first to try to quantify the potential of blockchain technology to improve human resource management in Indian businesses.

2. **Pillai and B. Sivathanu (2020).** From initial manpower planning to final exit interviews, HR professionals are increasingly relying on AI technology to handle a wide range of duties within the HR field. The application of AI in HR processes has become commonplace. This study looks into how artificial intelligence is being used in the HR

department to find and recruit top candidates. To investigate the use of AI in talent acquisition, this paper presents a model based on the Technology-Organization-Environment (TOE) and Task-Technology-Fit (TTF) frameworks. The study, which used a structured questionnaire, was administered to a total of 562. PLS-SEM was used to analyze the data. According to the findings, AI technology adoption in the area of talent acquisition is influenced favorably by factors like cost-effectiveness, relative advantage, top-level management support, HR readiness, competitive pressure, and help from AI vendors. There is a chilling effect on the spread of AI due to concerns over data security and privacy. It was discovered that the task technology fit of AI technology for talent acquisition is influenced by characteristics of both the task and the technology being used. The practical application of AI technology for talent acquisition is impacted by adoption and task technology fit of AI technology. As was discovered, the link between acceptance and actual utilization of AI technology for talent acquisition is negatively moderated by a firm adherence to traditional talent acquisition methods. Predictors of actual acceptance and use of AI technology for talent acquisition were revealed by the proposed model, which was empirically validated.

3. **Malik, P. Budhwar, and N. R. Srikanth (2020)** This chapter begins by examining the foundations of strategic human resource management (SHRM), and then moves on to discuss what researchers and practitioners of SHRM must do in the age of the sharing economy and artificial intelligence (AI) to ensure that their efforts lead to improved organizational and personal performance. In this chapter, researchers look at how platforms like Airbnb, Uber, Ola, Zomato, and Swiggy in India, to name a few, are using technology platforms and apps, including the specific use of artificial intelligence (AI), to implement new ways of managing non-standard employees in the context of the Fourth Industrial Revolution (4IR). The authors stress the importance of HR professionals acquiring new knowledge and competencies in order to successfully navigate the brave new world of AI-based technological disruption.

4. **R. Verma & S. Bandi (2020, January)** Artificial intelligence is a field of study and development that gives computers the ability to learn and do tasks that were traditionally reserved for humans. In just ten years, artificial intelligence has advanced by leaps and bounds. Companies in the information technology industry can benefit from using AI to aid in making more informed choices in less time. Human resource

management is just as much a field where this holds true. Human resources professionals have begun using AI tools to speed up the hiring process and boost the quality of their candidate pool. There are huge possibilities for improving HR processes thanks to AI technology. Further elaboration on the veracity and reach of AI in the HR field is provided in this study. The study relies on secondary data gathered from a variety of sources, including published studies, books, websites, HR blogs, and survey results from IT firms and academic institutions. The study used a sample size drawn from top IT firms such as Deloitte, EY, IBM, Accenture, Infosys, G2, KPMG, and a few research organizations. Therefore, it is crucial to investigate these implications for organizational efficiency, as shown above. It's important to think about whether or not you really need to implement AI. In the realm of human resources, AI should be seen as a tool to add value to our knowledge, and not as a problem solver or function to make tough decisions. It will take some time for difficulties to be addressed and advantages to be maximized, as is typical of new technologies. It's also concluded that AI needs human oversight to evaluate its one-of-a-kind features and decisions. When integrating AI, it is crucial to prioritize employee needs and potential consequences.

5. **E. Premnath and A. A. Chully (2020)** The rapid development of AI in recent years has made it an indispensable resource for businesses around the world as they forge ahead into the smart future by integrating AI into a wide range of operational areas. However, Indian businesses have been sluggish to adopt new technology, and this reluctance has been especially noticeable in the HR department. This article's primary goal is to examine the use of AI in HRM in India, including its potential benefits, integration difficulties, and practical constraints. Multiple types of interviews were used to acquire data from several different types of senior-level HR experts for the study. Purposeful sampling was used for this research. This study is exploratory in nature and will use the information gathered from interviews to determine the many applications of AI in HR as well as the challenges inherent in its deployment and the advantages it offers. Research showed that fewer Indian corporations than those in other countries have implemented AI within their human resources departments. Other human resource activities, such as employee onboarding, employee engagement, employee compensation and benefits, and employee rewards and recognition, are beginning to make use of AI, but their adoption remains low in India. The sectors of human resources (HR) most heavily impacted by AI in India are "Recruitment" and "Training &

development." The research also revealed that Indian businesses viewed the use of AI in their human resources departments as less widespread than in other areas of the business like marketing, finance, production, etc. This was explained as a result of a failure to educate HR professionals on the advantages and prospects presented by AI for HR, which in turn has led to mental roadblocks that prevent people from imagining how AI could effect positive change within the HR function and support its role as a strategic partner to the business. The study also highlighted other topics, such as the difficulties HR professionals may have when combining AI and HR, as well as solutions to those difficulties, the current limitations of the technology, and, most crucially, the advantages of employing such a technology in the HR role. The purpose of this research was to learn more about how AI is used in HR in the Indian context so that we can better prepare future HR professionals to deal with the challenges of a more technologically advanced HR field. According to the results of this qualitative study, then, AI and HR are no longer contradictory terms. Although India has lagged behind other countries in the integration of AI and HR, the opportunity and tools to catch up are there; all that's needed is to raise awareness of the game-changing potential of AI for HRM. Research has demonstrated that the combination of AI with HR is generally beneficial, and that HR professionals may use this to their advantage by becoming more effective strategic partners inside their organizations.

6. **Jaiswal, Arun, & Varma (2021)** Intelligent machines, as imagined by AI's backers, would handle mundane chores currently handled by humans, freeing them up to focus on more imaginative activities. Despite widespread concern about job losses, organizational think tanks are in favor of the complementary union of human and computer skills. Researchers argue that people must acquire new skills due to the widespread adoption of artificial intelligence (AI), citing the dynamic skill, neo-human capital, and AI job replacement hypotheses. Twenty seasoned IT professionals working for MNCs in India were questioned to compile this report on the most important skills for upskilling personnel. Using Gioia's approach to qualitative research, our team identified five must-have abilities for modern workers: data analysis, digital, complex cognition, decision making, and continuous learning.

7. **Singh, S. V., Bhardwaj, G., and Kumar, V. (2020, January)** Multiple disciplines have conducted extensive research on the phenomenon of AI. The evolution of the

information technology landscape is the inspiration for this article, which focuses on the implications of AI for human resource management. Virtually every industry today is incorporating AI into its operational areas in an effort to boost worker productivity. Human resources (HR) professionals can use AI from the time of hiring to the time of employee evaluation. The current study's objective is to investigate whether the innovativeness and usability of HR operations moderate the connection between AI and HR activities in the IT industry in the Delhi/NCR region. The participants were 115 human resources (HR) experts working in the IT industry in the Delhi/National Capital Region. In this study, we employed multiple regression to verify our hypothesized positive association between HR function performance and AI adoption rates in the workplace. On the other hand, AI has a strong correlation with inventiveness and usability, suggesting that AI influences HR in the ways of innovation and convenience. With its new name, Industry 4.0, Artificial Intelligence (AI) is poised to usher in a revolutionary new era in industry, and this research will shed light on its many facets.

8. **Chitranshi, J.; Adepu, K.; Agarwal, K.; Nagendra, A.; Islam, T. (2020)** The purpose of this research was to investigate how IT human resource management professionals feel about using AI in their field. Data were gathered using a process of convenience sampling. Research sample was comprised of HR executives and managers from Indian IT businesses in order to get their informed take on where AI stands in HR at the moment. Information from 126 participants has been gathered for this analysis. The information was analyzed using ANOVA and a T-test for independent samples. According to the findings, companies who are already utilizing AI or have experience with it in HRM have a more favorable outlook on the use of AI in this field. Those who think AI will revolutionize human resources also tend to have a more favorable outlook on the technology. The results of the study have ramifications for businesses who have already deployed or are considering implementing AI technology to enhance their human resources processes.

9. **Nawaz, N. (2019)** The research focused on the use of AI inference in HRM, particularly during the hiring process. This research aims to understand how certain software firms in India are using AI to replace human engagement in the hiring process. The study employed convenience sampling, coefficients beta (), cronbach's alpha, t test, and descriptive statistics to ensure reliable results, and the questionnaire layout was built

for a representative sample of 138 HR professionals across a variety of roles. An AI's ability to effectively replace humans in the hiring process was judged to be a net benefit in the study. Meanwhile, it is hoped that the research will aid the organizations under study in developing recruitment strategies and policy interferences that will help them attract and hire the best possible candidates as they strive to maintain a competitive edge in their industry and create a sustainable work environment. In a recent survey, a whopping 92% of HR experts agreed that technology should be used to improve recruitment outcomes. Many people believe that the first part of the recruitment process in which AI is involved is the most effective; others believe that AI should handle the entire process; while a sizable group of experts believe that the interview process and salary negotiations are best left to humans. While human recruiters are adept at maintaining human relations, trust, confidence, and the ability to ask subjective questions, many experts agree that automation of the recruitment process is the best option in most cases.

**Table 2.1- Overview of Literature studies on Innovative Practices in Human Resource Management**

| Theoretical Literature | | Empirical Literature | |
|---|---|---|---|
| International | National | International | National |
| 19 | 13 | 8 | 9 |

### 2.3.2 Literature review on impact of IHRM on Employee Engagement and Employee Productivity

1. **Edralin, D. M. (2008)** The purpose of this article is to examine, among a sample of the Philippines' Top 1000 organizations, the HRM strategies that have the greatest impact on employee involvement in their work and loyalty to their organization. The research shows that the organizations in question widely adopt new approaches to HRM activities, which boosts employee involvement in their jobs and loyalty to the company. Human resource management activities such as communication with workers, providing opportunities for professional growth, and hiring qualified workers are found to have a major impact on how invested workers are in their jobs. On the other side, HRM tasks including employee relations, hiring, evaluating, and compensating workers

are major determinants of loyalty to a firm. The strength of relationships between managers and workers was found to be the single most important factor in determining which workers would become invested in their jobs and loyal to their companies.

2. **T. Agarwala (2003)** Human resources (HR) are now a crucial factor in any successful firm. Since this is the case, it stands to reason that businesses stand to gain a great deal from careful management of their people resources. The need for survival has shifted the focus of businesses from reactive problem-solving to proactive problem-diagnosis and the adoption of cutting-edge HR strategies. This study aimed to examine the connection between organizational dedication and three aspects of innovative human resource practices (IHRPs): IHRP adoption rate, IHRP significance for goal attainment, and IHRP satisfaction (OC). The amount to which employees felt their companies were adopting new methods of managing their human resources was found to be the strongest indicator of their dedication to their companies in a series of multiple regression studies.

3. **Al Adresi & M. R. Darun (2017)** Human resource management (HRM) has been heavily involved, making it difficult for the company to deal with external disturbances such as war and shifts in government policy. Because of this, HRM plays a key role in ensuring the health of the business and its employees. The primary goal of this study is to research the connection between strategic human resource management (SHRM) techniques and employee dedication to the company (OC). Research questions were prepared after taking into account seven essential SHRM practices and OC, and then those questions were put to the test using information from 52 oil and gas firms in Libya. According to the results of the structural equation modeling analysis, it has been found that providing the greatest possible SHRM increases employee loyalty. The most important practices of SHRM that have been found to affect employee loyalty include internal career ladders, on-the-job training, and remuneration for performance. It was also revealed that workers care more about factors like employment stability and a stimulating workplace culture. If given the proper resources, employees may help advance OC.

4. **Smith, C. (2018)** Based on the author's time at Genesys, this research presents actionable tips on how a company may find, hire, keep, and train top talent to boost customer service. In order to show the difficulties firms experience in ensuring

employee engagement with their own business, this study examines numerous research findings, including Coleman Parks. This is how I see it; I've done the legwork to learn why businesses are having trouble in different areas of employee engagement, and I can share that knowledge with you as we collaborate with major brands around the world to implement technological solutions.

5. **D. Dutta; S. K. Mishra; and D. Tyagi (2022)** The success of any business depends on the dedication of its staff. Scholars have pointed out the importance of employer-employee interaction in raising employee engagement. Human resource management solutions that make use of AI's communicative and interactive features can tailor their strategies to the unique needs of each employee. The widespread adoption of AI-based solutions across a wide range of HR operational procedures has improved the quality of work life for employees. On the other hand, the effects of HRM practices mediated by AI are still being explored in this field of study. This study examined how AI-enabled chatbots affect employee engagement based on data collected over the course of ten months from multiple sources by researchers working for a multinational corporation. Many studies have looked into the effect that chatbots have on engagement, and one of the pathways that has been studied is the trust climate. In addition, researchers have considered how AI-enabled chatbots might affect the outcomes of employees of different ages and levels of performance. Both the theoretical and practical implications of the study have been examined.

6. **Agarwal, M.; Jain, E.; Sharma, S. K.; Kumar, A. (2022)** Artificial intelligence (AI) is the foundation of the current digitization trend, and its use is rapidly spreading throughout businesses worldwide. This study synthesizes existing literature to investigate how the introduction of AI into the workplace influences employee engagement and subsequent organizational behavior. AI has been shown to have the potential to boost HR operations. It improves morale in the workplace and inspires employees to do their best, both of which boost productivity. However, if AI is implemented carelessly, it could undercut the immense potential it has for increasing organizational performance. In order to prevent artificial intelligence from being used as an instrument of control rather than one of developing trust and commitment in the workplace, it will be necessary to implement proper recruitment, training, and a culture of internal openness.

7. **Gaur, B. (2020, July)** Human resource analytics (HRA), machine learning (ML), and artificial intelligence (AI) are just a few of the technologies that have altered the workplace in the wake of the Fourth Industrial Revolution (4IR) (AI). Human Resources in the Fourth Industrial Revolution (HR 4.0) is a paradigm for influencing shifts in business people tactics that improve the quality of life at work. The ability of HR managers to motivate their staff to produce positive business outcomes has been hampered by the rise of the gig economy and the rise of the telecommuting workforce. To that end, this paper seeks to investigate how businesses are making use of technological resources to significantly alter HR and business leaders' engagement with human resources data. In order to examine how HR analytics affect employee engagement, employee confidence in performance appraisal, and employee experience, this research drew from both primary and secondary sources of information. To verify the hypothesis, 100 samples were taken. The findings showed that HR analytics had a favorable effect on both employee confidence in performance reviews and employee satisfaction. A framework for HR Analytics is proposed based on a review of the literature and an analysis of the data in order to raise the level of participation among the workforce. Organizations can use the findings of this research to improve employee engagement by analyzing employee data to learn more about their employees and how they interact with the company. Poor data management, a lack of analytical capabilities, and a lack of organizational adaptability explain why so few businesses have been able to successfully deploy Human Resource Analytics.

8. **Furinto, D. Tamara, S. Min, H. Purwoko, R. E. Sari, and S. Min (2020).** Employee engagement refers to the degree to which workers are enthusiastic about and invested in the success of their company. The purpose of this study is to determine if artificial intelligence (AI)-based technologies, tools, and software can assist management in identifying intangibles like employee engagement level and providing hints as to what variables drive it and how management may improve it. A qualitative methodology was used for this study. We conducted interviews with upper-level management and a random sample of workers to gauge employee satisfaction both before and after SML deployed their AI-based app. Comparison of six-month application results with interview results (Feb - July 2020). We looked at data from all 39 persons who work for SML. This study demonstrates that using AI-based software may greatly assist

management in both assessing the current engagement level of each employee and forecasting their future attitudes and behaviors using predictive indicators. This allows the organization to take preventative measures toward losing valuable staff. This study opens up novel chances and insights for business owners and managers to make use of technology to detect something that is inherently challenging because it calls for specialized training and expertise.

9. **Khandelwal, Kunal (2021)** Artificial intelligence (AI) is discussed in this article as a possible solution to the problem of disinterested applicants and workers at crucial points in the Human Resource Management process. The essay presents a point of view on how AI's strategic application might lead to a competitive advantage based on employee engagement, and the implications this has for businesses. This paper expands upon a survey of recently published literature on the topic of using AI to manage staff participation. Applying AI to the task of employee engagement is helping with things like tailoring messaging to each individual and resolving problems with things like hiring, induction, ongoing training, and evaluation of job performance. It is clear that coaching with the aid of AI is crucial to the growth of workers. The use of artificial intelligence (AI) for employee engagement has led to positive outcomes, such as a better work-life balance thanks to the automation of mundane and repetitive jobs. This study paves the way for future research into the development of artificial intelligence's application in boosting employee engagement. The findings of this study highlight the need for additional investigation into the use of AI in the workplace by utilizing both descriptive and causal research methods. Clients and creators of AI can agree that the potential of the technology to improve employee morale is too great to ignore. It is imperative that developers create AI applications that encourage increased participation from workers. This study explores the use of artificial intelligence (AI) to boost employee engagement and suggests new avenues for model creation and testing to further improve the efficiency of AI-based engagement tactics.

10. **D. M. Tyagi and D. Pandita (2022, October)** The pandemic sparked the need for a hybrid working paradigm, forcing businesses to demonstrate resilience in the face of constant change and provide superior outcomes through adaptation. The goal of this paper is to demonstrate how a synergy between AI and analytics may better engage employees in today's more diverse and flexible work environments. Primary data for

this study was gathered through an interview structure that allowed for the generation of testable hypotheses. Human resources managers provided the samples utilized in this study so researchers could learn how artificial intelligence (AI) tools and analytics have improved upon pre-pandemic methods of employee engagement. The study draws its focus particularly to the IT industry in Indian setting where cutting edge technology is altering the way HR will function. After conducting in-depth interviews and reviewing the relevant literature, this study offers useful suggestions based on its findings.

11. **T. Sattar, K. Ahmad, and S. M. Hassan (2015)** Human Resource (HR) practices are hypothesized to have an effect on employee satisfaction and productivity, and this research will try to disentangle that relationship by analyzing the mediating function of employee engagement. In total, 181 workers from Habib Bank, Faysal Bank, and Allied Bank in Multan City, Pakistan, contributed to this study. This study's findings suggest that investing in workers' education and agency yields greater returns in terms of improved productivity and job satisfaction than do financial incentives. Employee participation in organizational activities is inversely connected to the amount of money they get in rewards or incentives (P 0.01 for both). The findings validate the assumptions of Baron and Kenny (1986) for mediation analysis, suggesting that HR practices (training, rewards, and empowerment) are significantly (P 0.01) associated with employee engagement. The study's findings are based on the direct path approach and multiple regression, which were used to examine the effect of HR practices on the mediating variable (employee engagement), and the mediating variable on the two dependent variables (employee satisfaction and performance). Findings from this study corroborate the significance of the hypothesized relationships between HR practices and employee happiness and performance (P 0.01) and point to the mediating role of employee engagement in this relationship.

12. **Burnett, J. R., and Lisk, T. C. (2019)** Never before have businesses been able to so easily gauge their employees' productivity and efficiency. Top businesses have taken use of new technologies that monitor productivity, sales, customer happiness, work flows, quality, and interactions inside the workplace on a regular, and often real-time, basis, while others have been slower to adopt these tools and technologies. In addition, statistical modeling, machine learning technologies, and artificial intelligence applications have all made great strides in recent years, greatly improving our ability to

synthesize and interpret this data. When it comes to measuring and tracking employee engagement, however, most firms still use traditional survey approaches on a yearly (or longer) basis. While these methods have helped us gain a deeper understanding of the many facets and consequences of employee engagement, we need to reevaluate our approach to measuring engagement and consider how the same digital technologies might be used to boost output, loyalty, and job satisfaction. We offer a number of research topics to examine the current phenomenon of how technological developments have altered the methods used to gauge employee engagement and how HRM strategies are being implemented to boost it.

13. **P. Nagpal (2019)**, The use of AI, its profound impact on HR process and practices, and how AI increases employee engagement are all topics explored in this article. Artificial intelligence (AI) has the potential to greatly increase the efficiency with which smart companies are built, as well as the HR process for talent acquisition, onboarding, individualization learning, career management, improving employee engagement and retention. Keeping employees interested and invested in their work is critical for businesses in today's market. In the past, HR professionals could only rely on annual surveys to gauge staff morale and identify issue areas. They can now act swiftly and more precisely thanks to real-time data. The study is descriptive in nature and makes use of secondary data collected from the internet, scholarly journals, company reports, and weblogs.

14. **Wijayati, D. T.; Rahman, Z.; Rahman, M. F. W.; Arifah, I. D. C.; and Kautsar, A. (2022)** The purpose of this article is to investigate how service and banking industry workers view the influence of change leadership on the implementation of AI and its potential consequences on productivity and dedication on the job in the present climate of rapid transition. This work has employed a quantitative research technique, and data analysis uses an approach structural equation modeling (SEM) supported by program computer software AMOS 22.0. There were 357 participants in all, however only 254 were considered eligible for analysis. In this study, the respondent is an employee of enterprises active in the services and banking industry in the East Java, Indonesia region. Insights from this study show that the use of AI has a highly beneficial impact on productivity and satisfaction in the workplace. Change leadership positively moderates the influence of AI on workforce performance and job engagement. The

construction of this model has a novelty by integrating the moderating variable of the function of change leadership since, in settings that are experiencing rapid changes, the involvement of leaders is vital. After all, leaders are decision-makers in the organization. Research into service and financial institutions is crucial to the concept's evolution. Organizational success is directly linked to the efforts of its employees, making employee performance a key factor. Furthermore, AI implementation in enterprises will be turbulent, so leaders will play a crucial role in ensuring the success of employee job engagement.

15. **Braganza, Chen, Canhoto, and Sap (S. (2021)** This study analyzes the conflict between Sustainable Development Goal 8 (SDG 8) of the United Nations, which aims to encourage productive employment and decent work, and the widespread implementation of artificial intelligence (AI). Based on the analysis of 232 survey responses, we found that the adoption of AI has a positive impact on employee trust, engagement, and the psychological contract. We discover that psychological contracts have a strong, beneficial influence on job engagement and on trust. Yet, with AI adoption, the favorable effect of psychological contracts declined considerably. A thorough re-examination of the existent literature leads us to argue that AI adoption supports the establishment of a third type of psychological contract, which we label “Alienational”. Whereas SDG 8 is founded on improving relationship contracts between a business and its employees, the use of AI has the opposite impact, detracting from the fundamental basis of decent employment.

16. **Malik, A., Budhwar, P., Mohan, H., and NR, S. (2022)** This study deconstructs a digitalized HR ecosystem of artificial intelligence (AI)-assisted human resource management (HRM) applications and HR platforms by analyzing different data sources from a worldwide IT consultancy MNE. In this research, we create a novel theoretical framework that maps the characteristics and goals of a digitized AI-assisted HR ecosystem in the service of enhancing the employee experience (EX), a key factor in fostering employee engagement (EE). The first goal of this essay is to establish how AI-assisted HRM fits into an organization's ecosystem and, second, how it affects EX and EE, using the theoretical lenses of EX, EE, AI-mediated social interaction, and engagement platforms. Based on our research, it is clear that HRM apps aided by AI improve both EX and EE. Both employee output and the efficiency of the HR

department are on the rise. We also highlight the implications for future study and clinical application.

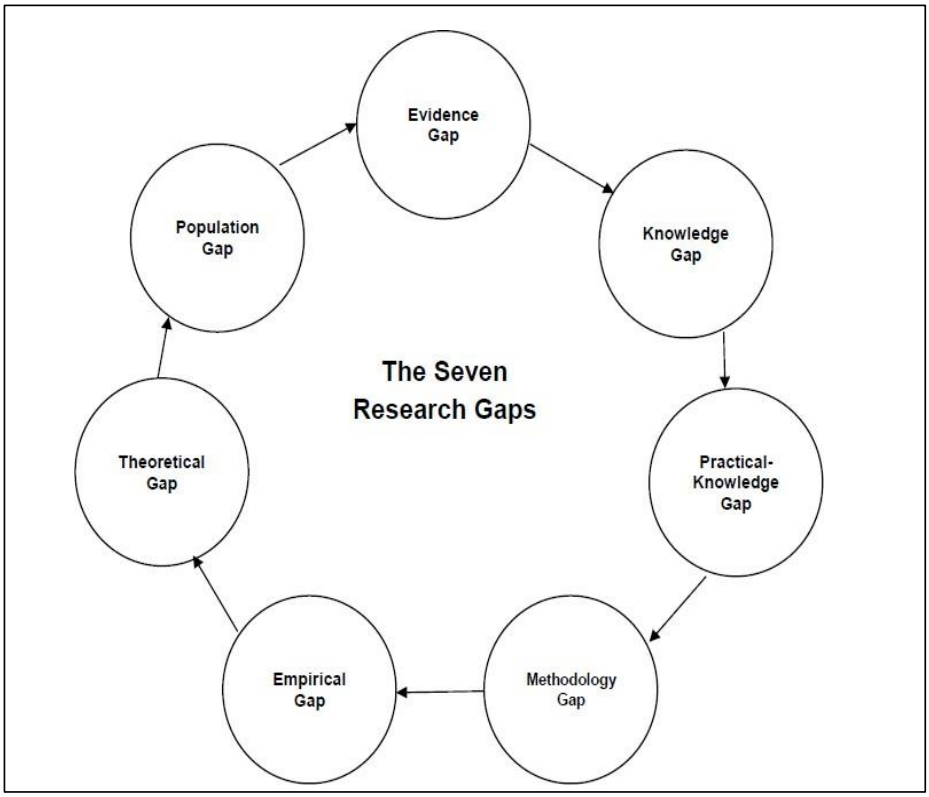
17. **N. Malik; S. N. Tripathi; A. K. Kar; and S. Gupta (2021).** This research aims to provide a more nuanced picture of the pros and cons of adopting AI systems and the resulting technostress for the benefit of practitioners. It deconstructs the difficulties in training new workers that have arisen with the advent of Industry 4.0. Researchers used NVivo to analyze the transcripts from semi-structured interviews with 32 experts with an average of 7.6 years of experience in nine different industries. Information security, data privacy, drastic changes emerging from digital transformations, and employment danger and instability are all identified as major negative effects of AI adoption. The positive effects can be broken down into three groups: increased freedom and independence in the workplace, increased opportunities for original thought at work, and an overall boost to productivity. Workload, job uncertainty, and complexity were found to be additional contributors to employee technostress. As a result of the knowledge economy's emergence and technological innovations, traditional job descriptions are evolving and new sets of skills and technical fluency are required. Therefore, businesses should implement strategic manpower development initiatives, such as training and knowledge management upgrades. Training programs that effectively instill the necessary abilities should make use of virtual reality and other cutting-edge technologies (VR). Furthermore, workers require assistance in managing both positive and negative results from their changing socio-technical ties. The distinctive contribution of this study is the creation of a qualitative hierarchy of the most important components constituting the unintended consequences, positive benefits, and technostress generators (among employees) of AI deployment in organizational processes.

## 2.4 Research Gap

For most academics, identifying research gaps has been a challenging task. For a long time, there were no formal or well-defined tools for identifying or characterising study variations. Differences in studies tend to be subjectively perceived. Another researcher's difference may be another searcher's non-distance. The majority of the disagreement over research differences stems from differing interpretations. Many scientists would say that a discrepancy is one of two things. Most researchers, particularly doctoral researchers, still have trouble identifying

and describing holes in their study. The research gap model suggested by **D. Anthony Miles, (2017)** is used to classify the holes in the present study.

**Figure 2.3- Types of Research Gap**




Source: Miles, D. (2017)

The following gaps are identified:

**Table 2.2– Research Gaps**

| | |
|---|---|
| **Empirical Gap** | • Majority of the studies available on Innovative Human resources are theoretical and Conceptual in Nature. Out of 49 literature surveyed only 17 studies are empirical in nature and there is a need to add to empirical studies in field of Innovative HR. Studies related to IHRM were theoretical, thus there is a limitation in the number of studies examining the practical impact of IHRM (Martin and Reddington, 2010), |

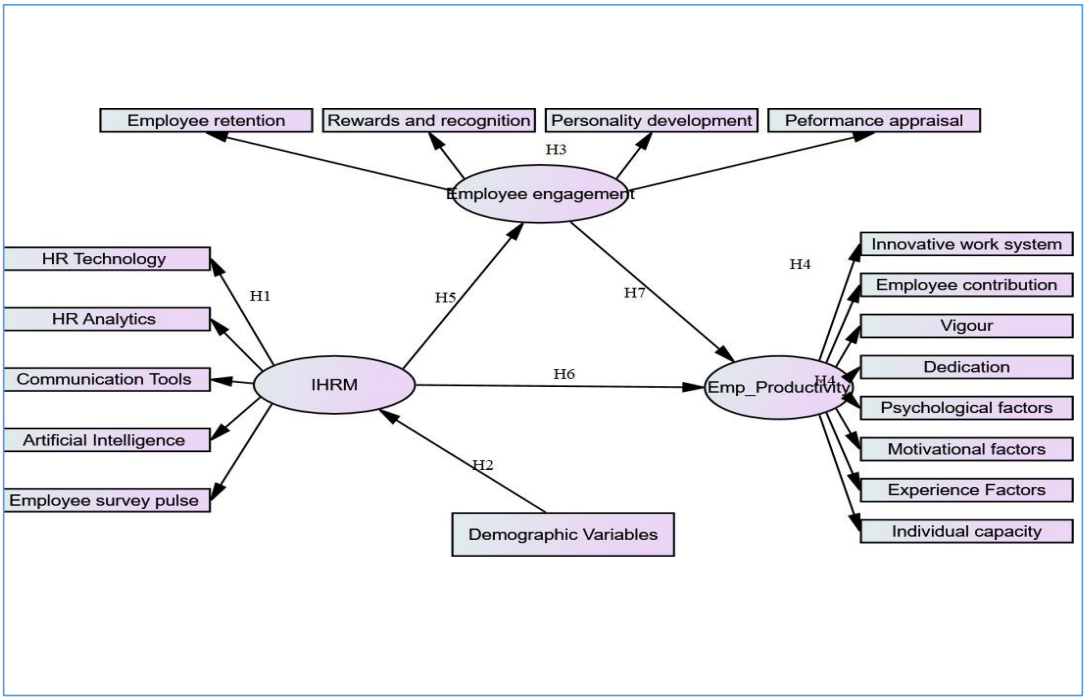
| | |
|---|---|
| **Evidence Gap** | • In Indian context, there is a dearth of thesis related to IHRM. Most of the studies are related to IHRM which is a part of AI in HR.<br>• There is a lack of literature, which establishes relationship between IHRM and Employee Engagement and Productivity<br>• There are studies related to a single technology, such as chat bot, e-resume, etc. The concept of IHRM need to be covered<br>• Some of the studies have attempted to compare the outcomes of IHRM with those of manual HRM practices but have not been explored in the last 2 years |
| **Methodological Gap** | • There is lack of reliable and valid instrument to measure the outcomes of IHRM in IT industry<br>• Studies have used IBM Watson stats, Goid methodology, PLS SEM and are mostly qualitative in nature. There is a need to conduct quantitative descriptive research |
| **Population Gap** | • Studies related specific to IT industry in India are scarce . In addition, in international studies emphasis is laid on IHRM in Hospitality Industry.<br>• Most of the studies are based on the opinions of the Top-level managers. The opinion of employees is not studied, Studies discussing employee perception as per the Indian context were found to be minimal (Bharti, 2015; Paramasivan &Muthusamy 2017).<br>• Some studies have attempted to identify the performance indicators but are not related to IT/ITES industries.<br>• Most studies were deprived of the multi-dimensional perspectives and were focused on the organizations located in developed countries (Parry and Tyson, 2011; Troshani et al., 2011), |

By identifying the above mentioned research gaps, the current study aims to conduct a research on the IHRM aspects such as HR Technology, HR Analytics , Communication and collaboration , Artificial intelligence in HR and Employee Pulse survey. The study further aims

to study the impact of IHRM on Employee engagement and employee productivity. The conceptual framework specifies the variables for the current study.

## 2.5 Conceptual Framework for the current study

**Figure 2.4 – Conceptual framework for the study**



# Chapter 3

# RESEARCH METHODS

**"Train people well enough so they can leave. Treat them well enough so they don't want to."**
**—Sir Richard Branson**

## 3.1 Introduction

Research that is conducted using a proper methodology is more credible and yields more reliable results. In addition, the plan's specifics assist researchers stay on track, resulting in an efficient and controllable procedure. The reader gains insight into the researcher's thought process and methodology. This chapter specifies the problem statement and research questions. The research objectives are explained and hypothesis are formulated based on the hypothesis. The chapter further explains the research strategy used, steps in preparation and validation of the data collection tool, the sample design and plan of analysis for the study. A brief explanation on the pilot study is given followed by the explaining the scope, significance and limitations of the study.

## 3.2 Statement of the problem

Technologies like videoconferencing and the Internet have accelerated communication and shrunk the globe. The flow of information and ideas is continuous and vast. Managers must interpret and effectively apply the benefits of technology. Technology has the potential to and likely will alter how and where jobs are performed. In the years to come, business leaders will need to find out how to integrate technology into the workplace in a way that boosts efficiency and effectiveness. In order to succeed in the commercial world, they will need to learn how to use information effectively and stay ahead of the curve. Organizational characteristics including speed, reactivity, agility, learning capacity, and employee competency will be the foundation of success in the new economy. Companies that can effectively implement their strategies in a timely manner, properly manage their processes, encourage full participation from their employees, and foster an environment conducive to change will be the most successful.

One of the most difficult things for businesses to do to be competitive is to accept and even welcome the constant flux of new information and circumstances. They need to be able to quickly and easily absorb new information, generate fresh ideas, and adapt to shifting strategic

priorities. In an environment of constant shift, businesses need to foster a healthy distaste for the status quo, the foresight to spot new trends before the competition does, the fortitude to act swiftly, and the curiosity to explore novel approaches to old problems. To succeed, businesses will need to be in a constant state of transition, making adjustments that will last. Human resources (HR) are crucial to the success of any firm in today's competitive marketplace. Therefore, the success and efficiency of businesses depend in large part on their human resource management. It's no longer a matter of fashion, but rather survival, that businesses take the initiative to identify and address HR issues. Despite the fact that the economics of people-intensive businesses like the IT Sector are often overlooked, new Deloitte Global Human Capital Research demonstrates that organizations today must work hard to create a meaningful, humanistic work environment in order to drive engagement, and performance. Shareholder returns in IT companies are very sensitive to even small changes in staff productivity. However, there are situations when HRM developments fail to deliver the desired results, such as improved morale and productivity in the workplace. So, there is a huge discrepancy in the level of employee enthusiasm, which causes unnecessary strain and overwork. The purpose of this research is to find practical solutions to the aforementioned issues plaguing the IT industry.

**Table 3.1 – Operational Definitions**

| **Innovative Human Resource Practices** | |
|---|---|
| Innovative Human Resource Practices refer to new or creative approaches and strategies that organizations adopt to manage and develop their human resources. Innovative HR practices are positively related to employee performance and organizational innovation. | Jiang, Lepak, Hu and Baer (2012) |
| Several key innovative HR practices, includes employee involvement, high-performance work practices, and strategic HR planning. Organizations that adopt these practices tend to have better organizational outcomes, including higher employee engagement and job satisfaction. | Guest and Conway (2002) |
| **Employee Engagement** | |
| Employee engagement involves a psychological connection to one's work and is characterized by feelings of energy, involvement, and | William Kahn (1990) |

| | |
|---|---|
| efficacy. It goes beyond job satisfaction and involves a deeper level of emotional commitment and investment in one's work and organization. | |
| Several key drivers of employee engagement, including job characteristics (such as autonomy and feedback), leadership behaviours (such as supportive and transformational leadership), and organizational culture (such as a culture of innovation and learning). | Shuck and Reio (2014) |
| **Employee Productivity** | |
| Employee productivity can be defined as the measure of an employee's output relative to the resources used to produce that output. | MacLeod and Clarke (2009) |
| Employee productivity is an important factor in organizational success, as it is directly linked to profitability, competitiveness, and growth. | |
| Several key drivers of employee productivity includes leadership, communication, and job design. These factors influence employees' motivation, ability, and opportunity to perform well. | |

### 3.3 Research Questions

With the above statement of the problem the following research questions were deduced:

- What are various applications of Innovative Human resource practices in IT industry?
- What is the role of demographic variables of employees in perception of IHRM among IT Employees?
- What are factors influencing Employee engagement and employee productivity in IT Organizations?
- Is there an impact of IHRM on Employee engagement and employee productivity?
- Does Employee engagement mediate the relationship between IHRM and Employee productivity?

### 3.4 Research Objectives

To answer the above research questions, the objectives are:

1. To identify various applications of Innovative Human resource practices in IT industry
2. To understand the role of demographics in perception of IHRM among IT Employees

3. To determine the factors influencing Employee engagement and employee productivity in IT Organizations
4. To analyse the impact of IHRM on Employee engagement and employee productivity
5. To examine the mediating role of Employee engagement on the relationship between IHRM and Employee productivity

### 3.5 Research Hypothesis

The following hypothesis were framed to achieve the objectives of the study

Objective -1 To identify various applications of Innovative Human resource practices in IT industry

**Hypothesis -1**

H0 - HR Technology, HR Analytics, Collaboration Tools, AI in HR and Employee Pulse survey are not contributors to Innovative Human resource practices

H1 - HR Technology, HR Analytics, Collaboration Tools, AI in HR and Employee Pulse survey are contributors to Innovative Human resource practices

Objective -2 To understand the role of demographics in perception of IHRM among IT Employees

**Hypothesis -2**

H0 - There is no significant impact of demographic variables of employees on Perception of IHRM

H1 - There is a significant impact of demographic variables of employees on Perception of IHRM

Objective -3 To find out the factors influencing Employee engagement and employee productivity in IT Organizations

**Hypothesis - 3**

H0- Employee retention, Reward and recognition, Personality development and performance appraisal are not factors influencing Employee engagement

H1- Employee retention, Reward and recognition, Personality development and performance appraisal are factors influencing Employee engagement

Objective -4 To analyse the impact of IHRM on Employee engagement and employee productivity

**Hypothesis - 4**

H0 - Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are not factors influencing Employee Productivity

H1 - Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are factors influencing Employee Productivity

Objective -5 To examine the mediating role of Employee engagement on the relationship between IHRM and Employee productivity

**Hypothesis - 5**

H0- There is no significant impact of IHRM on employee engagement

H1- There is a significant impact of IHRM on employee engagement

**Hypothesis - 6**

H0 - There is no significant impact of IHRM on employee productivity

H1 - There is a significant impact of IHRM on employee productivity

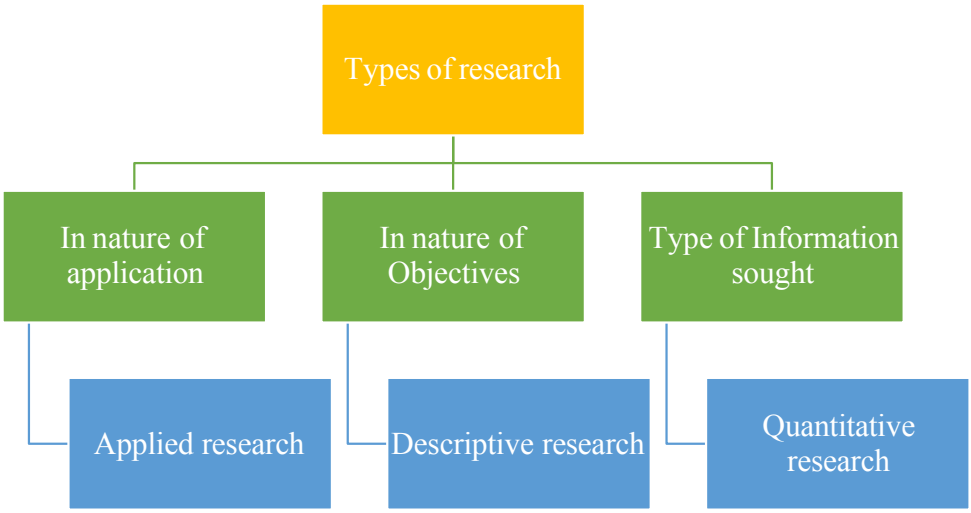
**Hypothesis - 7**

H0 - Employee engagement does not mediate the relationship between IHRM and employee productivity

H1 - Employee engagement mediates the relationship between IHRM and employee productivity

## 3.6 Research Strategy

**Figure 3.1 – Types of research**




### 3.6.1 Based on application:

The current study is applied research

### 3.6.2 Based on Objectives:

The current study is based on descriptive research design

Descriptive analysis seeks to highlight existing research topics or issues by employing a data gathering strategy to explain the situation in more detail which is not possible without this technique *–Impact of IHRM on employee engagement and employee productivity through structured questionnaires.*

### 3.6.3 Based on type of Information sought:

In the current study Quantitative research design is used

- Quantitative research – Survey using structured questionnaire with employees of IT Organizations

By gathering quantifiable data for statistical analysis of the population sample, descriptive research employs a quantitative research approach.

## 3.7 Sample design

### 3.7.1 Area of the study

Area of study for the current research is Bengaluru city

Bengaluru is the capital of Karnataka, a technologically sophisticated state. Sir M Visvesvaraya laid the foundation for the technological growth of the state. Bengaluru's reputation increased once it became a software and IT hub. When IT behemoths migrated to the city in the late 1980s, the story began. Then followed the BPO (Business Process Outsourcing) boom, which led to the establishment of various BPO companies in Bengaluru. Karnataka currently accounts for a quarter of the country's $200+ billion in IT revenue.

Bengaluru's Tech Sector's Strengths and Future

- Bengaluru is home for 80 percent of international IT companies' R&D and India operations.
- After Silicon Valley, London, and Boston, Bengaluru is the world's fourth largest technical hub. Karnataka has 50+ ITES/IT SEZs, with 2,100+ enterprises in multiple technology and software parks. Karnataka exports the most software and accounts for over 25% of the country's IT businesses.

With the foregoing backdrop and the biggest number of IT employees, the current analysis is centred on Bengaluru

### 3.7.2 Population

The sample population for the study in Bangalore consists of 28 companies of top 500 fortune companies in the world as only those companies focus on innovative HR practices for enhancing current progress. In those 28 companies an approximate of 39,000 employees overall are employed.

### 3.7.3 Determination of sample size

When the Population is above 1,00,000 the following calculation from Glen D isreal (2013) is given for appropriate sample size at 3 different precision levels.

**Figure 3.2 – Determination of Sample size**

Sample Size for ±3%, ±5%, ±7%, and ±10% Precision Levels where Confidence Level Is 95% and P=.5.

| Size of Population | Sample Size (n) for Precision (e) of: | | | |
|---|---|---|---|---|
| | ±3% | ±5% | ±7% | ±10% |
| 500 | a | 222 | 145 | 83 |
| 600 | a | 240 | 152 | 86 |
| 700 | a | 255 | 158 | 88 |
| 800 | a | 267 | 163 | 89 |
| 900 | a | 277 | 166 | 90 |
| 1,000 | a | 286 | 169 | 91 |
| 2,000 | 714 | 333 | 185 | 95 |
| 3,000 | 811 | 353 | 191 | 97 |
| 4,000 | 870 | 364 | 194 | 98 |
| 5,000 | 909 | 370 | 196 | 98 |
| 6,000 | 938 | 375 | 197 | 98 |
| 7,000 | 959 | 378 | 198 | 99 |
| 8,000 | 976 | 381 | 199 | 99 |
| 9,000 | 989 | 383 | 200 | 99 |
| 10,000 | 1,000 | 385 | 200 | 99 |
| 15,000 | 1,034 | 390 | 201 | 99 |
| 20,000 | 1,053 | 392 | 204 | 100 |
| 25,000 | 1,064 | 394 | 204 | 100 |
| 50,000 | 1,087 | 397 | 204 | 100 |
| 100,000 | 1,099 | 398 | 204 | 100 |

For the Current study the sample size is determined at 5% margin of error and ideal sample size of 400 (round off) is determined.

According to Glen D Isreal, some percentage should be added to the ideal sample size to account for non-responses. Hence, the following number of questionnaire were distributed in each of the cities

**Table 3.2 – No of Questionnaire distributed**

| | **Number of questionnaire** | **Total no of questionnaires** |
|---|---|---|
| **Ideal sample size** | 400 | |
| **Additional 10%** | 40 | 440 |
| **Round off** | | 440 |

### 3.7.4 Sample frame

The respondents for the study are

1. Employees of IT industry with at least more than 6 months of experience
2. Employees of companies who have Innovative HR practices
3. Employees should be well aware of working of the Innovative HR practices in the Organization

### 3.7.5 Sampling technique

Sampling method is only the selection of the respondents from the focused and target audience of the study. A decent sampling method must address exact issues like economy, measurability, common sense and objective introduction. The sampling methods are of two types, they are non-probability sampling and probability sampling method. This study uses non probability sampling technique under which the ***convenience sampling method*** is used.

### 3.7.6 Sample Size

The sample size for the current study is as follows:

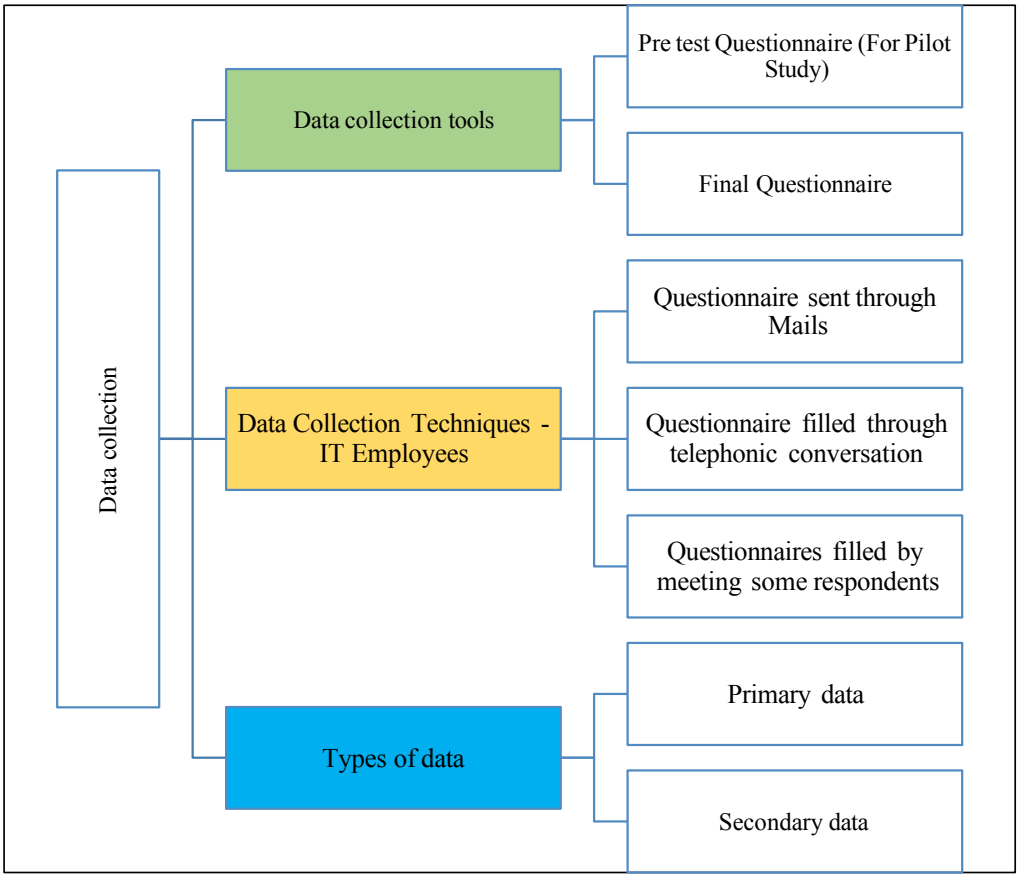
**Table 3.3 – Sample size for the study**

| Place | Not of Questionnaires distributed | No of received | No of responses selected for the study |
|---|---|---|---|
| North Bangalore | **110** | **105** | **103** |
| Electronic City | **110** | **100** | **100** |
| Anekal | **110** | **101** | **101** |
| South Bangalore | **110** | **103** | **102** |
| Total | **440** | **409** | **406** |

The above table illustrates the sample size for the study, the no of questionnaires distributed, the responses received, and responses selected for the study.

## 3.8 Data collection tools and techniques

**Figure 3.3 – Overview of Data collection tools and techniques**




### 3.8.1 Types of data sources

The data aggregation is apportioned into two sorts' particularly primary data gathering and the secondary data gathering. The primary data gathering framework incorporated into this investigation is Questionnaire/interviews and surveys. As Gliner & Morgan (2000) explains the primary data can be collected through research facility measurement, field observation, Questionnaires, Interviews, Opinionnaires, schedules and so on. According to Loewy and Guffey (2009), secondary data is the information, which is assembled for some other arrangement of issues and destinations by different investigators.

**(a) Primary Data**

**Primary data** is collected by using **Quantitative close ended questionnaires** from the IT Employees as specified in the sample design

**(b) Secondary Data**

***Secondary data*** from previous literature, Annual Reports of FIs/ NBFCs and journals is collected.

### 3.8.2 Data collection Tool

Steps in Preparation of questionnaire

A structured questionnaire was used to collect the data from the respondents. Suitable scaling technique was adopted to measure the quantitative as well as qualitative data.

Steps in preparing of questionnaire

1. Collect all items defining the variables under the study through review of literature
2. Score/ Scale the Items under each Variables (Score the categorical variables and Scale the Continuous Variables)
3. Content validity – Using the subject expert opinion (Write Names of few subject matter opinions)
4. Launch Pilot study
5. Use the pilot study results for testing the validity and reliability of the questionnaire
6. Finalise the questionnaire for the study

**Table 3.4- Questionnaire design**

| PARTS | Descriptions | No of Questions | Type of Questions | Type of Variables | Type of scale | Source |
|---|---|---|---|---|---|---|
| | | | | | | |
| **A** | Demographic Variables | 5 | Multiple choice | Categorical variable | Nominal Scale | |
| **B** | IHRM | | Likert scale | Continuous Variable | Ordinal scale | |
| | HR Technology | 5 | | | | |
| | HR Analytics | 3 | | | | |
| | Communication ad Collaborations | 3 | | | | |
| | AI in HR | 2 | | | | |
| | Employee survey Pulse | 4 | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **C** | Employee Engagement | | Likert scale | Continuous Variable | Ordinal scale | |
| | Employee Retention | 13 | | | | |
| | Reward and Recognition | 7 | | | | |
| | Personality development | 12 | | | | |
| | Performance Appraisal | 7 | | | | |
| | | | | | | |
| **D** | Employee Productivity | | Likert scale | Continuous Variable | Ordinal scale | |
| | Internal work system | 3 | | | | |
| | Employee Contribution | 4 | | | | |
| | Dedication | 3 | | | | |
| | Vigour | 2 | | | | |
| | Psychological factors | 5 | | | | |
| | Motivational factors | 4 | | | | |
| | Experience factors | 2 | | | | |
| | Internal capacity | 4 | | | | |
| | | | | | | |

The above questionnaire was finalised after conducting the pilot study and incorporating the suggestions from subject experts.

### 3.8.3 Data collection method

The researcher addressed individual investors mostly with social media and knowledge with the surrounding area in order to collect data from them. In order to create rapport, each offline mode respondent was given a brief explanation of the study's purpose, and online mode respondents were sent a notification describing the study's objective.

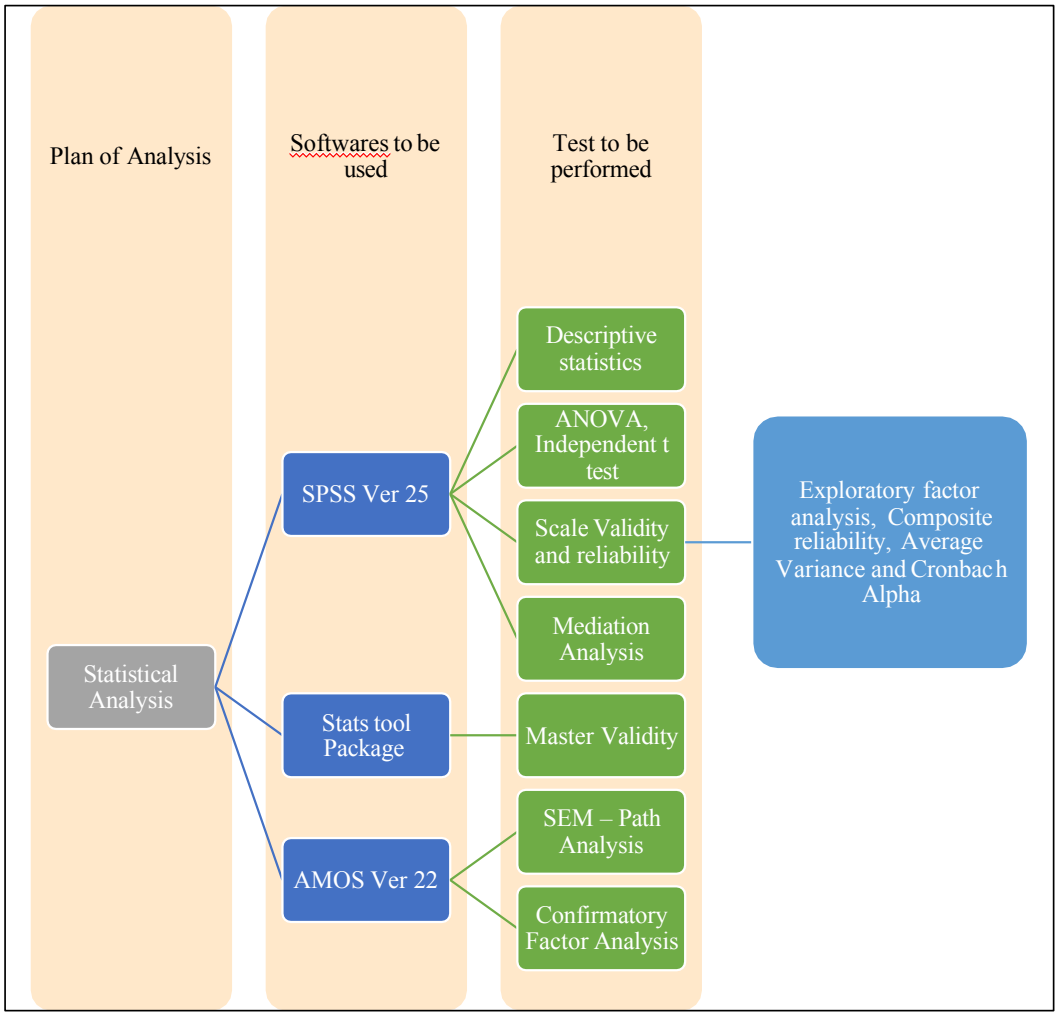
The questionnaire was administered to all of the randomly selected respondents, and each respondent was personally contacted using digital media technology in the form of phone calls, emails, and WhatsApp applications during their spare time in order to obtain their response and feedback on the questionnaire. The questionnaire was conducted in English alone, and no other languages were used. During the administering phases, the investigator answered all of the questions that had been raised by the respondents. Respondents were given the option of answering survey questions via phone, email, online conversation, chat, or personal telephonic interview.

**Table 3.5- Data collection methods**

| | Data collection method | IT EMPLOYEES |
|---|---|---|
| **1** | Offline method | Some questionnaires were filled by talking to IT Employees |
| **2** | Online Method | Questionnaires were sent through google forms to respondents who can answer the questionnaire through online modes. Also, questionnaires were sent through e-mails, WhatsApp links etc |

## 3.9 Plan of Analysis

**Figure 3.4- Overview of analysis plan**




### 3.9.1 Analysis of variables related to the study

1. SPSS and AMOS Software: Statistical analysis of the primary data was done using the SPSS and AMOS software to analyse and interpret the quantitative data collected. It is an analytical approach used to scientifically understand and interpret the collected responses from respondents regarding a selective aspect.

2. Graphical Representation Tools
    a. Bar graphs
    b. Pie Charts
    c. Simple Percentage Analysis

3. **(a) Frequency and Percentage:** The questionnaire is Likert scale in nature and the frequency of the responses are recorded along with the percentages. The valid percentage is applicable in case of missing data and cumulative Percentage is total of the percentages of each group in the responses.

**(b) Descriptive statistics**: Descriptive statistics is the summary statistics which gives an overall view of the responses. The descriptive statistics has the following items:

1. **N** = Number of items under the study. i.e No of respondents
2. **Mean:** Mean is used to record the average responses given by the respondents; In case of Likert scale responses

    Mean score of:

    - indicates strong disagreement
    - 1-2 indicates Disagreement
    - 2-3 indicates neutral responses
    - 3-4 indicates agreement Reponses
    - And 4-5 indicates strong agreement responses

3. **Standard deviation**: Standard deviation = S.D (σ)

It is used to measure Dispersion of a given data and describes deviation in responses from actual mean

If standard deviation is:

- Low – Indicates that the responses are near its mean value
- High – Indicates that the responses are dispersed or far from its mean value

4. **Skewness:** Skewness is a statistic which is used to measure if the data is normally distributed. Skewness statistics gives how much difference or variation is there between the actual cuve and symmetrical curve (Normal Distribution)

- If skewness is between -0.5 and +0.5 data is said to be fairly normally distributed
- If skewness is between -1 and +1 data is said to be moderately skewed or less normally distributed

- If Skewness is above -1.5 and +1.5 data is said to be highly skewed or not normally distributed

**5. Kurtosis:** Kurtosis is used to describe the tails in the distribution of the responses. It shows how many responses are inclined towards the extremes values.

**Acceptable Range of Kurtosis - -3 to +3 ( Ali, Faizan, 2014)**

**(c) Testing of the scale reliability**

Since the study uses the 5-point Likert agreement scale, it is important to check the reliability and validity of the Questionnaire Likert scale.

**1. Reliability:** Used to study the degree to which the construction components are accurate and consistent. (Hair et al,2017)

- **Cronbach Alpha:** Cronbach alpha is used to calculate the proportion of inside consistency and dependability of the data collection instrument utilizing the covariance
  - **Acceptable range : 0.70 to 0.90**
- **Composite Reliability:** Composite Reliability is used to calculate the proportion of inside consistency and dependability of the data collection instrument utilizing the Square Loadings
  - **Acceptable range : 0.70 to 0.90**

**2. Validity:** Validity of the instrument is used to measure whether the questionnaire is actually measuring what it is supposed to measure

- **Convergent validity**: Convergent validity is used to measure the proximity to (or converges on) the construction that a measure is intended to measure.
  - **Acceptable range: Average Variance explained > 0.50**
- **Discriminant Validity:** Discriminant validity is used to measure the degree to which other constructs are not evaluated (or discriminated against) by a test that is not intended to measure
  - **Acceptance criteria : Correlation between the Squared Average variance extracted of each dimension should be lesser than the squared AVE**

### 3.9.2 Plan of analysis for testing of Hypothesis

**Table 3.6 – Plan of analysis for testing of Hypothesis**

| Hypothesis | Type of Variable | Type of statistical test used | Statistical Tools |
|---|---|---|---|
| **H1 - HR Technology, HR Analytics, Collaboration Tools, AI in HR and Employee Pulse survey are contributors to Innovative Human resource practices** | All Continuous Variables | SEM | AMOS |
| **H2 - There is a significant impact of demographic variables on Perception of IHRM** | One categorical Variable (Demographic) and one continuous variable (IHRM) | ANOVA, Independent t test | SPSS |
| **H3- Employee retention, Reward and recognition, Personality development and performance appraisal are factors influencing Employee engagement** | Both Continuous Variables | SEM | AMOS |
| **H4 - Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are factors** | Both Continuous Variables | SEM | AMOS |

| | | | |
|---|---|---|---|
| **influencing Employee Productivity** | | | |
| **H5- There is a significant impact of IHRM on employee engagement** | Both Continuous Variables | SEM | AMOS |
| **H6 - There is a significant impact of IHRM on employee productivity** | Both Continuous Variables | SEM | AMOS |
| **H7 - Employee engagement mediates the relationship between IHRM and employee productivity** | IHRM - Independent, EP - Dependent and EE- Mediating variable. All continuous variables | Mediation analysis - Andrew Hayes , Model 4 | SPSS |

### 3.10 Scope of the study

The scope of the study is confined to IT Industry in Bangalore city, the study includes both Information technology and Information Technology enabled sector. The study takes the opinion of HR Employees of the Organization as they are most closely associated employees with the Innovative HR Practices. The opinion of the HR Managers is not taken with a reason that most HR Managers could be biased in answering the questions with the objective of empowering their own department. A well-structured questionnaires is used to collect the data and the data is analysed using appropriate statistical tools. The study is based on three important variables of Human resource management – The innovative HR Practices, the employee engagement and employee productivity. In the Innovative HR Practices the main focus is on the HR technology, HR Analytics, Communication and Collaboration, AI in HR and Employee survey pulse.

### 3.11 Pilot study results

A pilot study is a preliminary research project conducted before the main study. Typically, a pilot research employs the same technique as the full-scale study, although with a smaller sample size. A pilot study may not be able to eliminate the risk of encountering unforeseen challenges or making systemic errors, but it can reduce the likelihood of doing so. Due to these types of errors, the primary study is a total waste of time and money.

Existing research, as summarized by Connelly (2008), indicates that a pilot study's sample size should be equivalent to 10% of the sample size that is expected for the bigger parent study. In any case, a wide range of factors affects Hertzog (2008) cautions that this is not a simple problem with a simple solution, as the outcomes of such studies. However, Treece and Treece (1982) advised 10% of the entire sample size, Isaac and Michael (1995) offered 10–30 participants, and Hill (1998) suggested 10–30 persons for survey research pilots.

The survey's primary instrument—the questionnaire—is tested in advance via a pilot study to ensure it will be both efficient and produce usable results. To see if the instrument is suitable for the survey is the primary objective of the pilot research. 50 questionnaire were distributed in Bangalore, out of which 40 Responses were selected for the pilot study. Cronbach's Alpha values are calculated, which are used to determine the reliability of a survey's instrument and hence the validity of its underlying concept (Pallant, 2005).

#### 3.11.1 Pilot study sample size

**Table 3.7 – Pilot study sample size**

| | |
|---|---|
| **Sample size for pilot study** | **40 respondents- 10% of the actual study**<br>**400 respondents are the sample in the actual study** |
| **Time frame** | 40 respondents = 30 days |
| **Expected time frame for actual study** | 400 responses can be collected in 180 days (6 months) |
| **Reliability and validity of the questionnaire** | Crobanch's Alpha |

#### 3.11.2 Pilot study analysis

Steps in conducting Pilot study analysis

Step -1 Tabulation of data using SPSS Software

Step -2 Performing scale reliability test using Cronbach Alpha

**Table 3.8 – Overall Questionnaire – Reliability stats**

| Reliability Statistics | |
|---|---|
| **Cronbach's Alpha** | N of Items |
| **0.856** | 88 |

The reliability statistic for entire questionnaire is at 0.856, which is excellent and construct wise Cronbach alpha is discussed as follows

**Table 3.9 – Construct Wise Cronbach Alpha**

| | No of Items | Cronbach Alpha |
|---|---|---|
| **IHRM** | | |
| **HR Technology** | 5 | 0.872 |
| **HR Analytics** | 3 | 0.788 |
| **Communication ad Collaborations** | 3 | 0.821 |
| **AI in HR** | 2 | 0.801 |
| **Employee survey Pulse** | 4 | 0.791 |
| | | |
| **Employee Engagement** | | |
| **Employee Retention** | 13 | 0.911 |
| **Reward and Recognition** | 7 | 0.916 |
| **Personality development** | 12 | 0.899 |
| **Performance Appraisal** | 7 | 0.921 |
| | | |
| **Employee Productivity** | | |
| **Internal work system** | 3 | 0.821 |
| **Employee Contribution** | 4 | 0.848 |
| **Dedication** | 3 | 0.816 |
| **Vigour** | 2 | 0.879 |
| **Psychological factors** | 5 | 0.865 |
| **Motivational factors** | 4 | 0.853 |
| **Experience factors** | 2 | 0.822 |
| **Internal capacity** | 4 | 0.843 |

The Cronbach Alpha for all items is above 0.700, which shows that the items in the questionnaire are reliable. Hence, after the pilot study the final study was launched

### 3.12 Limitations of the study

The limitations of the study are as follows:

- The study is limited to select IT companies who are actively using Innovative Huma resource management
- The study is limited to the bias of employee responses
- The study is limited to 406 respondents which may not be enough for representative large sample
- The study is geographically limited to Bangalore city.
- The study is limited to three important variables that are IHRM , Employee engagement and employee productivity

### 3.13 Organization of the thesis

The structure of the Research Thesis Report is proposed to be as follows :

**Chapter-I** : Introduction

A brief introduction about the context of the Innovative Human resource practices, is given in this chapter. Also, the concept and genesis of IHRM , its evolution in various countries, Global practices, Indian context are discussed. The chapter also gives a brief on employee engagement and employee productivity based on Human resource practices.

**Chapter-II:** Literature Review

In this section, a brief review of the relevant literature (Books, Research theses and research papers) available in the IHRM space (both Global and Indian) is done. The research gap is identified and conceptual framework for the study is specified.

**Chapter-III :** Research Methods

The Research questions, aim, objectives, Hypotheses to be tested, etc. are explained in this part. The methods adopted in this research, the types of questionnaire, the method of collecting Primary and secondary data and the tools of analysis are set out in this chapter.

**Chapter-IV :** Analysis of Data & Interpretation

The data collected is meaningfully tabulated and analysed in the light of the Research aim, objectives and hypotheses. Suitable interpretations are drawn.

**Chapter-V :** Research Findings, Suggestions

Based on the analysis and interpretations done in the previous chapter, the findings of research and the results of the Hypotheses testing are presented. The conclusions out of the research findings are given in this chapter. The future scope of study are also mentioned in this portion.

**Bibliography :** The reference books, articles, research papers and theses are listed here.

**Annexures :** All annexures to the research work are given here.

**Figure 3.5- Overview of the research Process**

| Objective | Hypothesis | Type of Variable | Type of statistical test used | Statistical Tools |
|---|---|---|---|---|
| **Objective -1 To identify various applications of Innovative Human resource practices in IT industry** | H1 - HR Technology, HR Analytics, Collaboration Tools, AI in HR and Employee Pulse survey are contributors to Innovative Human resource practices | All Continuous Variables | SEM | AMOS |
| **Objective -2 To understand the role of demographics in perception of IHRM** | H2 - There is a significant impact of demographic variables on Perception of IHRM | One categorical Variable (Demographic) and one continuous variable (IHRM) | ANOVA, Independent t test | SPSS |

| | | | | |
|---|---|---|---|---|
| **among IT Employees** | | | | |
| **Objective -3 To find out the factors influencing Employee engagement and employee productivity in IT Organizations** | H3- Employee retention, Reward and recognition, Personality development and performance appraisal are factors influencing Employee engagement | Both Continuous Variables | SEM | AMOS |
| | H4 - Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are factors | Both Continuous Variables | SEM | AMOS |

| | | | | |
|---|---|---|---|---|
| | influencing Employee Productivity | | | |
| **Objective -4 To analyse the impact of IHRM on Employee engagement and employee productivity** | H5- There is a significant impact of IHRM on employee engagement | Both Continuous Variables | SEM | AMOS |
| | H6 - There is a significant impact of IHRM on employee productivity | Both Continuous Variables | SEM | AMOS |
| **Objective -5 To examine the mediating role of Employee engagement on the relationship between IHRM and Employee productivity** | H7 - Employee engagement mediates the relationship between IHRM and employee productivity | IHRM - Independent, EP - Dependent and EE- Mediating variable. All continuous variables | Mediation analysis - Andrew hayes , Model 4 | SPSS |

# Chapter 4

# ANALYSIS AND INTERPRETATION

## 4.1 Introduction

This chapter deals with analysing the data collected from employees of IT companies in relation to Innovative HRM practise in their organization and how it impacts employee engagement and employee productivity. The chapter starts with describing the demographic characteristics and work profile of the IT employees under study. The second part of the chapter deals with the descriptive statistics relating to IHRM, Employee productivity and employee engagement. The final section of this chapter tests the hypothesis under study with the help of SPSS software and AMOS r software and tools such as ANOVA, Independent T-Test, Path Analysis and Mediation Analysis. Wherever required the chapter also elucidates the results of exploratory factor analysis and checks the model fit of the items through confirmatory factor analysis.

## 4.2 Demographic Profile of the employees

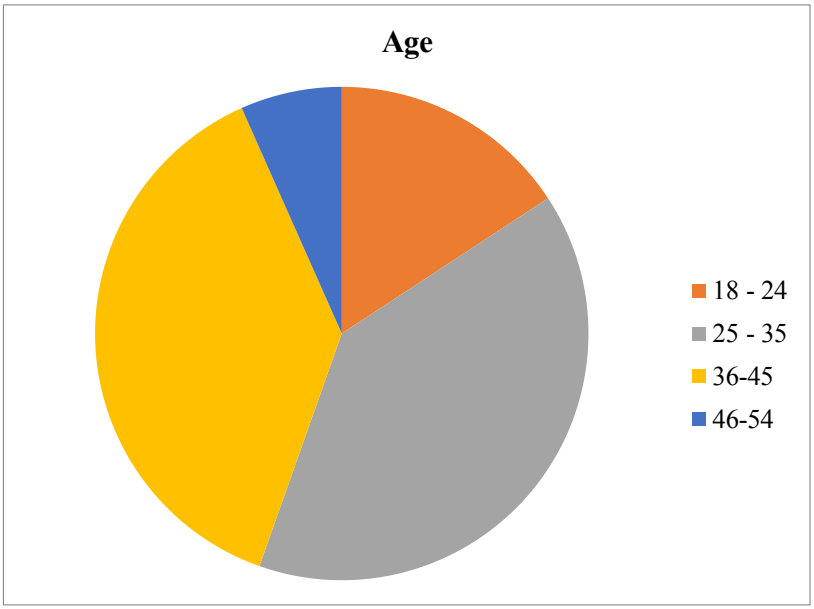
### 4.2.1 Age of the respondents

**Table 4.1 – Age of the respondents**

| | Frequency | Percent |
|---|---|---|
| 18 - 24 | 64 | 15.8 |
| 25 - 35 | 161 | 39.7 |
| 36-45 | 154 | 37.9 |
| 46-54 | 27 | 6.7 |
| Total | 406 | 100.0 |

[n=161] 39.7% IT employees in the study are in the age group of 25-35 years followed by [n=154] 37.9% belong to 36-45 years. The IT industry is predominated by employees who are in age group of 25-45 years. A small percentage of 15.8% are in the age group of 18-24 years and only 6.7% are in age group of 46-54 years.

Chart 4.1- Age of the IT Employees



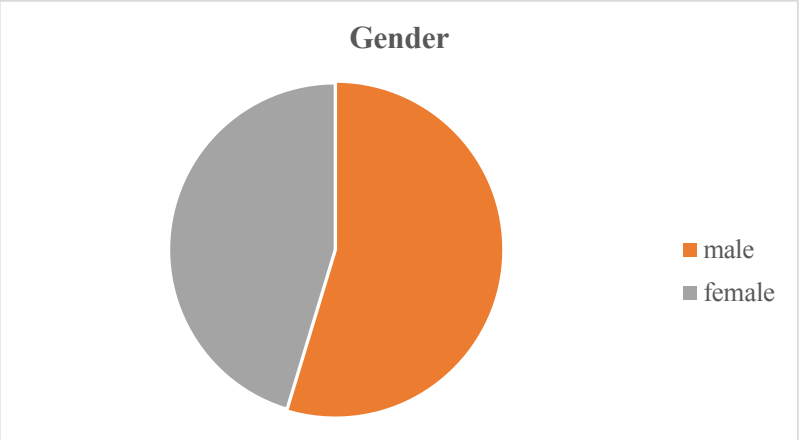

### 4.2.2 Gender of the IT Employees

Table 4.2 - Gender of the IT Employees

| | Frequency | Percent |
|---|---|---|
| Male | 222 | 54.7 |
| Female | 184 | 45.3 |
| Total | 406 | 100.0 |

The Indian society is patriarchal in nature and predominated by male work force. But in the current scenario women are participating in workforce as the Top IT companies are working towards gender diversity in the Organizations. [n=222] 54.7% respondents in the study are male and [n=184] 45.3% are female employees.

Chart 4.2 - Gender of the IT Employees



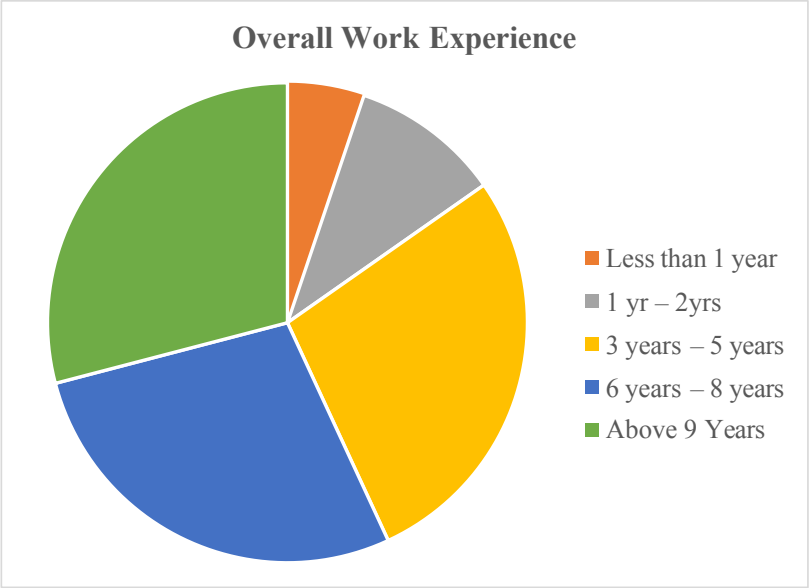

### 4.2.3 Overall Work experience

Table 4.3 – Overall work experience of IT Employees

| | Frequency | Percent |
|---|---|---|
| Less than 1 year | 21 | 5.2 |
| 1 yr – 2yrs | 41 | 10.1 |
| 3 years – 5 years | 113 | 27.8 |
| 6 years – 8 years | 113 | 27.8 |
| Above 9 Years | 118 | 29.1 |
| Total | 406 | 100.0 |

[n=113] 27.8% respondents each have 3-5 years and 6-8 years of overall working experience in IT Industry. [n=119] 29.1% have above 9 years of experience. A majority of the respondents in the study have above 3 years of experience. A cumulative 15.3 % respondents have less than 2 years of experience.

Chart 4.3 - Overall work experience of IT Employees



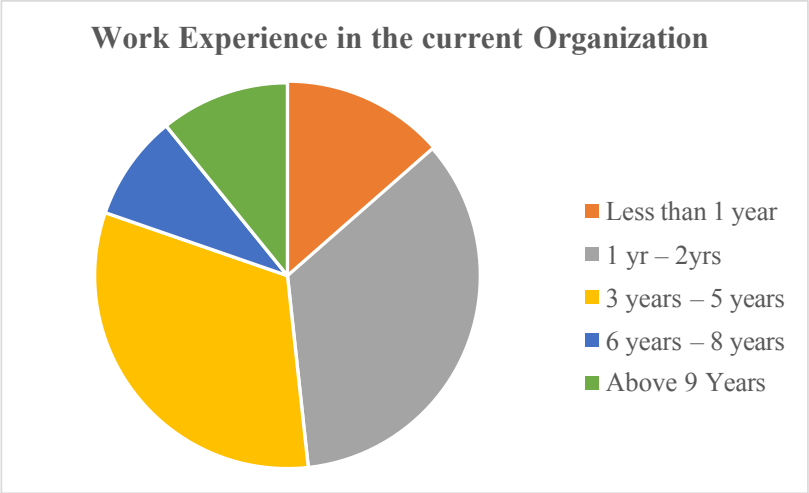

### 4.2.4 Work experience in the current organization

Table 4.4 – Work experience in the current Organization

| | Frequency | Percent |
|---|---|---|
| Less than 1 year | 55 | 13.5 |
| 1 yr – 2yrs | 141 | 34.7 |
| 3 years – 5 years | 130 | 32.0 |
| 6 years – 8 years | 36 | 8.9 |
| Above 9 Years | 44 | 10.8 |
| Total | 406 | 100.0 |

Experience in the current organization shows that a cumulative [n=141,130] 66.7% respondents in the study have 1-5 years of experience. 10.8% have above 89 years of experience.13.5% have less than 1 year of experience. The respondents in the study have more than 1 year of experience and are well aware of the activities of the organization.

**Chart 4.4 – Work experience in the current Organization**



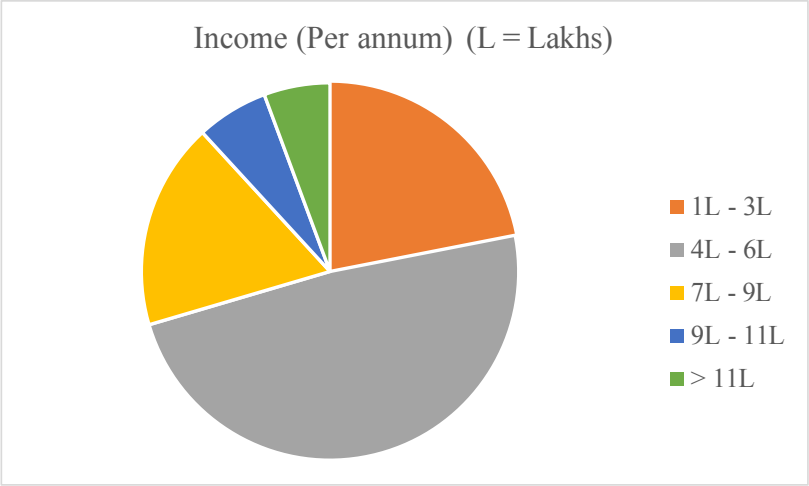

### 4.2.5 Income of the IT Employees

**Table 4.5 – Income of the IT Employees**

| | Frequency | Percent |
|---|---|---|
| 1L - 3L | 89 | 21.9 |
| 4L - 6L | 197 | 48.5 |
| 7L - 9L | 72 | 17.7 |
| 9L - 11L | 25 | 6.2 |
| > 11L | 23 | 5.7 |
| Total | 406 | 100.0 |

A large proportion of [n=197] 48.5% IT Employees in the study earn between 4Lakhs – 6 Lakhs per annum. 17.7% earn between 7-9 lakhs , 6.2 % ern around 9-11lakhs and 5.7% earn more than 11 lakhs per annum.

**Chart 4.5 – Income of the IT Employees**




## 4.3 Descriptive statistics

### 4.3.1 Innovative Human resources Practices (IHRM )

In the current study 5 factors are identified for Innovative Human resource management practices and are discussed below:

#### (a) HR Technology

**Table 4.6 – Descriptive statistics for Use of HR Technology in the Organization**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| IHR_HRT_1 HR technology is used for recruiting in my organization | 3.17 | 1.315 | -0.314 | -1.004 |
| IHR_HRT_2 Compensation planning and Management is done through HR Technology | 3.51 | 1.110 | -0.456 | -0.645 |
| IHR_HRT_3 HR Reporting and internal job posting is carried out using HR Technology | 3.35 | 1.238 | -0.359 | -0.954 |
| IHR_HRT_4 Training and Learning is empowered through HR Technology | 3.50 | 1.077 | -0.293 | -0.944 |
| IHR_HRT_5 Employee relations are handled through HR Technologies | 3.54 | 0.982 | -0.275 | -0.646 |

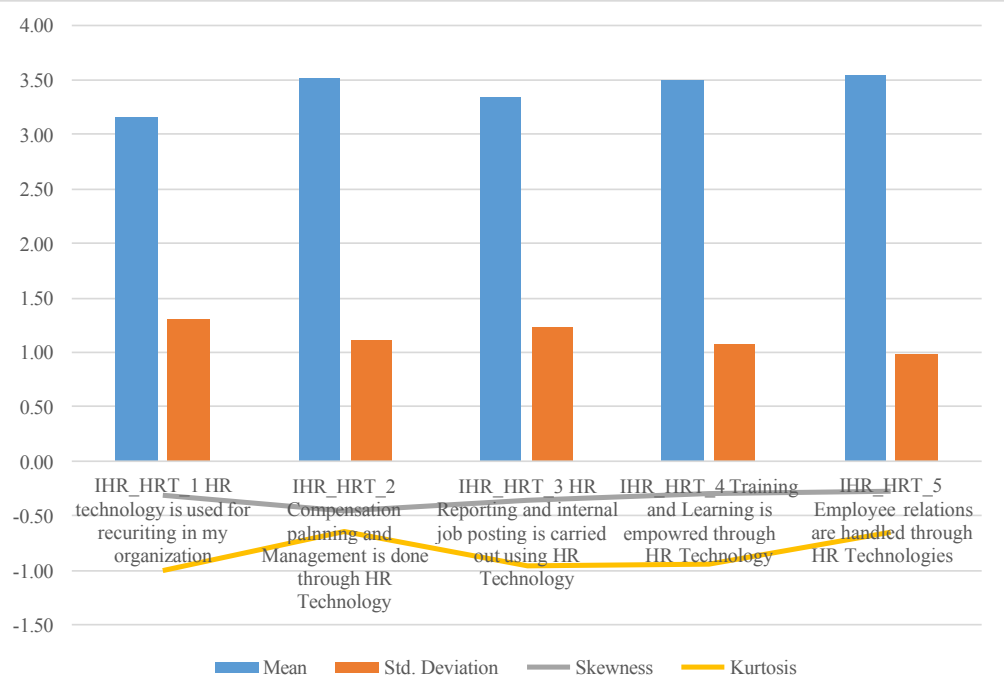
With extensive review of literature 5 statements were derived to identify HR Technologies implemented as part of IHRM. The questionnaire was administered with Likert scale, where 1= strongly disagree and 5= strongly agree. The results are summarised and presented in form of descriptive statistics. The mean scores are arranged in the variable list as asked in the questionnaire,

The mean scores for HR Technologies falls between 3.17 and 3.54 indicating that IT Employees perceive moderate implementation of HR Technologies in their Organization. The IT Employees in the study perceived that Employee relations are handled through HR Technologies (M= 3.54) and Compensation planning and Management is done through HR Technology (M=3.51)

The standard deviation is below 1.500 for all items indicating similar range of responses from IT employees for HR Technologies as part of IHRM

Skewness quantifies the degree to which the responses are distributed asymmetrically, and Kurtosis evaluates the current curve's form in relation to the normal distribution. Skewness is often between -1.5 and +1.5, while kurtosis is typically between -3 and +3, as stated by (Hair and et al, 2007). When the skewness is negative, the distribution of the replies leans to the right. A positive skewness value also denotes a leftward concentration of answers. In the case of HR Technologies Negative skewness values that are well within the range of acceptability and that have a rightward tail indicate that more respondents are more likely to agree with the statement being made about the chosen HR Technologies. Also, all HR Technology elements have Kurtosis values that are comfortably within the acceptable range, suggesting that they are statistically close to the Normal Distribution.

**Chart 4.6 - Descriptive statistics for Use of HR Technology in the Organization**




The above chart shows the mean scores of employee perception of Implementation of HR Technologies as part of IHRM in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (b) HR Analytics

**Table 4.7 - Descriptive statistics for Use of HR Analytics in the Organization**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| IHR_HRA_1 My organization used Descriptive analytics for data visualization, adhoc reports, drilling-down, dashboards / score cards, SQL Queries. | 3.67 | 1.058 | -0.566 | -0.410 |
| IHR_HRA_2 My organization relies on Predictive Analytics for forecasting attrition rates, probability of employee success on job based on recruitment / selection etc | 3.73 | 1.145 | -0.744 | -0.178 |

| | | | | |
|---|---|---|---|---|
| IHR_HRA_3 My Organization uses Optimization Analytics to find the best alternative training investment to achieve organizational effectiveness | 3.54 | 1.108 | -0.455 | -0.718 |

With extensive review of literature 3 statements were derived to identify HR Analytics implemented as part of IHRM. The questionnaire was administered with Likert scale, where 1= strongly disagree and 5= strongly agree. The results are summarised and presented in form of descriptive statistics. The mean scores are arranged in the variable list as asked in the questionnaire,

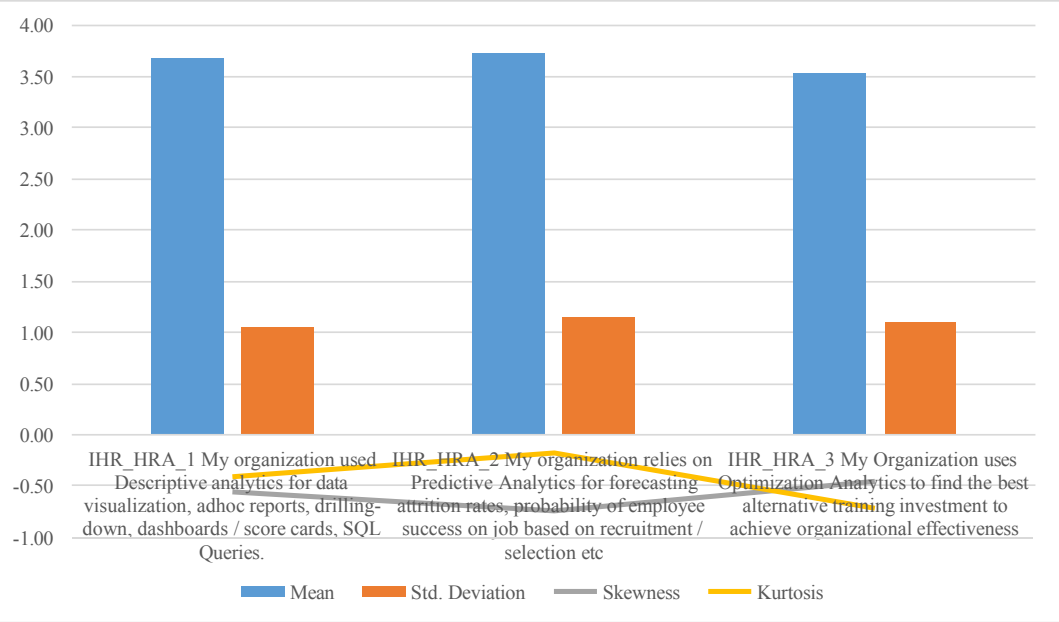
The mean scores for HR analytics falls between 3.54 and 3.73 indicating that IT Employees perceive higher implementation of HR Analytics in their Organization

The IT Employees in the study perceived that their organization relies on Predictive Analytics for forecasting attrition rates, probability of employee success on job based on recruitment / selection etc (M= 3.73) and organization used Descriptive analytics for data visualization, adhoc reports, drilling-down, dashboards / score cards, SQL Queries (M=3.67)

The standard deviation is below 1.500 for all items indicating similar range of responses from IT employees for HR Analytics as part of IHRM

Skewness quantifies the degree to which the responses are distributed asymmetrically, and Kurtosis evaluates the current curve's form in relation to the normal distribution. Skewness is often between -1.5 and +1.5, while kurtosis is typically between -3 and +3, as stated by (Hair and et al, 2007). When the skewness is negative, the distribution of the replies leans to the right. A positive skewness value also denotes a leftward concentration of answers. In the case of HR Analytics Negative skewness values that are well within the range of acceptability and that have a rightward tail indicate that more respondents are more likely to agree with the statement being made about the chosen HR Analytics. Also, all HR Analytics elements have Kurtosis values that are comfortably within the acceptable range, suggesting that they are statistically close to the Normal Distribution.

**Chart 4.7 - Descriptive statistics for Use of HR Analytics in the Organization**




The above chart shows the mean scores of employee perception of use of HR Analytics as part of IHRM in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (c) Communication and Collaboration Tools

**Table 4.8 - Descriptive statistics for Use of CCT in the Organization**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| IHR_CCT_1 There is unified workplace communication in my organization | 3.21 | 1.129 | -0.574 | -0.646 |
| IHR_CCT_2 In my organization work mates, employees and teams get right information in time | 3.17 | 1.059 | -0.158 | -0.899 |
| IHR_CCT_3 My organization uses right internal communication strategy | 3.26 | 1.007 | -0.600 | -0.625 |

With extensive review of literature 3 statements were derived to identify communication and Collaboration Tools (CCT) implemented as part of IHRM. The questionnaire was administered with Likert scale, where 1= strongly disagree and 5= strongly agree. The results are

summarised and presented in form of descriptive statistics. The mean scores are arranged in the variable list as asked in the questionnaire,

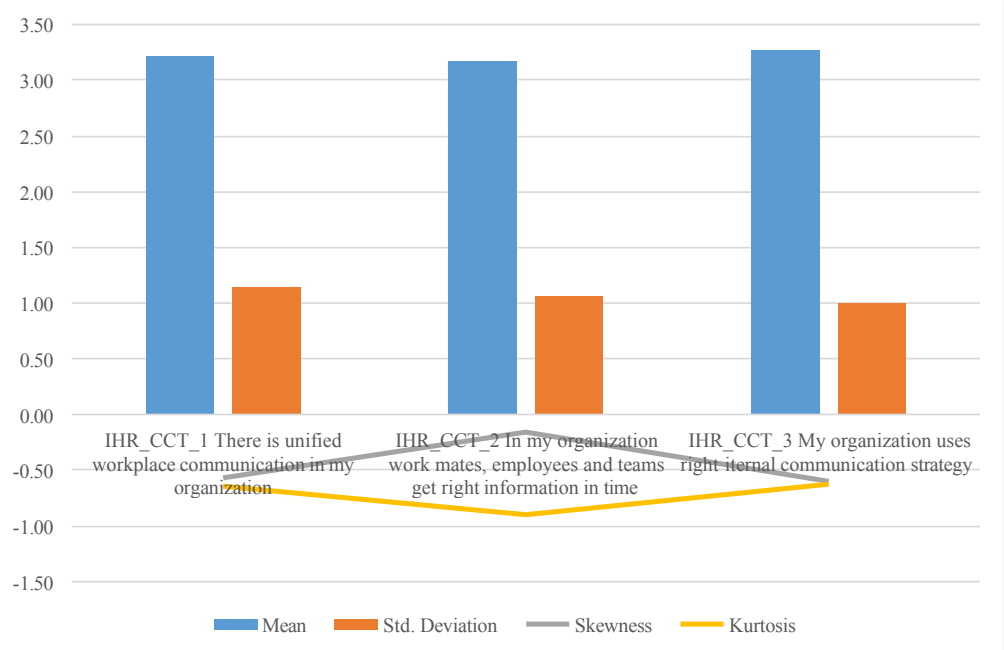
The mean scores for CCT item falls between 3.17 and 3.26 indicating that IT Employees perceive lower use of CCT in their Organization

The IT Employees in the study perceived that organization uses right internal communication strategy (M= 3.26) and unified workplace communication in my organization (M=3.21)

The standard deviation is below 1.500 for all items indicating similar range of responses from IT employees for CCT as part of IHRM

Skewness quantifies the degree to which the responses are distributed asymmetrically, and Kurtosis evaluates the current curve's form in relation to the normal distribution. Skewness is often between -1.5 and +1.5, while kurtosis is typically between -3 and +3, as stated by (Hair and et al, 2007). When the skewness is negative, the distribution of the replies leans to the right. A positive skewness value also denotes a leftward concentration of answers. In the case of CCT Negative skewness values that are well within the range of acceptability and that have a rightward tail indicate that more respondents are more likely to agree with the statement being made about the chosen CCT . Also, all CCT elements have Kurtosis values that are comfortably within the acceptable range, suggesting that they are statistically close to the Normal Distribution.

**Chart 4.8- Descriptive statistics for Use of CCT in the Organization**



The above chart shows the mean scores of employee perception of use of CCT as part of IHRM in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (d) Artificial Intelligence

**Table 4.9- Descriptive statistics for Use of AI for HR in the Organization**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| IHR_AI_1 My organization uses AI for HR Functions | 3.33 | 1.157 | -0.468 | -0.528 |
| IHR_AI_2 The Communication in the organization is powered by AI | 3.41 | 1.050 | -0.504 | -0.444 |

With extensive review of literature 2 statements were derived to identify Artificial Intelligence in HR (AI in HR) implemented as part of IHRM. The questionnaire was administered with Likert scale, where 1= strongly disagree and 5= strongly agree. The results are summarised and presented in form of descriptive statistics. The mean scores are arranged in the variable list as asked in the questionnaire,

The mean scores for AI in HR item falls between 3.33 and 3.46 indicating that IT Employees perceive moderate use of AI in HR in their Organization

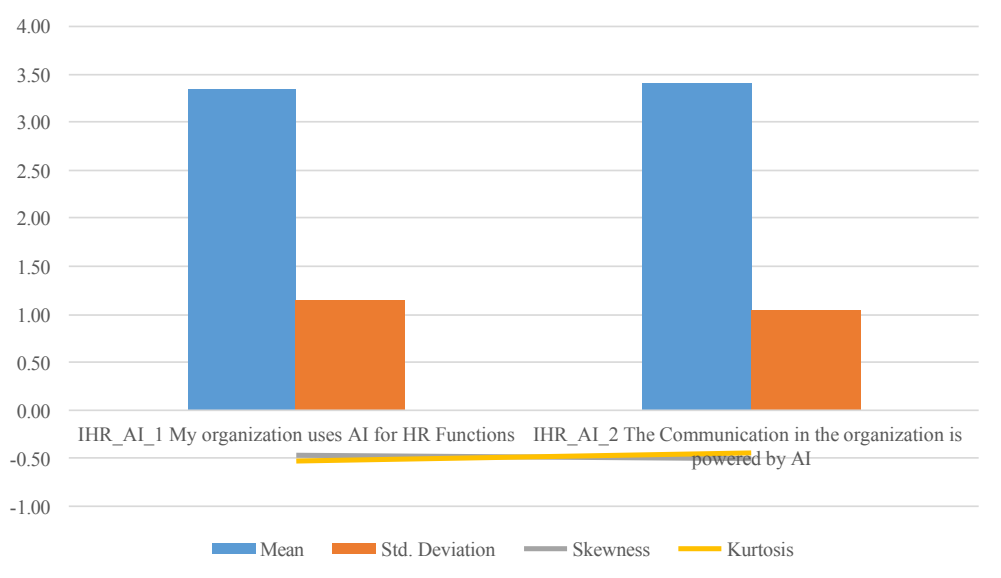
The IT Employees in the study perceived that Communication in the organization is powered by AI (M= 3.41) and organization uses AI for HR Functions (M=3.33)

The standard deviation is below 1.500 for all items indicating similar range of responses from IT employees for AI in HR as part of IHRM

Skewness quantifies the degree to which the responses are distributed asymmetrically, and Kurtosis evaluates the current curve's form in relation to the normal distribution. Skewness is often between -1.5 and +1.5, while kurtosis is typically between -3 and +3, as stated by (Hair and et al, 2007). When the skewness is negative, the distribution of the replies leans to the right. A positive skewness value also denotes a leftward concentration of answers. In the case of AI in HR Negative skewness values that are well within the range of acceptability and that have a rightward tail indicate that more respondents are more likely to agree with the statement being made about the chosen AI in HR. Also, all AI in HR elements have Kurtosis values that are

comfortably within the acceptable range, suggesting that they are statistically close to the Normal Distribution.

**Chart 4.9 - Descriptive statistics for Use of AI for HR in the Organization**




The above chart shows the mean scores of employee perception of use of AI in HR as part of IHRM in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (e) Employee Survey Pulse

**Table 4.10 - Descriptive statistics for Use of Employee survey Pulse in the Organization**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| IHR_ESP_1 Engagement pulse is used to measure employee engagement, along with measures of the core drivers of engagement, such as autonomy, career progression, or alignment to strategy | 3.51 | 1.023 | -0.256 | -0.614 |

| | | | | |
|---|---|---|---|---|
| IHR_ESP_2 Action planning follow-up pulse is run in conjunction with the annual engagement survey, this monitors the action plans set after that survey, with structured, regular feedback to help you measure progress and make changes to your plans | 3.74 | 0.921 | -0.691 | 0.277 |
| IHR_ESP_3 Company values pulse to track company values are truly being "lived" in the organisation | 3.75 | 1.018 | -0.608 | -0.443 |
| IHR_ESP_4 Change pulse is used to check in on employee sentiment more regularly through an organisational change program | 3.73 | 0.976 | -0.674 | -0.075 |

With extensive review of literature 4 statements were derived to identify Employee Survey Pulse (ESP) implemented as part of IHRM. The questionnaire was administered with Likert scale, where 1= strongly disagree and 5= strongly agree. The results are summarised and presented in form of descriptive statistics. The mean scores are arranged in the variable list as asked in the questionnaire,

The mean scores for ESP item falls between 3.75 and 3.51 indicating that IT Employees perceive high use of ESP in their Organization

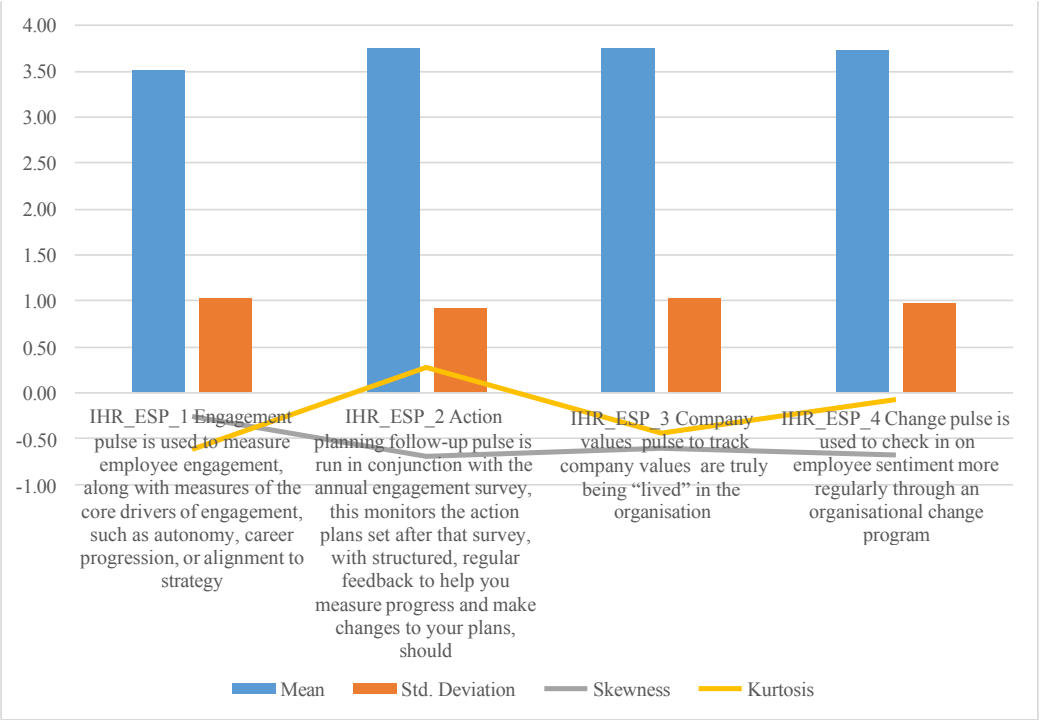
The IT Employees in the study perceived that Company values pulse to track company values are truly being "lived" in the organisation (M= 3.75) and Change pulse is used to check in on employee sentiment more regularly through an organisational change program (M=3.73)

The standard deviation is below 1.500 for all items indicating similar range of responses from IT employees for ESP as part of IHRM

Skewness quantifies the degree to which the responses are distributed asymmetrically, and Kurtosis evaluates the current curve's form in relation to the normal distribution. Skewness is often between -1.5 and +1.5, while kurtosis is typically between -3 and +3, as stated by (Hair and et al, 2007). When the skewness is negative, the distribution of the replies leans to the right. A positive skewness value also denotes a leftward concentration of answers. In the case of ESP Negative skewness values that are well within the range of acceptability and that have a rightward tail indicate that more respondents are more likely to agree with the statement being made about the chosen ESP. Also, all ESP elements have Kurtosis values that are comfortably

within the acceptable range, suggesting that they are statistically close to the Normal Distribution.

**Chart 4.10 - Descriptive statistics for Use of Employee survey Pulse in the Organization**




The above chart shows the mean scores of employee perception of use of ESP as part of IHRM in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### 4.3.2 Employee Engagement

Four variables are identified to measure the employee engagement among the respondents in the current study

#### (a) Employee Retention

**Table 4.11 - Descriptive statistics for Employee retention**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EE_ER_1 I am satisfied with the workplace flexibility offered by my organization | 3.41 | 1.432 | -0.495 | -1.119 |

| | | | | |
|---|---|---|---|---|
| EE_ER_2 I have the option to work from home | 2.95 | 1.539 | 0.054 | -1.525 |
| EE_ER_3 I have the choice of completing work without fixed login time as long as the task is completed | 3.11 | 1.473 | -0.128 | -1.434 |
| EE_ER_4 My company is of good repute in the industry | 4.33 | 0.872 | -1.463 | 2.451 |
| EE_ER_5 I feel proud to work in this organization | 4.30 | 0.874 | -1.315 | 1.773 |
| EE_ER_6 I speak positive of my organization wherever I go | 4.32 | 0.849 | -1.290 | 1.859 |
| EE_ER_7 I would not hesitate to recommend this company to a friend seeking employment | 4.22 | 0.959 | -1.288 | 1.402 |
| EE_ER_8 Medical facilities are provided by the organization | 4.12 | 1.047 | -1.103 | 0.515 |
| EE_ER_9 Communication between senior leaders and employees is good in my organization | 4.13 | 1.038 | -1.383 | 1.602 |
| EE_ER_10 Receive feedback from superior based on performance without any bias | 4.07 | 1.060 | -1.033 | 0.312 |
| EE_ER_11 My superior guides me to complete my task | 3.98 | 1.102 | -1.007 | 0.349 |
| EE_ER_12 I have the opportunities to apply my talents and expertise which are important for my growth | 4.03 | 1.063 | -1.148 | 0.825 |
| EE_ER_13 I receive enough recognition & encouragement for work that I do | 4.05 | 1.048 | -1.120 | 0.867 |

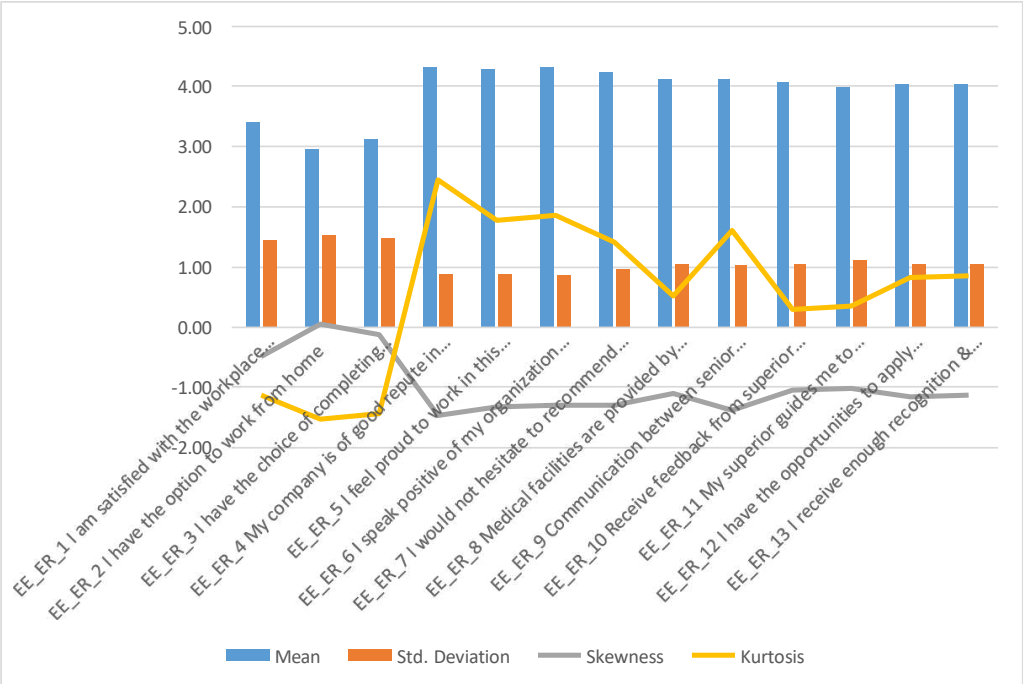
After a careful examination of the available literature, 13 assertions were formulated to describe the employee retention strategies to enhance employee engagement. The survey used a 5-point Likert scale, with 1 representing strongly disagreeing and 5 strongly agreeing. Descriptive statistics are used to summarize the findings. The averages are listed in the order of the variables from the survey.

The mean scores for Employee retention item falls between 4.33 and 2.95 indicating that IT Employees perceive higher importance to employee retention strategies in their Organization The IT Employees in the study expressed that they feel proud to work in this organization (M= 4.33 ) and speak positive of their organization wherever they go (M=4.32)

The standard deviation is below 1.500 for all items indicating similar range of responses from IT employees for Employee retention as part of Employee engagement

Skewness quantifies the degree to which the responses are distributed asymmetrically, and Kurtosis evaluates the current curve's form in relation to the normal distribution. Skewness is often between -1.5 and +1.5, while kurtosis is typically between -3 and +3, as stated by (Hair and et al, 2007). When the skewness is negative, the distribution of the replies leans to the right. A positive skewness value also denotes a leftward concentration of answers. In the case of Employee retention Negative skewness values that are well within the range of acceptability and that have a rightward tail indicate that more respondents are more likely to agree with the statement being made about the chosen Employee retention items. Also, all Employee retention elements have Kurtosis values that are comfortably within the acceptable range, suggesting that they are statistically close to the Normal Distribution.

**Chart 4.11 - Descriptive statistics for Employee retention**



The above chart shows the mean scores of employee perception of employee retention strategies as part of employee engagement in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (b) Reward and Recognition

**Table 4.12 - Descriptive statistics for Rewards and recognition**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EE_RR_1 We have team outings after completion of tasks or projects | 3.92 | 1.222 | -0.980 | -0.020 |
| EE_RR_2 The organization hosts cultural competitions and programmes | 4.07 | 1.096 | -1.168 | 0.667 |
| EE_RR_3 We have work related competitions with rewards | 3.82 | 1.192 | -0.825 | -0.138 |
| EE_RR_4 I get bonus for referrals | 3.83 | 1.212 | -0.872 | -0.117 |
| EE_RR_5 I am Satisfied with the bonus given in the organization | 3.67 | 1.260 | -0.633 | -0.548 |
| EE_RR_6 I am satisfied with my total benefits package | 4.02 | 1.069 | -1.021 | 0.440 |
| EE_RR_7 My employer is concerned about my financial well being | 3.82 | 1.134 | -0.587 | -0.512 |

After a careful examination of the available literature, 7 assertions were formulated to describe the reward and recognition strategies to enhance employee engagement. The survey used a 5-point Likert scale, with 1 representing strongly disagreeing and 5 strongly agreeing. Descriptive statistics are used to summarize the findings. The averages are listed in the order of the variables from the survey.

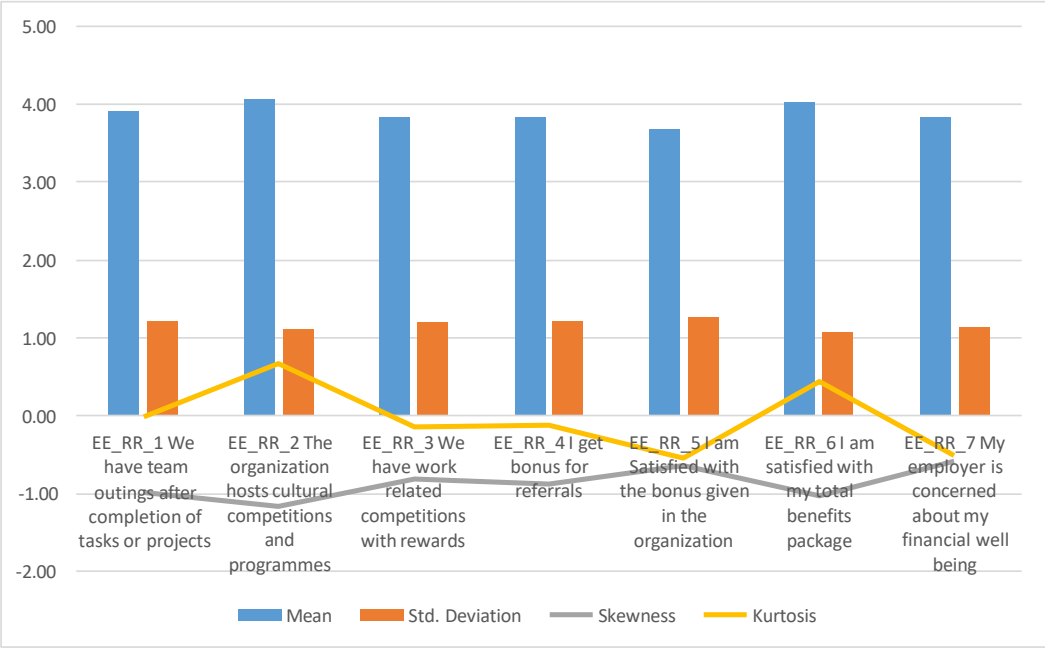
The mean scores for Reward and recognition item falls between 4.07 and 3.82 indicating that IT Employees perceive moderate importance to reward and recognition strategies in their Organization

The IT Employees in the study expressed that he organization hosts cultural competitions and programmes (M= 4.07 ) and Satisfied with the bonus given in the organization (M=3.67)

The standard deviation is below 1.500 for all items indicating similar range of responses from IT employees for Reward and recognition as part of Employee engagement

Skewness quantifies the degree to which the responses are distributed asymmetrically, and Kurtosis evaluates the current curve's form in relation to the normal distribution. Skewness is often between -1.5 and +1.5, while kurtosis is typically between -3 and +3, as stated by (Hair and et al, 2007). When the skewness is negative, the distribution of the replies leans to the right. A positive skewness value also denotes a leftward concentration of answers. In the case of Reward and recognition Negative skewness values that are well within the range of acceptability and that have a rightward tail indicate that more respondents are more likely to agree with the statement being made about the chosen Reward and recognition items. Also, all Reward and recognition elements have Kurtosis values that are comfortably within the acceptable range, suggesting that they are statistically close to the Normal Distribution

**Chart 4.12 - Descriptive statistics for Rewards and recognition**




The above chart shows the mean scores of reward and recognition as part of employee engagement in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (c) Personality Development

**Table 4.13 - Descriptive statistics for Personality Development**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EE_PD_1 I feel my personality matches the image of this organization | 4.16 | 0.917 | -1.114 | 1.159 |
| EE_PD_2 I feel my values fit this organization and current employees in this organization | 4.18 | 0.962 | -1.259 | 1.426 |
| EE_PD_3 I think values & personality of this organization reflect my own values & personality | 4.13 | 0.954 | -1.160 | 1.331 |
| EE_PD_4 Superiors on this job give me feedback about how well I am improving my skill | 4.06 | 1.028 | -1.005 | 0.375 |
| EE_PD_5 Job requires me to use a number of complex or high-level skills | 4.14 | 0.996 | -1.058 | 0.557 |
| EE_PD_6 My organization encourages me to innovate and do things creatively | 4.13 | 0.945 | -0.965 | 0.517 |
| EE_PD_7 My job requires that I have to work closely with my superior | 3.98 | 1.004 | -0.756 | -0.001 |
| EE_PD_8 I need to complete my task along with superior | 3.79 | 1.129 | -0.553 | -0.641 |
| EE_PD_9 In last year, I had opportunities at work to learn and grow | 4.11 | 0.977 | -1.268 | 1.576 |
| EE_PD_10 My manager encourages me to develop my career | 4.06 | 1.021 | -1.010 | 0.592 |
| EE_PD_11 I am pleased with the career advancement opportunities available to me | 4.00 | 1.058 | -0.961 | 0.394 |
| EE_PD_12 My company provides global opportunity to work in different countries | 2.99 | 1.432 | -0.004 | -1.335 |

After a careful examination of the available literature, 12 assertions were formulated to describe the Personality development strategies to enhance employee engagement. The survey used a 5-point Likert scale, with 1 representing strongly disagreeing and 5 strongly agreeing. Descriptive statistics are used to summarize the findings. The averages are listed in the order of the variables from the survey.

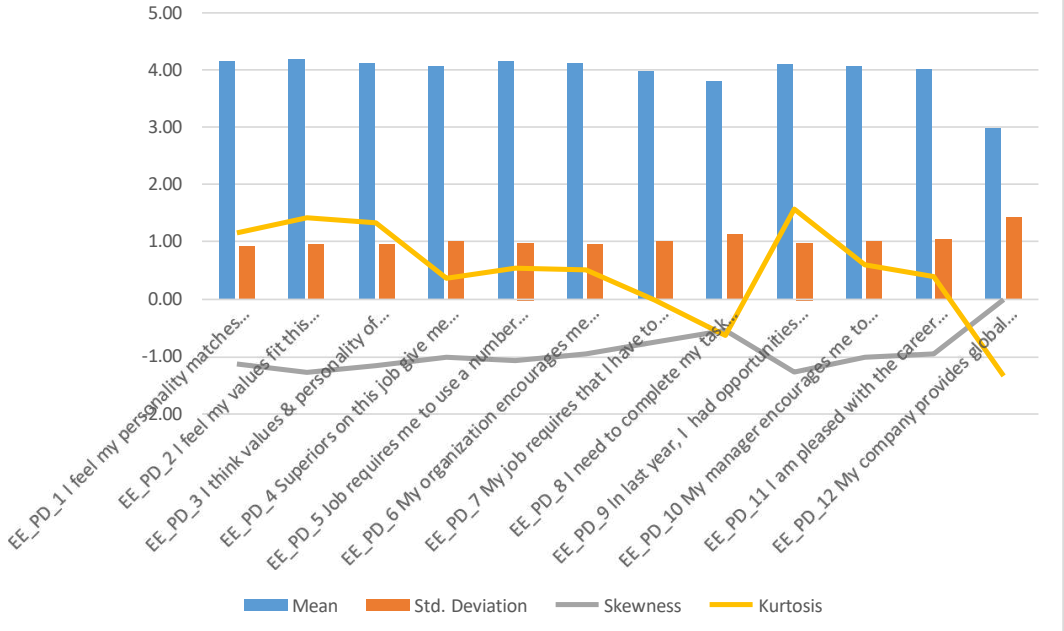
The mean scores for Personality development item falls between 2.99 and 4.14 indicating that IT Employees perceive moderate importance to Personality development strategies in their Organization

The IT Employees in the study expressed that Job requires me to use a number of complex or high-level skills (M= 4.14 ) and the organization encourages to innovate and do things creatively (M=4.13 )

The standard deviation is below 1.500 for all items indicating similar range of responses from IT employees for Personality development as part of Employee engagement

Skewness quantifies the degree to which the responses are distributed asymmetrically, and Kurtosis evaluates the current curve's form in relation to the normal distribution. Skewness is often between -1.5 and +1.5, while kurtosis is typically between -3 and +3, as stated by (Hair and et al, 2007). When the skewness is negative, the distribution of the replies leans to the right. A positive skewness value also denotes a leftward concentration of answers. In the case of Personality development Negative skewness values that are well within the range of acceptability and that have a rightward tail indicate that more respondents are more likely to agree with the statement being made about the chosen Personality development items. Also, all Personality development elements have Kurtosis values that are comfortably within the acceptable range, suggesting that they are statistically close to the Normal Distribution

**Chart 4.13 - Descriptive statistics for Personality Development**




The above chart shows the mean scores of personality development as part of employee engagement in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (d) Performance Appraisal

**Table 4.14 - Descriptive statistics for Performance appraisal**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EE_PA_1 It helps to identify my strength and weakness | 4.03 | 0.991 | -0.881 | 0.283 |
| EE_PA_2 The superiors in my organization have great ability to assess my performance on regular basis | 4.06 | 1.007 | -0.906 | 0.283 |
| EE_PA_3 360 degree appraisal is done | 3.84 | 1.217 | -0.835 | -0.316 |

| | | | | |
|---|---|---|---|---|
| EE_PA_4 Just doing the work required by the job provides many chances for me to figure out how well I doing | 4.04 | 0.992 | -0.893 | 0.236 |
| EE_PA_5 My job itself provides me with information about my work performance | 4.11 | 0.959 | -1.007 | 0.639 |
| EE_PA_6 There is regular feedback mechanism | 4.07 | 1.088 | -1.139 | 0.696 |
| EE_PA_7 I am assessed by my superior and colleagues | 4.13 | 0.947 | -1.029 | 0.673 |

After a careful examination of the available literature, 7 assertions were formulated to describe the Performance appraisal strategies to enhance employee engagement. The survey used a 5-point Likert scale, with 1 representing strongly disagreeing and 5 strongly agreeing. Descriptive statistics are used to summarize the findings. The averages are listed in the order of the variables from the survey.

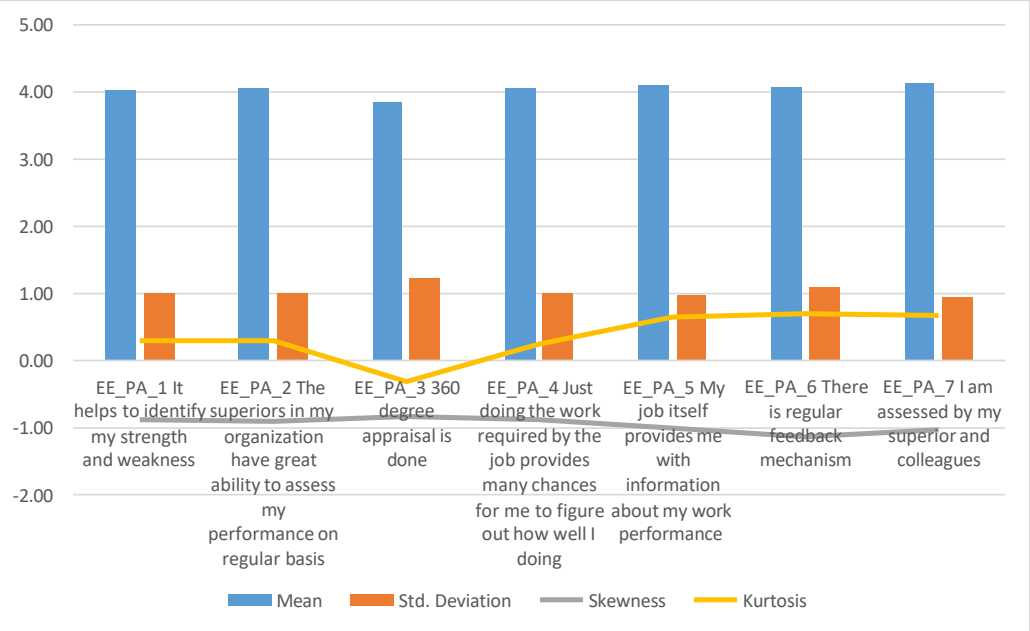
The mean scores for Performance appraisal item falls between 4.13 and 3.84 indicating that IT Employees perceive higher importance to Performance appraisal strategies in their Organization

The IT Employees in the study expressed that they assessed by their superior and colleagues (M= 4.13 ) and 360 degree appraisal is done (M=3.84 )

The standard deviation is below 1.500 for all items indicating similar range of responses from IT employees for Performance appraisal as part of Employee engagement

Skewness quantifies the degree to which the responses are distributed asymmetrically, and Kurtosis evaluates the current curve's form in relation to the normal distribution. Skewness is often between -1.5 and +1.5, while kurtosis is typically between -3 and +3, as stated by (Hair and et al, 2007). When the skewness is negative, the distribution of the replies leans to the right. A positive skewness value also denotes a leftward concentration of answers. In the case of Performance appraisal Negative skewness values that are well within the range of acceptability and that have a rightward tail indicate that more respondents are more likely to agree with the statement being made about the chosen Performance appraisal items. Also, all Performance appraisal elements have Kurtosis values that are comfortably within the acceptable range, suggesting that they are statistically close to the Normal Distribution.

**Chart 4.14 - Descriptive statistics for Performance appraisal**




The above chart shows the mean scores of performance appraisal as part of employee engagement in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### 4.3.3 Employee Productivity

#### (a) Internal Work systems

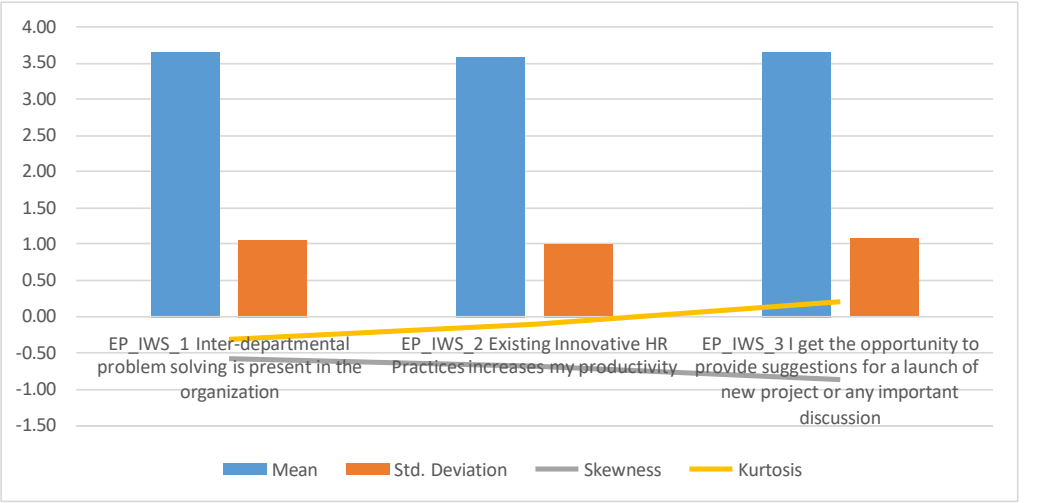
**Table 4.15 - Descriptive statistics for Internal Work systems**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EP_IWS_1 Inter-departmental problem solving is present in the organization | 3.67 | 1.048 | -0.579 | -0.312 |
| EP_IWS_2 Existing Innovative HR Practices increases my productivity | 3.58 | 1.012 | -0.683 | -0.103 |
| EP_IWS_3 I get the opportunity to provide suggestions for a launch of new project or any important discussion | 3.66 | 1.076 | -0.867 | 0.207 |

3 statements were developed after a thorough analysis of the literature to study the internal works system used to improve employee productivity in the organizations. A Likert scale was used to conduct the questionnaire, with 1 denoting strong disagreement and 5 denoting strong agreement. Descriptive statistics are used to summarize and present the findings. The variable list's mean scores are sorted according to the questionnaire's sequence.

The mean scores for internal works system item falls between 3.58 and 3.66 indicating that IT Employees perceive moderate influence of internal works system on employee productivity. The standard deviation is less than 1.500 for all items, showing that IT personnel' responses to the Internal Works system measuring employee productivity fell within a comparable range. Kurtosis assesses the shape of the current curve in comparison to the normal distribution, and Skewness measures how asymmetrically distributed the responses are. According to, k researcher's kurtosis is often between -3 and +3 while skewness is frequently between -1.5 and +1.5. (Hair and et al, 2007). The distribution of the answers tends to lean to the right when the skewness is negative. A leftward concentration of replies is also indicated by a positive number for skewness. Negative skewness values for Internal work systems suggest that more respondents are more likely to concur with the assertion being made regarding the selected Internal work system items when they are well within the range of acceptable values and have a rightward tail. Additionally, all components of Internal work system have Kurtosis values that are statistically close to the Normal Distribution and are comfortably within the acceptable range.

**Chart 4.15 - Descriptive statistics for Internal Work systems**




The above chart shows the mean scores of Internal work systems as part of employee productivity in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (b) Employee Contribution

**Table 4.16 - Descriptive statistics for Employee contribution**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EP_EC_1 I am given an opportunity to bring forward ideas before decisions are made | 3.57 | 1.049 | -0.487 | -0.579 |
| EP_EC_2 The talent management aspects of my organization increases my contribution to work | 3.27 | 0.973 | -0.075 | -0.714 |
| EP_EC_3 My work load allows me to balance between personal life and professional career | 3.29 | 1.168 | -0.263 | -0.809 |

| | | | | |
|---|---|---|---|---|
| EP_EC_4 I can provide suggestions or grievances to the organization without revealing Identity | 3.92 | 1.057 | -0.830 | -0.072 |

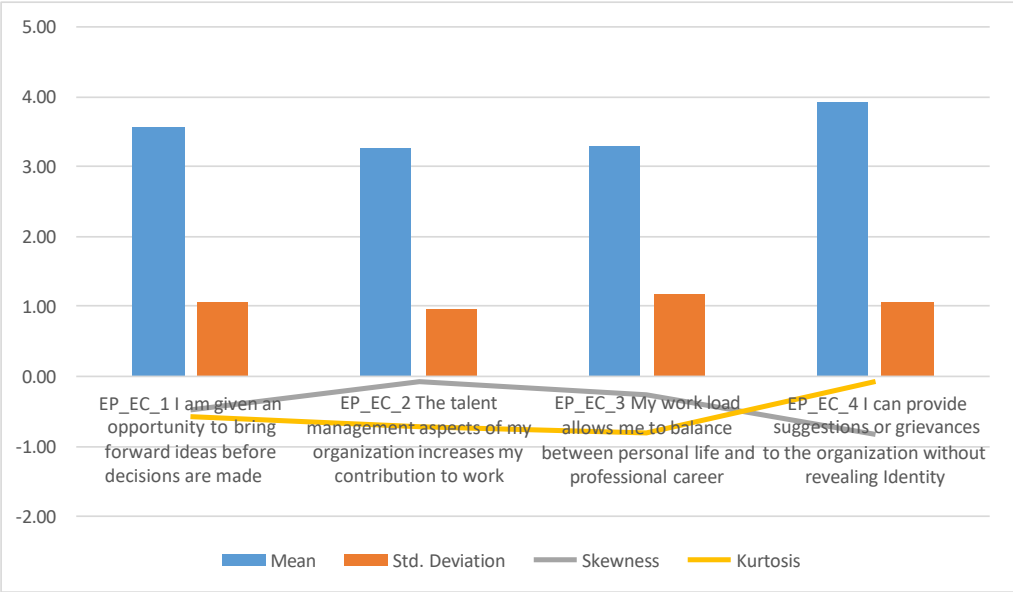
4 statements were developed after a thorough analysis of the literature to study the Employee contribution used to improve employee productivity in the organizations. A Likert scale was used to conduct the questionnaire, with 1 denoting strong disagreement and 5 denoting strong agreement. Descriptive statistics are used to summarize and present the findings. The variable list's mean scores are sorted according to the questionnaire's sequence.

The mean scores for Employee contribution item falls between 3.27 and 3.92 indicating that IT Employees perceive moderate influence of Employee contribution on employee productivity.

The standard deviation is less than 1.500 for all items, showing that IT personnel' responses to the Employee contribution measuring employee productivity fell within a comparable range.

Kurtosis assesses the shape of the current curve in comparison to the normal distribution, and Skewness measures how asymmetrically distributed the responses are. According to, k researcher's kurtosis is often between -3 and +3 while skewness is frequently between -1.5 and +1.5. (Hair and et al, 2007). The distribution of the answers tends to lean to the right when the skewness is negative. A leftward concentration of replies is also indicated by a positive number for skewness. Negative skewness values for Employee contributions suggest that more respondents are more likely to concur with the assertion being made regarding the selected Employee contribution items when they are well within the range of acceptable values and have a rightward tail. Additionally, all components of Employee contribution have Kurtosis values that are statistically close to the Normal Distribution and are comfortably within the acceptable range.

**Chart 4.16- Descriptive statistics for Employee contribution**




The above chart shows the mean scores of Employee Contribution as part of employee productivity in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (c ) Vigour

**Table 4.17 - Descriptive statistics for Vigour**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EP_V_1 The organization's communication motivates and stimulates an enthusiasm for meeting its goals | 3.63 | 1.027 | -0.610 | -0.285 |
| EP_V_2 The organization's communication makes me identify with it and feel a vital part of it | 3.60 | 1.130 | -0.483 | -0.659 |

2 statements were developed after a thorough analysis of the literature to study the Vigour used to improve employee productivity in the organizations. A Likert scale was used to conduct the questionnaire, with 1 denoting strong disagreement and 5 denoting strong agreement.

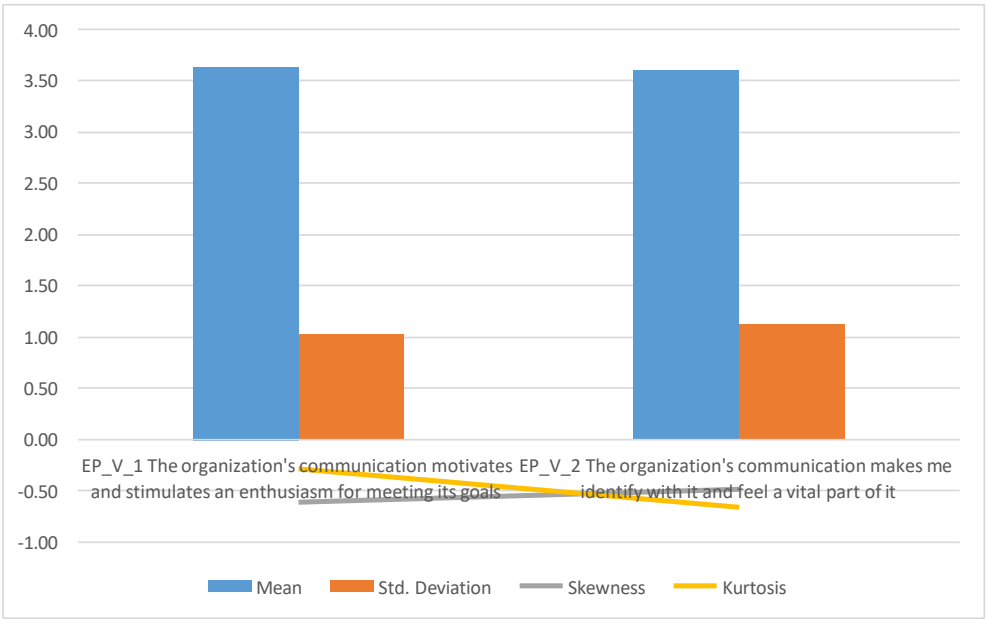
Descriptive statistics are used to summarize and present the findings. The variable list's mean scores are sorted according to the questionnaire's sequence.

The mean scores for Vigour item falls between 3.63 and 3.60 indicating that IT Employees perceive moderate influence of Vigour on employee productivity.

The standard deviation is less than 1.500 for all items, showing that IT personnel' responses to the Vigour measuring employee productivity fell within a comparable range.

Kurtosis assesses the shape of the current curve in comparison to the normal distribution, and Skewness measures how asymmetrically distributed the responses are. According to, k researcher's kurtosis is often between -3 and +3 while skewness is frequently between -1.5 and +1.5. (Hair and et al, 2007). The distribution of the answers tends to lean to the right when the skewness is negative. A leftward concentration of replies is also indicated by a positive number for skewness. Negative skewness values for Vigours suggest that more respondents are more likely to concur with the assertion being made regarding the selected Vigour items when they are well within the range of acceptable values and have a rightward tail. Additionally, all components of Vigour have Kurtosis values that are statistically close to the Normal Distribution and are comfortably within the acceptable range.

**Chart 4.17 - Descriptive statistics for Vigour**



The above chart shows the mean scores of Vigour as part of employee productivity in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (d) Dedication

**Table 4.18 - Descriptive statistics for Dedication**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EP_DD_1 I take initiative to improve the way in which the work is done | 3.71 | 1.006 | -0.424 | -0.348 |
| EP_DD_2 I find the work that I do, full of meaning and purpose | 3.68 | 1.043 | -0.504 | -0.277 |
| EP_DD_3 The work processes we have in place allows me to be as productive as possible | 3.63 | 1.012 | -0.331 | -0.576 |

3 statements were developed after a thorough analysis of the literature to study the Dedication used to improve employee productivity in the organizations. A Likert scale was used to conduct the questionnaire, with 1 denoting strong disagreement and 5 denoting strong agreement. Descriptive statistics are used to summarize and present the findings. The variable list's mean scores are sorted according to the questionnaire's sequence.

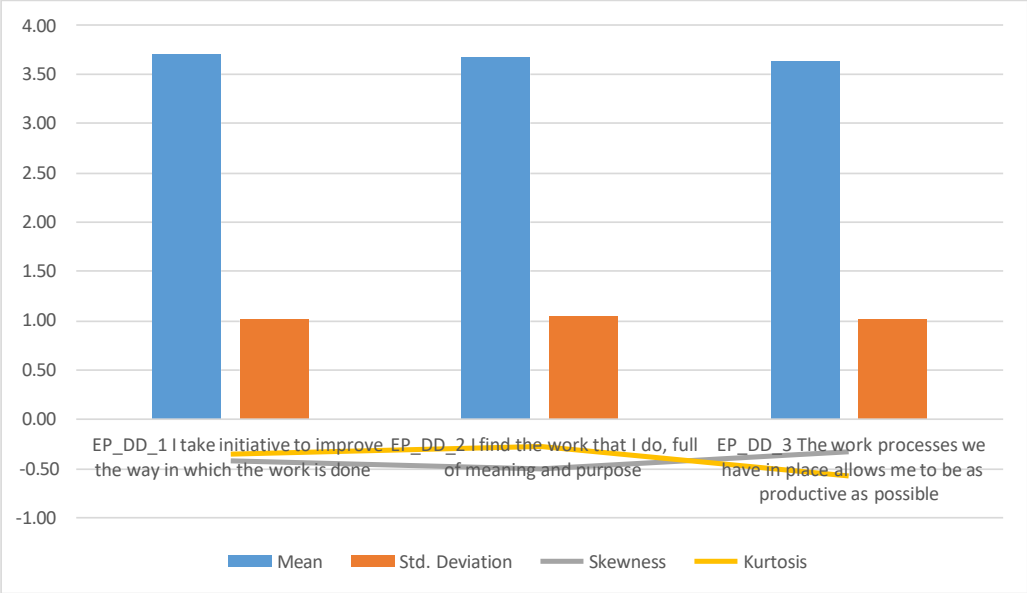
The mean scores for Dedication item falls between 3.63 and 3.71 indicating that IT Employees perceive moderate influence of Dedication on employee productivity.

The standard deviation is less than 1.500 for all items, showing that IT personnel' responses to the Dedication measuring employee productivity fell within a comparable range.

Kurtosis assesses the shape of the current curve in comparison to the normal distribution, and Skewness measures how asymmetrically distributed the responses are. According to, k researcher's kurtosis is often between -3 and +3 while skewness is frequently between -1.5 and +1.5. (Hair and et al, 2007). The distribution of the answers tends to lean to the right when the skewness is negative. A leftward concentration of replies is also indicated by a positive number for skewness. Negative skewness values for Dedication suggest that more respondents are more likely to concur with the assertion being made regarding the selected Dedication items when they are well within the range of acceptable values and have a rightward tail. Additionally, all

components of Dedication have Kurtosis values that are statistically close to the Normal Distribution and are comfortably within the acceptable range

**Chart 4.18- Descriptive statistics for Dedication**




The above chart shows the mean scores of Dedication as part of employee productivity in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (e ) Psychological Factors

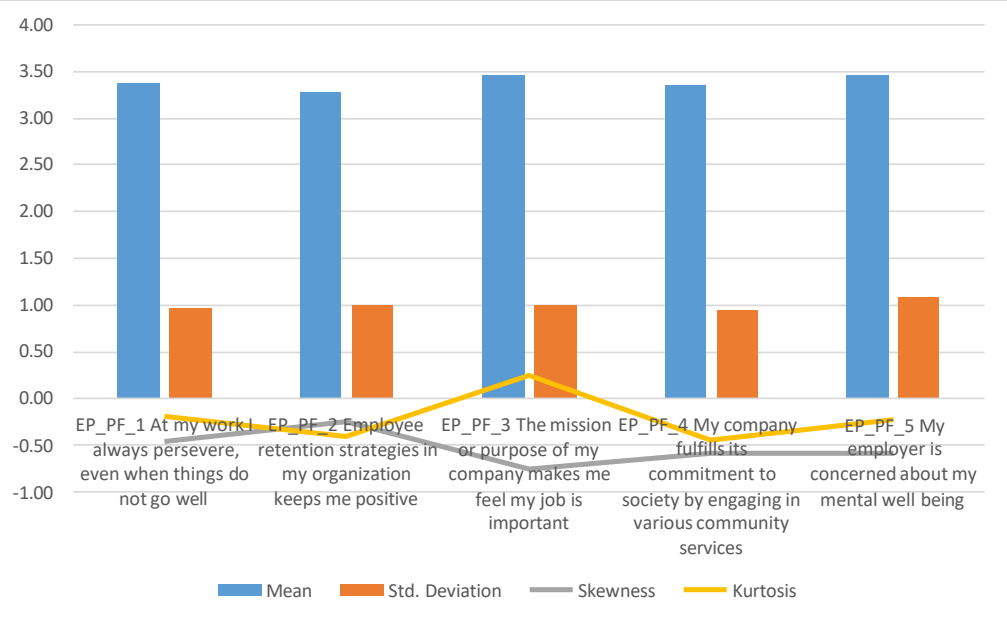
**Table 4.19 - Descriptive statistics for Psychological factors**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EP_PF_1 At my work I always persevere, even when things do not go well | 3.37 | 0.959 | -0.466 | -0.188 |
| EP_PF_2 Employee retention strategies in my organization keeps me positive | 3.28 | 0.996 | -0.249 | -0.406 |
| EP_PF_3 The mission or purpose of my company makes me feel my job is important | 3.46 | 1.000 | -0.757 | 0.247 |

| | | | | |
|---|---|---|---|---|
| EP_PF_4 My company fulfills its commitment to society by engaging in various community services | 3.36 | 0.950 | -0.582 | -0.447 |
| EP_PF_5 My employer is concerned about my mental well being | 3.46 | 1.090 | -0.589 | -0.231 |

5 statements were developed after a thorough analysis of the literature to study the Psychological Factors used to improve employee productivity in the organizations. A Likert scale was used to conduct the questionnaire, with 1 denoting strong disagreement and 5 denoting strong agreement. Descriptive statistics are used to summarize and present the findings. The variable list's mean scores are sorted according to the questionnaire's sequence. The mean scores for Psychological Factors item falls between 3.26 and 3.48 indicating that IT Employees perceive moderate influence of Psychological Factors on employee productivity. The standard deviation is less than 1.500 for all items, showing that IT personnel' responses to the Psychological Factors measuring employee productivity fell within a comparable range. Kurtosis assesses the shape of the current curve in comparison to the normal distribution, and Skewness measures how asymmetrically distributed the responses are. According to, k researcher's kurtosis is often between -3 and +3 while skewness is frequently between -1.5 and +1.5. (Hair and et al, 2007). The distribution of the answers tends to lean to the right when the skewness is negative. A leftward concentration of replies is also indicated by a positive number for skewness. Negative skewness values for Psychological Factorss suggest that more respondents are more likely to concur with the assertion being made regarding the selected Psychological Factors items when they are well within the range of acceptable values and have a rightward tail. Additionally, all components of Psychological Factors have Kurtosis values that are statistically close to the Normal Distribution and are comfortably within the acceptable range

**Chart 4.19- Descriptive statistics for Psychological factors**




The above chart shows the mean scores of Psychological factors as part of employee productivity in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (f) Motivational Factors

**Table 4.20 - Descriptive statistics for motivational factors**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EP_MF_1 The rewards and recognition motivates me to focus on my job duties | 3.32 | 0.997 | -0.622 | -0.392 |
| EP_MF_2 The rewards and recognition motivates me to focus on my job duties | 3.43 | 1.074 | -0.336 | -0.371 |
| EP_MF_3 The training in my organization motivates me to work better | 3.51 | 0.963 | -0.484 | -0.152 |
| EP_MF_4 My company has excellent leadership | 3.50 | 1.027 | -0.302 | -0.320 |

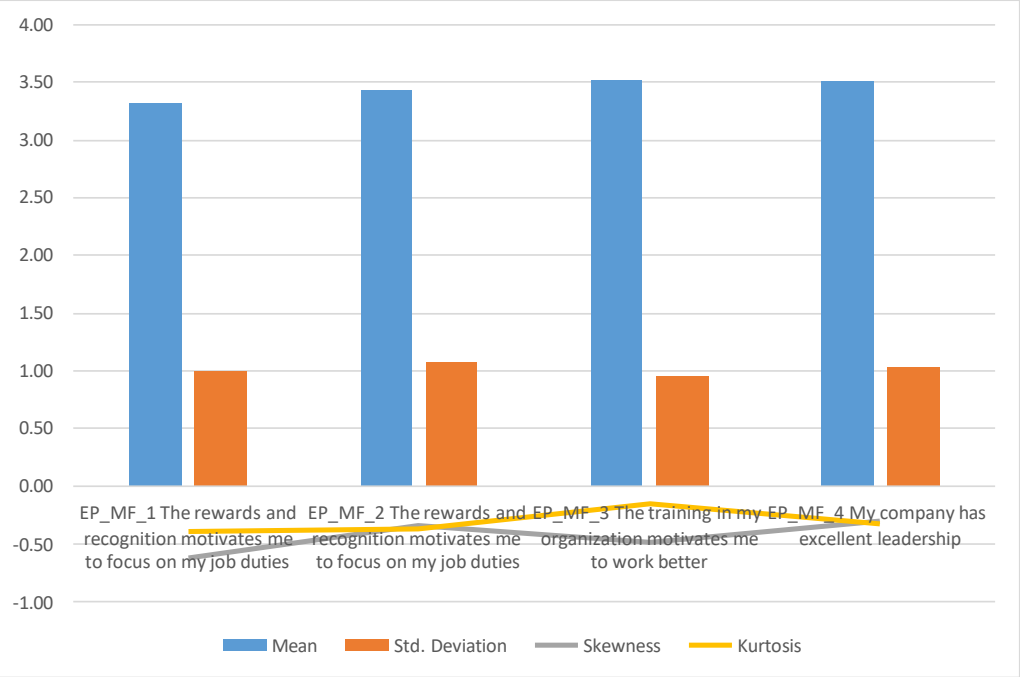
4 statements were developed after a thorough analysis of the literature to study the Motivational Factors used to improve employee productivity in the organizations. A Likert scale was used to conduct the questionnaire, with 1 denoting strong disagreement and 5 denoting strong agreement. Descriptive statistics are used to summarize and present the findings. The variable list's mean scores are sorted according to the questionnaire's sequence.

The mean scores for Motivational Factors item falls between 3.32 and 3.51 indicating that IT Employees perceive moderate influence of Motivational Factors on employee productivity.

The standard deviation is less than 1.500 for all items, showing that IT personnel' responses to the Motivational Factors measuring employee productivity fell within a comparable range.

Kurtosis assesses the shape of the current curve in comparison to the normal distribution, and Skewness measures how asymmetrically distributed the responses are. According to, k researcher's kurtosis is often between -3 and +3 while skewness is frequently between -1.5 and +1.5. (Hair and et al, 2007). The distribution of the answers tends to lean to the right when the skewness is negative. A leftward concentration of replies is also indicated by a positive number for skewness. Negative skewness values for Motivational Factorss suggest that more respondents are more likely to concur with the assertion being made regarding the selected Motivational Factors items when they are well within the range of acceptable values and have a rightward tail. Additionally, all components of Motivational Factors have Kurtosis values that are statistically close to the Normal Distribution and are comfortably within the acceptable range.

**Chart 4.20 - Descriptive statistics for motivational factors**




The above chart shows the mean scores of Motivational factors as part of employee productivity in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (g) Experience Factors

**Table 4.21- Descriptive statistics for Experience factors**

| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EP_EF_1 The CEO and superiors directly address the employees to encourage you and handle grievances | 3.50 | 0.983 | -0.352 | -0.173 |
| EP_EF_2 I am allowed to influence important decisions concerning work | 3.34 | 0.971 | -0.330 | -0.395 |

2 statements were developed after a thorough analysis of the literature to study the Experience Factors used to improve employee productivity in the organizations. A Likert scale was used

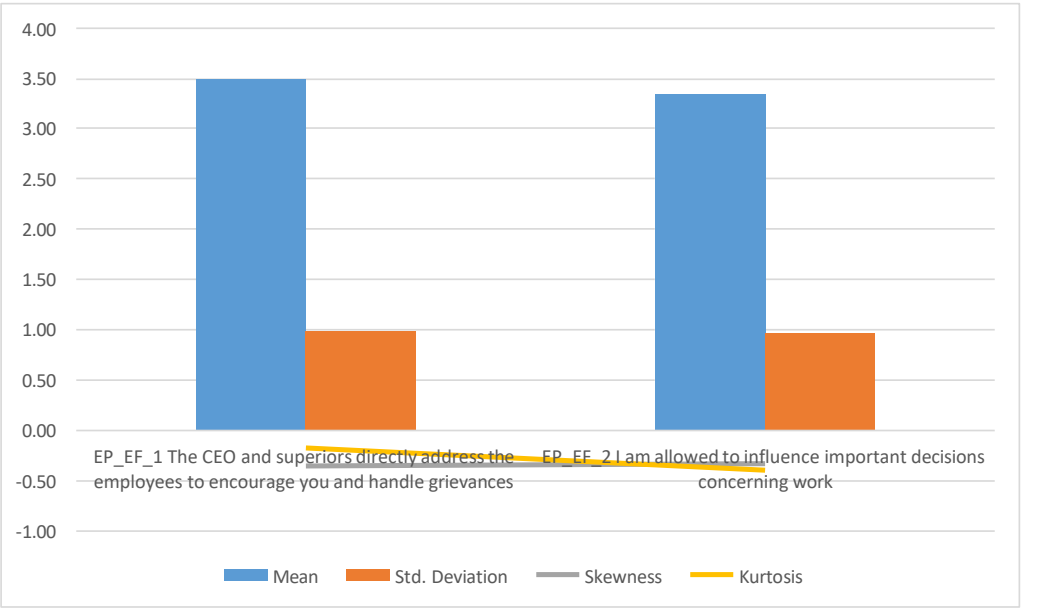
to conduct the questionnaire, with 1 denoting strong disagreement and 5 denoting strong agreement. Descriptive statistics are used to summarize and present the findings. The variable list's mean scores are sorted according to the questionnaire's sequence.

The mean scores for Experience Factors item falls between 3.30 and 3.54 indicating that IT Employees perceive moderate influence of Experience Factors on employee productivity.

The standard deviation is less than 1.500 for all items, showing that IT personnel' responses to the Experience Factors measuring employee productivity fell within a comparable range.

Kurtosis assesses the shape of the current curve in comparison to the normal distribution, and Skewness measures how asymmetrically distributed the responses are. According to, k researcher's kurtosis is often between -3 and +3 while skewness is frequently between -1.5 and +1.5. (Hair and et al, 2007). The distribution of the answers tends to lean to the right when the skewness is negative. A leftward concentration of replies is also indicated by a positive number for skewness. Negative skewness values for Experience Factorss suggest that more respondents are more likely to concur with the assertion being made regarding the selected Experience Factors items when they are well within the range of acceptable values and have a rightward tail. Additionally, all components of Experience Factors have Kurtosis values that are statistically close to the Normal Distribution and are comfortably within the acceptable range.

**Chart 4.21 - Descriptive statistics for Experience factors**



The above chart shows the mean scores of Experience factors as part of employee productivity in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range

### (h) Internal Capacity and effort

**Table 4.22 - Descriptive statistics for Internal Capacity and effort**

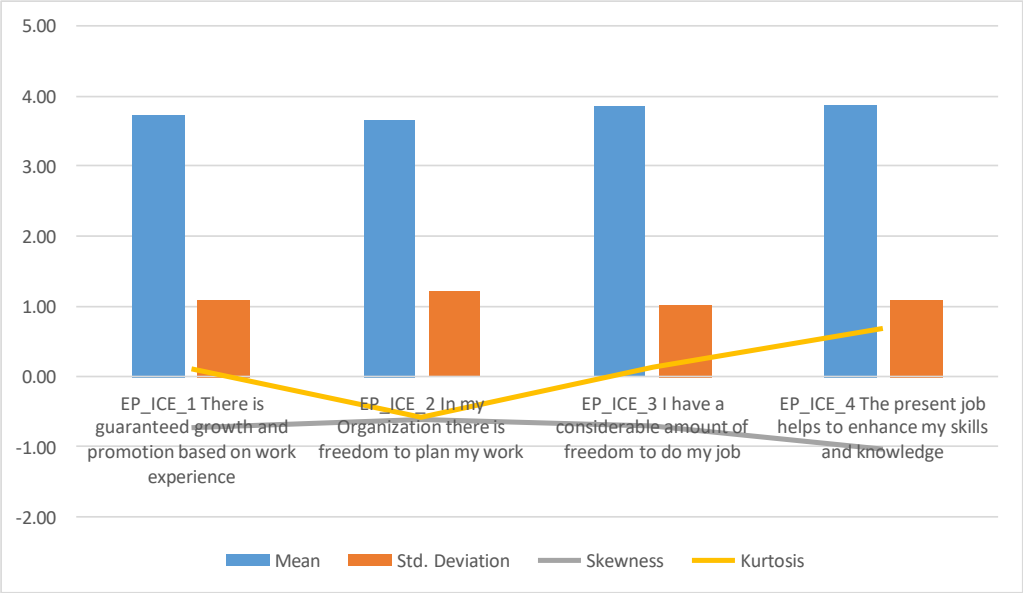
| | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| EP_ICE_1 There is guaranteed growth and promotion based on work experience | 3.72 | 1.099 | -0.731 | 0.105 |
| EP_ICE_2 In my Organization there is freedom to plan my work | 3.66 | 1.204 | -0.613 | -0.581 |
| EP_ICE_3 I have a considerable amount of freedom to do my job | 3.85 | 1.023 | -0.711 | 0.133 |
| EP_ICE_4 The present job helps to enhance my skills and knowledge | 3.87 | 1.083 | -1.035 | 0.686 |

4 statements were developed after a thorough analysis of the literature to study the internal capacity efforts used to improve employee productivity in the organizations. A Likert scale was used to conduct the questionnaire, with 1 denoting strong disagreement and 5 denoting strong agreement. Descriptive statistics are used to summarize and present the findings. The variable list's mean scores are sorted according to the questionnaire's sequence.

The mean scores for internal capacity efforts item falls between 3.87 and 3.66 indicating that IT Employees perceive higher influence of internal capacity efforts on employee productivity. The standard deviation is less than 1.500 for all items, showing that IT personnel' responses to the Internal capacity efforts measuring employee productivity fell within a comparable range. Kurtosis assesses the shape of the current curve in comparison to the normal distribution, and Skewness measures how asymmetrically distributed the responses are. According to, k researcher's kurtosis is often between -3 and +3 while skewness is frequently between -1.5 and +1.5. (Hair and et al, 2007). The distribution of the answers tends to lean to the right when the skewness is negative. A leftward concentration of replies is also indicated by a positive number for skewness. Negative skewness values for internal capacity efforts suggest that more respondents are more likely to concur with the assertion being made regarding the selected

internal capacity efforts items when they are well within the range of acceptable values and have a rightward tail. Additionally, all components of internal capacity efforts have Kurtosis values that are statistically close to the Normal Distribution and are comfortably within the acceptable range

**Chart 4.22- Descriptive statistics for Internal Capacity and effort**




The above chart shows the mean scores of internal capacity and efforts as part of employee productivity in the organization. The skewness and Kurtosis are represented using the lines, which are within the specified range.

## 4.4 Testing of Hypotheses

Objective -1: To identify various applications of Innovative Human resource practices in IT industry

### 4.4.1 Hypothesis 1

Null Hypothesis – HR Technology, HR Analytics, Collaboration Tools, AI in HR and Employee Pulse survey are not contributors to Innovative Human resource practices

Alternate Hypothesis – HR Technology, HR Analytics, Collaboration Tools, AI in HR and Employee Pulse survey are contributors to Innovative Human resource practices

Statistical test – Structural Equation Modelling

Step -1 exploratory factor analysis

The goal of a Factor Analysis, also known as a Principal Components Analysis, is to locate and make use of the structure that exists within the correlation matrix of the variables that are being analyzed in order to reduce the dimensionality of the data with as little information as possible being lost in the process. The researcher will normally make an effort to give each of the original variables (or objects) a descriptive name before attempting to tie those labels to a fundamental feature that is shared by all of the variables.

**Table 4.23 - KMO Bartlett's statistics - IHRM factors**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.823 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 19150.372 |
| | df | 622 |
| | Sig. | 0.000 |

The KMO and Bartlett test takes into account all of the data that is currently accessible. If the KMO value is larger than 0.5 and the significance level of the Bartlett's test is less than 0.05, then there is a strong possibility that there is a significant amount of correlation in the data. It is also possible to determine the KMO measure for each variable. The use of numbers bigger than 0.5 is not problematic in any way. In the current model, the KMO Statistic is 0.823 which is above the acceptable criteria and statistically significant at p =0.000

The Chi square values is 19150.372 at 622 degrees of freedom. Bartlett's test of sphericity is a method that can be used to examine the possibility of rejecting the null hypothesis that the correlation matrix is an identical matrix. If the correlation matrix is completely filled with ones, this indicates that the variables are not connected to one another and that they will not do well in a factor analysis. In the current Model correlation matrix is shown not to be an identity matrix (the null hypothesis is rejected) as a result of a statistical test that is significant.

**Table 4.24 – Communalities – IHRM factors**

| Communalities | | |
|---|---|---|
| | Initial | Extraction |
| IHR_HRT_1 HR technology is used for recruiting in my organization | 1.000 | 0.832 |
| IHR_HRT_2 Compensation planning and Management is done through HR Technology | 1.000 | 0.543 |

| | | |
|---|---|---|
| IHR_HRT_3 HR Reporting and internal job posting is carried out using HR Technology | 1.000 | 0.589 |
| IHR_HRT_4 Training and Learning is empowered through HR Technology | 1.000 | 0.739 |
| IHR_HRT_5 Employee relations are handled through HR Technologies | 1.000 | 0.804 |
| IHR_HRA_1 My organization used Descriptive analytics for data visualization, adhoc reports, drilling-down, dashboards / score cards, SQL Queries. | 1.000 | 0.789 |
| IHR_HRA_2 My organization relies on Predictive Analytics for forecasting attrition rates, probability of employee success on job based on recruitment / selection etc | 1.000 | 0.648 |
| IHR_HRA_3 My Organization uses Optimization Analytics to find the best alternative training investment to achieve organizational effectiveness | 1.000 | 0.691 |
| IHR_CCT_1 There is unified workplace communication in my organization | 1.000 | 0.819 |
| IHR_CCT_2 In my organization work mates, employees and teams get right information in time | 1.000 | 0.620 |
| IHR_CCT_3 My organization uses right iternal communication strategy | 1.000 | 0.834 |
| IHR_AI_1 My organization uses AI for HR Functions | 1.000 | 0.793 |
| IHR_AI_2 The Communication in the organization is powered by AI | 1.000 | 0.641 |
| IHR_ESP_1 Engagement pulse is used to measure employee engagement, along with measures of the core drivers of engagement, such as autonomy, career progression, or alignment to strategy | 1.000 | 0.699 |
| IHR_ESP_2 Action planning follow-up pulse is run in conjunction with the annual engagement survey, this monitors the action plans set after that survey, with structured, regular feedback to help you | 1.000 | 0.499 |

| | | |
|---|---|---|
| measure progress and make changes to your plans, should you need t | | |
| IHR_ESP_3 Company values pulse to track company values are truly being "lived" in the organisation | 1.000 | 0.958 |
| IHR_ESP_4 Change pulse is used to check in on employee sentiment more regularly through an organisational change program | 1.000 | 0.958 |
| Extraction Method: Principal Component Analysis. | | |

The degree of variation that is shared by a group of things is known as their "common variance." Those items will share a lot of variation if they are highly connected.

Communality (sometimes called h2) is a definition of shared variance that runs between and . When the value is near to 1, it indicates that the extracted factors account for a larger portion of the variance in the single variable.

In the current Model, the communalities are least at 0.499 and highest at 0.958. Majority of the communalities are nearing one and are considered appropriate for the study

**Table 4.25 – Total variance explained – IHRM Factors**

| Total Variance Explained | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5.274 | 31.024 | 31.024 | 5.274 | 31.024 | 31.024 | 3.167 | 18.627 | 18.627 |
| 2 | 3.236 | 19.036 | 50.060 | 3.236 | 19.036 | 50.060 | 2.503 | 14.723 | 33.351 |
| 3 | 1.712 | 10.070 | 60.130 | 1.712 | 10.070 | 60.130 | 2.417 | 14.216 | 47.567 |
| 4 | 1.276 | 7.505 | 67.635 | 1.276 | 7.505 | 67.635 | 2.290 | 13.471 | 61.037 |
| 5 | 1.058 | 5.636 | 73.271 | 0.958 | 5.636 | 73.271 | 2.080 | 12.233 | 73.271 |
| 6 | 0.844 | 4.965 | 78.236 | | | | | | |
| 7 | 0.756 | 4.445 | 82.681 | | | | | | |
| 8 | 0.610 | 3.589 | 86.270 | | | | | | |
| 9 | 0.527 | 3.101 | 89.371 | | | | | | |
| 10 | 0.445 | 2.615 | 91.986 | | | | | | |
| 11 | 0.392 | 2.304 | 94.289 | | | | | | |
| 12 | 0.308 | 1.811 | 96.100 | | | | | | |
| 13 | 0.225 | 1.325 | 97.424 | | | | | | |

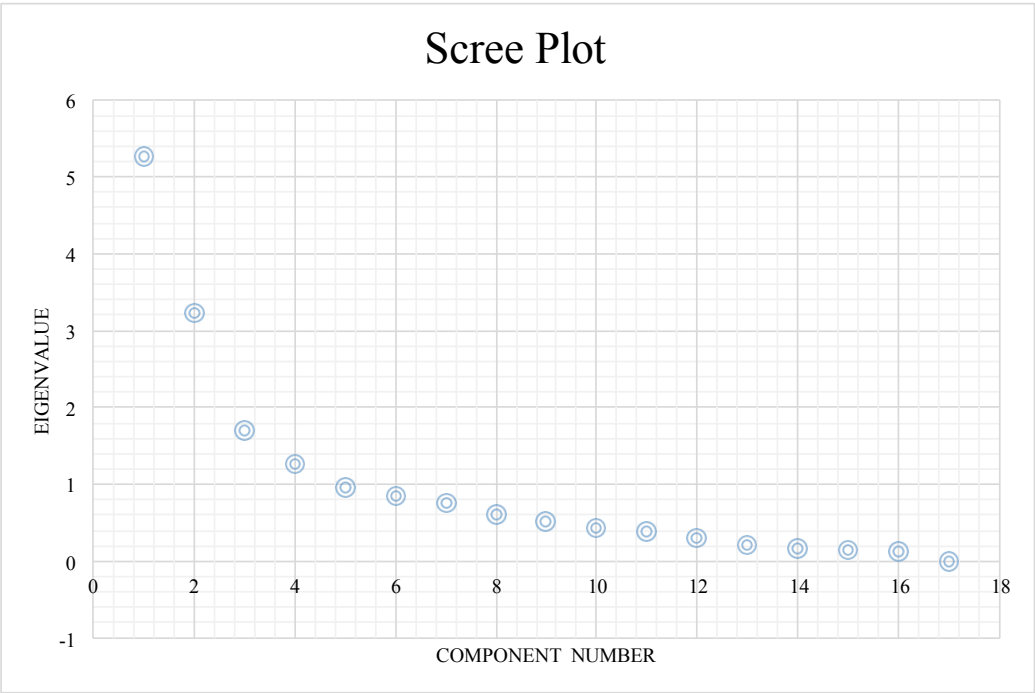
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 14 | 0.165 | 0.969 | 98.393 | | | | | | |
| 15 | 0.145 | 0.852 | 99.245 | | | | | | |
| 16 | 0.128 | 0.755 | 100.000 | | | | | | |
| 17 | 0.112 | 0.677 | 100.000 | | | | | | |

Extraction Method: Principal Component Analysis.

When performing a factor analysis, the eigenvalue reflects the total number of factors that can be recovered from the data, which should always be equal to the number of variables in the study. The next item shows all the factors extractable from the analysis together with their eigenvalues.

Only the initial eigenvalues and the extracted sums of squared loadings are of interest for the objectives of analysis and interpretation. The presence of eigenvalues greater than 1 is necessary for determining the number of components or factors stated by the chosen variables. First component is 5.274 > 1, second component is 3.236 > 1, third component is 1.712 > 1, and sixth component is 0.844 < 1 as shown in Table above. The specified collection of 17 variables represents 5 factors. Therefore, the aforementioned 17 variables can be effectively captured by a model consisting of only 5 components.

**Chart 4.23 – Scree Plot- IHRM Factors**



The scree plot is a graph of the eigenvalues against all the components measuring IHRM in IT Industry. The chart might help to decide how many variables to keep. Where the curve begins to flatten is of particular interest. Between factors 6 and 7, a flattening of the curve can be noted. Also, keep in mind that the eigenvalue of any component from 5 onwards is less than 1, thus the current model had to narrow it down to just the top 5.

**Table 4.26 – Rotated Component Matrix**

| Rotated Component Matrix[a] | | | | | |
|---|---|---|---|---|---|
| | Component | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| IHR_HRT_1 HR technology is used for recruiting in my organization | 0.819 | | | | |
| IHR_HRT_4 Training and Learning is empowered through HR Technology | 0.815 | | | | |
| IHR_HRT_5 Employee relations are handled through HR Technologies | 0.783 | | | | |
| IHR_HRT_2 Compensation planning and Management is done through HR Technology | 0.712 | | | | |
| IHR_HRT_3 HR Reporting and internal job posting is carried out using HR Technology | 0.653 | | | | |
| IHR_AI_1 My organization uses AI for HR Functions | | 0.875 | | | |
| IHR_AI_2 The Communication in the organization is powered by AI | | 0.679 | | | |
| IHR_ESP_1 Engagement pulse is used to measure employee engagement, along with measures of the core drivers of engagement, such as autonomy, career progression, or alignment to strategy | | | 0.923 | | |

| | | | | | |
|---|---|---|---|---|---|
| IHR_ESP_2 Action planning follow-up pulse is run in conjunction with the annual engagement survey, this monitors the action plans set after that survey, with structured, regular feedback to help you measure progress and make changes to your plans, should you need t | | | 0.912 | | |
| IHR_ESP_3 Company values pulse to track company values are truly being "lived" in the organisation | | | 0.789 | | |
| IHR_ESP_4 Change pulse is used to check in on employee sentiment more regularly through an organisational change program | | | 0.721 | | |
| IHR_CCT_3 My organization uses right iternal communication strategy | | | | 0.842 | |
| IHR_CCT_1 There is unified workplace communication in my organization | | | | 0.820 | |
| IHR_CCT_2 In my organization work mates, employees and teams get right information in time | | | | 0.670 | |
| IHR_HRA_3 My Organization uses Optimization Analytics to find the best alternative training investment to achieve organizational effectiveness | | | | | 0.899 |
| IHR_HRA_1 My organization used Descriptive analytics for data visualization, adhoc reports, drilling-down, dashboards / score cards, SQL Queries. | | | | | 0.857 |
| IHR_HRA_2 My organization relies on Predictive Analytics for forecasting attrition rates, probability of employee | | | | | 0.711 |

| | | | | | |
|---|---|---|---|---|---|
| success on job based on recruitment / selection etc | | | | | |
| Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. | | | | | |
| a. Rotation converged in 7 iterations. | | | | | |

The goal of the rotation procedure is to lessen the number of factors on which the variables of interest have excessive loadings. As the analysis is unaffected by rotation, it can be read more easily. A variable's loading may exist on two or more components. Consequently, it is necessary to examine the factor loading value.

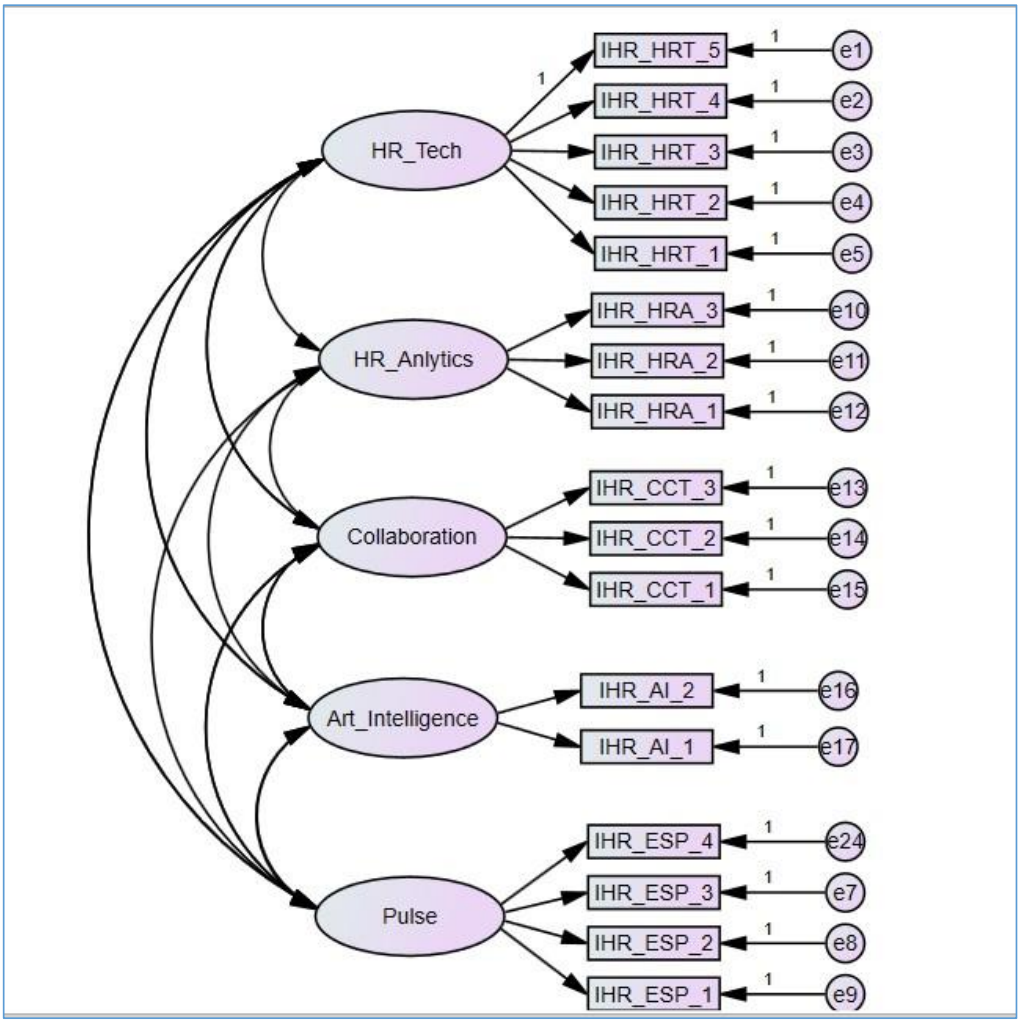
To be included in further analysis, a variable must have a value that is less than 0.3, or the limit established by the researcher (which could also be 0.3 depending on the necessity to include the desired factor loading). However, it is not useful for measuring a particular category because there is more than 0.3 loading in more than one component, which means that this variable represents two components. Therefore, they must be prevented.

All items were considered because their factor loadings were over 0.300 in the current study. IHRM Model identified 5 factors - HR Technology had 5 items, HR Analytics and Communication ad Collaborations had 3 items each. AI in HR has 2 items and Employee survey Pulse has 4 items.

**Step -2 Master validity using confirmatory factor analysis**

The master validity table illustrates the CR, the AVE, the MSV and MaxR are all included in the correlation table of constructs that is generated by this plugin and saved as an HTML file. Additionally, it offers some room for interpretation and hints at problems with validity. It also gives advice on what to do if there are problems with validity. More so, it generates a table of scale construct validity and discriminate validity results along with some comments. The inputs for Master validity table are Standardised regression estimates and inter tem correlations which are derived from the confirmatory factor analysis. The results are discussed below:

**Figure 4.1 – Correlation between items – CFA- IHRM**




A multivariate statistical technique, confirmatory factor analysis (CFA) examines the reliability of a model's structural model by comparing the number of constructs predicted by a model to the actual number of constructs measured. Exploratory factor analysis (EFA) is similar to confirmatory factor analysis (CFA), however in EFA, the data is merely investigated to reveal information about the necessary number of components to represent the data. All of the observed variables are linked to each and every unobserved factor in exploratory factor analysis. However, in confirmatory factor analysis (CFA), researchers have the freedom to choose the number of factors and the relationships between the measured and latent variables.

Measurement theories can be supported or refuted with the help of confirmatory factor analysis (CFA). The above model indicates that the items in the model are affirmed appropriately with its factors.

**Table 4.27 – Standardised estimates – IHRM Factors**

| | | | Estimate |
|---|---|---|---|
| IHR_HRT_5 | <--- | HR_Tech | 0.606 |
| IHR_HRT_4 | <--- | HR_Tech | 0.691 |
| IHR_HRT_3 | <--- | HR_Tech | 0.632 |
| IHR_HRT_2 | <--- | HR_Tech | 0.762 |
| IHR_HRT_1 | <--- | HR_Tech | 0.835 |
| IHR_ESP_3 | <--- | Pulse | 0.609 |
| IHR_ESP_2 | <--- | Pulse | 0.74 |
| IHR_ESP_1 | <--- | Pulse | 0.739 |
| IHR_HRA_3 | <--- | HR_Anlytics | 0.701 |
| IHR_HRA_2 | <--- | HR_Anlytics | 0.813 |
| IHR_HRA_1 | <--- | HR_Anlytics | 0.708 |
| IHR_CCT_3 | <--- | Collaboration | 0.92 |
| IHR_CCT_2 | <--- | Collaboration | 0.55 |
| IHR_CCT_1 | <--- | Collaboration | 0.333 |
| IHR_AI_2 | <--- | Art_Intelligence | 0.66 |
| IHR_AI_1 | <--- | Art_Intelligence | 0.836 |
| IHR_ESP_4 | <--- | Pulse | 0.593 |

When performing a multiple regression analysis with variables with varying units of measurement, it is common practice to standardize the coefficient in order to determine which independent variable has the most impact on the dependent variable (for example, income measured in dollars and family size measured in number of individuals). Also, it can be used as a proxy for the "magnitude" of an effect, or how much one variable influences another. The correlation between the independent and dependent variables can be calculated using the standardized regression coefficient in simple linear regression with orthogonal predictors

Proponents of standardized coefficients point out that these coefficients can be compared across studies with no concern for the units of measurement used in any of the included variables.

**Table 4.28 – Inter item correlation – IHRM Factors**

| | | | Estimate |
|---|---|---|---|
| HR_Tech | <--> | Pulse | 0.587 |
| HR_Tech | <--> | Collaboration | 0.429 |
| HR_Tech | <--> | Art_Intelligence | 0.637 |
| Pulse | <--> | Collaboration | 0.26 |
| Pulse | <--> | Art_Intelligence | 0.507 |
| Collaboration | <--> | Art_Intelligence | 0.563 |
| HR_Tech | <--> | Pulse | 0.587 |
| HR_Tech | <--> | HR_Anlytics | 0.423 |
| HR_Tech | <--> | Collaboration | 0.429 |
| HR_Tech | <--> | Art_Intelligence | 0.637 |
| Pulse | <--> | HR_Anlytics | 0.678 |
| Pulse | <--> | Collaboration | 0.26 |
| Pulse | <--> | Art_Intelligence | 0.507 |
| HR_Anlytics | <--> | Collaboration | 0.468 |
| HR_Anlytics | <--> | Art_Intelligence | 0.423 |
| Collaboration | <--> | Art_Intelligence | 0.563 |

Since the item correlations are greater than 0, the model is confirmed by the confirmatory factor analysis. There is a satisfactory correlation between the variables in the model. Stats Tool is used to input the findings of a confirmatory factor analysis (Standardized regression estimates and correlation between constructs) in order to derive the overall validity. One of the most important parts of an item analysis is looking at the relationships between the items in the exam. Analysing how one item's score relates to the rest of the scale is what inter-item correlations do.

**Figure 4.2 – Master validity results – IHRM**

| | CR | AVE | MSV | MaxR(H) | Collaboration | HR_Tech | Pulse | Art_Intelligence | HR_Anlytics |
|---|---|---|---|---|---|---|---|---|---|
| Collaboration | 0.751 | 0.520 | 0.317 | 0.859 | **0.648** | | | | |
| HR_Tech | 0.834 | 0.504 | 0.406 | 0.854 | 0.429 | **0.710** | | | |
| Pulse | 0.767 | 0.554 | 0.460 | 0.780 | 0.260 | 0.587 | **0.674** | | |
| Art_Intelligence | 0.721 | 0.567 | 0.406 | 0.756 | 0.563 | 0.637 | 0.507 | **0.753** | |
| HR_Anlytics | 0.786 | 0.551 | 0.460 | 0.797 | 0.468 | 0.423 | 0.678 | 0.423 | **0.742** |

Fornell and Larcker (1981) provide the following criteria for determining validity:

1) Convergent validity requires a CR for the construct greater than 0.70 and an average variance extracted (AVE) greater than 0.50.

2) The AVE of a latent variable needs to be greater than the squared correlations of all other variables in order to have discriminant validity, AVE > MSV.

In the current model of IHRM factors, the Master validity table affirms Convergent and discriminate validity and is appropriate for SEM analysis.

**STEP 3- Run the Model**

**Model fit**

The CMIN/DF ratio, where DF is the degree of freedom, has been proposed as a measure of fit by a number of authors. Ratios as low as 2 or as high as 5 have been advocated by various studies to indicate a reasonable match" (Marsh & Hocevar, 1985), and it appears obvious that a ratio > 2.00 implies an inadequate fit. (Byrne, 1989).In the current Model the CMIN/DF statistics is **3.432** and appears to be adequate

Goodness of Fit measures how much the calculated population covariance explains. An acceptable GFI is one that is more than 0.90.The current model demonstrate the GFI of **0.921** The sample covariance matrix residuals are compared to the residuals predicted by the hypothesized model, and the square root of the difference is the Root Mean Square Residual (RMR). Considering that the RMR is often below.08. The RMR in the current model is **0.032.** Fitting statistics for the current model are very close to being perfect, and it is widely accepted as a valid model.

**Table 4.29 – Structural relationship between variables – IHRM Factors**

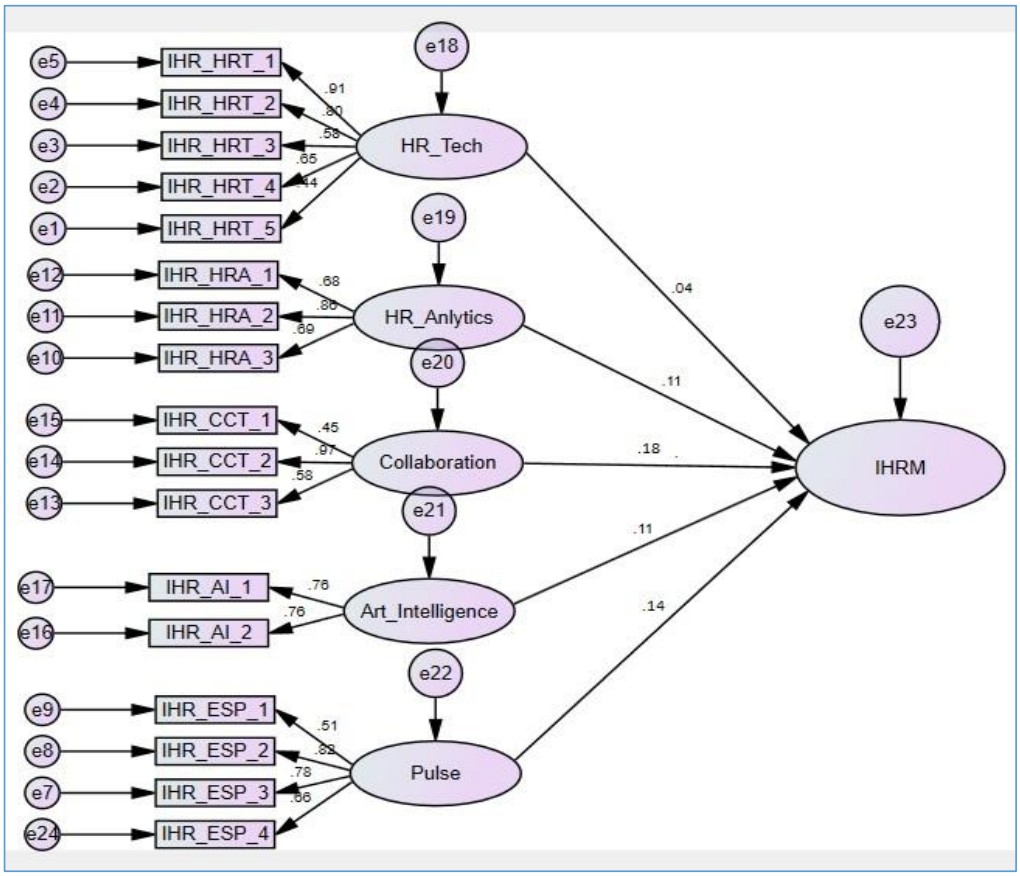
| | | | Unstd Estimate | Std Estimate | P value |
|---|---|---|---|---|---|
| IHR_HRT_5 | <--- | HR_Tech | 1 | 0.443 | *** |
| IHR_HRT_4 | <--- | HR_Tech | 1.603 | 0.648 | *** |
| IHR_HRT_3 | <--- | HR_Tech | 1.641 | 0.577 | *** |
| IHR_HRT_2 | <--- | HR_Tech | 2.051 | 0.804 | *** |
| IHR_HRT_1 | <--- | HR_Tech | 2.735 | 0.905 | *** |
| IHR_ESP_3 | <--- | Pulse | 0.756 | 0.782 | *** |
| IHR_ESP_2 | <--- | Pulse | 0.717 | 0.819 | *** |
| IHR_ESP_1 | <--- | Pulse | 0.496 | 0.511 | *** |
| IHR_HRA_3 | <--- | HR_Anlytics | 0.662 | 0.686 | *** |
| IHR_HRA_2 | <--- | HR_Anlytics | 0.857 | 0.86 | *** |
| IHR_HRA_1 | <--- | HR_Anlytics | 0.622 | 0.675 | *** |
| IHR_CCT_3 | <--- | Collaboration | 0.509 | 0.581 | *** |
| IHR_CCT_2 | <--- | Collaboration | 0.89 | 0.967 | *** |
| IHR_CCT_1 | <--- | Collaboration | 0.438 | 0.446 | *** |
| IHR_AI_2 | <--- | Art_Intelligence | 0.741 | 0.762 | *** |
| IHR_AI_1 | <--- | Art_Intelligence | 0.817 | 0.762 | *** |
| IHR_ESP_4 | <--- | Pulse | 0.613 | 0.661 | *** |
| **IHRM** | **<---** | **HR_Tech** | **0.102** | **0.043** | *** |
| **IHRM** | **<---** | **HR_Anlytics** | **0.312** | **0.112** | *** |
| **IHRM** | **<---** | **Collaboration** | **0.109** | **0.186** | *** |
| **IHRM** | **<---** | **Art_Intelligence** | **0.289** | **0.105** | *** |
| **IHRM** | **<---** | **Pulse** | **0.100** | **0.143** | *** |

The Unstandardized regression estimates show the amount of change in independent variable leads to change in the dependent variables. In this model , The HR Technology, HR Analytics, Collaborations, AI and Employee pulse survey are independent and contributors to IHRM. HR Analytics and AI are most important contributors to IHRM with Beta values of 0.312 and 0.289 with p values of 0.000. This indicates that 1 unit increase in HR Analytics lead to 31.2% increase in IHRM Practices in the organization, similarly 1 unit increase in AI leads to 29% increase in IHRM.

HR technology, Communication and Collaborations and Employee survey pulse each contribute to 10% increase in IHRM. The beta co-efficient of 0.102 for HR Technology, 0.109 for collaborations and 0.100 for Employee survey Pulse are all statistically significant at p=0.000

The results indicate that for any IT organization to effectively enhance IHRM Practices HR analytics and AI in HR are more impactful.

**Figure 4.3 – Pictorial representation of structural relationship between variables – IHRM Factors**




The above figure shows the pictorial representation of standardised estimates for the IHRM Model. The standardised regression estimates are used for ranking the constructs in the Model. The higher the standardised estimate the greater the impact on the model.

- ✓ The factor with highest standardized estimate is Communication and Collaboration with standardized estimate of 0.186 , which is the most significant factor of IHRM model
- ✓ The factor with second highest standardized estimate is Employee Pulse survey with 0.143 which is the second most significant factor of IHRM Model.

**Table 4.30 - Ranking of IHRM Constructs**

| *Variable* | *Rank* |
|---|---|
| *Communication and collaboration* | 1 |
| *Employee survey Pulse* | 2 |
| *HR Analytics and AI* | 3 |
| *HR Technology* | 5 |

Though HR Analytics and AI in HR have greater impact on the IHRM practices, the communication and collaboration and Employee Pulse survey have higher standardised estimates and ranked in first two positions. Hence, The IT organizations while laying emphasis on IHRM Model should consider giving importance to all the constructs.

***Therefore, the Alternate Hypothesis – HR Technology, HR Analytics, Collaboration Tools, AI in HR and Employee Pulse survey are contributors to Innovative Human resource practices***

Objective -2 To understand the role of demographics in perception of IHRM among IT Employees

### 4.4.2 Hypothesis 2

Null Hypothesis – There is no significant impact of demographic variables on Perception of IHRM

Alternate Hypothesis – There is a significant impact of demographic variables on Perception of IHRM

Statistical test – ANOVA and Independent t test

Sub Hypothesis -1

Null Hypothesis – There is no significant impact of Age on Perception of IHRM

Alternate Hypothesis – There is a significant impact of Age on Perception of IHRM.

**Table 4.31 – ANOVA Results for impact of Age on Perception of IHRM**

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| | | Sum of Squares | df | Mean Square | F | Sig. |
| HRT HR Technology | Between Groups | 1.531 | 3 | 0.510 | 0.582 | 0.627 |
| | Within Groups | 352.757 | 402 | 0.878 | | |
| | Total | 354.288 | 405 | | | |
| HRA HR Analytics | Between Groups | 1.390 | 3 | 0.463 | 0.486 | 0.692 |
| | Within Groups | 383.507 | 402 | 0.954 | | |
| | Total | 384.897 | 405 | | | |
| CCT Communication Tools | Between Groups | 1.561 | 3 | 0.520 | 0.662 | 0.576 |
| | Within Groups | 316.067 | 402 | 0.786 | | |
| | Total | 317.628 | 405 | | | |
| AI Artificial Intelligence | Between Groups | 7.107 | 3 | 2.369 | 2.373 | 0.070 |
| | Within Groups | 401.337 | 402 | 0.998 | | |
| | Total | 408.443 | 405 | | | |
| ESP Employee survey pulse | Between Groups | 1.955 | 3 | 0.652 | 1.085 | 0.355 |
| | Within Groups | 241.535 | 402 | 0.601 | | |
| | Total | 243.490 | 405 | | | |

The significance values for all IHRM elements is above 0.05 indicating that there is no impact of age on the perception of IHRM practices in the Organization

***Therefore, Alternate Hypothesis – There is a significant impact of Age on Perception of IHRM is accepted***

Sub Hypothesis -2

Null Hypothesis – There is no significant impact of Gender on Perception of IHRM

Alternate Hypothesis – There is a significant impact of Gender on Perception of IHRM

**Table 4.32 – Independent t test for impact of Gender on Perception of IHRM**

| **Independent Samples Test** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference |
| HRT HR Technology | Equal variances assumed | 5.116 | 0.024 | -1.371 | 404 | 0.171 | -0.128 |
| | Equal variances not assumed | | | -1.356 | 370.731 | 0.176 | -0.128 |
| HRA HR Analytics | Equal variances assumed | 0.077 | 0.782 | -1.033 | 404 | 0.302 | -0.100 |
| | Equal variances not assumed | | | -1.030 | 384.462 | 0.304 | -0.100 |
| CCT Communication Tools | Equal variances assumed | 4.374 | 0.037 | -0.697 | 404 | 0.486 | -0.062 |
| | Equal variances not assumed | | | -0.689 | 367.219 | 0.491 | -0.062 |
| AI Artificial Intelligence | Equal variances assumed | 0.841 | 0.360 | 0.532 | 404 | 0.595 | 0.053 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Equal variances not assumed | | | 0.530 | 382.701 | 0.597 | 0.053 |
| ESP Employee survey pulse | Equal variances assumed | 0.467 | 0.495 | -1.589 | 404 | 0.113 | -0.123 |
| | Equal variances not assumed | | | -1.586 | 387.535 | 0.113 | -0.123 |

The significance value of Levene's Test for Equality of Variances and t -test for Equality of Means are above 0.05 , indicating that there is no significant impact of Gender on the perception of IHRM practices in the IT Organization.

***Therefore, Alternate Hypothesis – There is a significant impact of Gender on Perception of IHRM is accepted***

Sub Hypothesis -3

Null Hypothesis – There is no significant impact of overall experience on Perception of IHRM

Alternate Hypothesis – There is a significant impact of overall experience on Perception of IHRM

**Table 4.33 – ANOVA Results for impact of overall experience on Perception of IHRM**

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| | | Sum of Squares | df | Mean Square | F | Sig. |
| HRT HR Technology | Between Groups | 2.408 | 4 | 0.602 | 0.686 | 0.602 |
| | Within Groups | 351.880 | 401 | 0.878 | | |
| | Total | 354.288 | 405 | | | |
| HRA HR Analytics | Between Groups | 3.826 | 4 | 0.957 | 1.007 | 0.404 |
| | Within Groups | 381.070 | 401 | 0.950 | | |
| | Total | 384.897 | 405 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| CCT Communication Tools | Between Groups | 3.676 | 4 | 0.919 | 1.174 | 0.322 |
| | Within Groups | 313.952 | 401 | 0.783 | | |
| | Total | 317.628 | 405 | | | |
| AI Artificial Intelligence | Between Groups | 9.849 | 4 | 2.462 | 2.477 | 0.044 |
| | Within Groups | 398.595 | 401 | 0.994 | | |
| | Total | 408.443 | 405 | | | |
| ESP Employee survey pulse | Between Groups | 3.303 | 4 | 0.826 | 1.379 | 0.241 |
| | Within Groups | 240.187 | 401 | 0.599 | | |
| | Total | 243.490 | 405 | | | |

The significance values for all IHRM elements is above 0.05 indicating that there is no impact of overall experience on the perception of IHRM practices in the Organization

***Therefore, Alternate Hypothesis – There is a significant impact of overall experience on Perception of IHRM***

Sub Hypothesis -4

Null Hypothesis – There is no significant impact of current experience on Perception of IHRM

Alternate Hypothesis – There is a significant impact of current experience on Perception of IHRM

**Table 4.34 – ANOVA Results for impact of current experience on Perception of IHRM**

| ANOVA | | | | | | |
|---|---|---|---|---|---|---|
| | | Sum of Squares | df | Mean Square | F | Sig. |
| HRT HR Technology | Between Groups | 0.500 | 4 | 0.125 | 0.142 | 0.967 |
| | Within Groups | 353.788 | 401 | 0.882 | | |
| | Total | 354.288 | 405 | | | |
| HRA HR Analytics | Between Groups | 1.054 | 4 | 0.263 | 0.275 | 0.894 |
| | Within Groups | 383.843 | 401 | 0.957 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Total | 384.897 | 405 | | | |
| CCT Communication Tools | Between Groups | 2.244 | 4 | 0.561 | 0.713 | 0.583 |
| | Within Groups | 315.384 | 401 | 0.786 | | |
| | Total | 317.628 | 405 | | | |
| AI Artificial Intelligence | Between Groups | 7.791 | 4 | 1.948 | 1.950 | 0.101 |
| | Within Groups | 400.652 | 401 | 0.999 | | |
| | Total | 408.443 | 405 | | | |
| ESP Employee survey pulse | Between Groups | 2.578 | 4 | 0.644 | 1.073 | 0.370 |
| | Within Groups | 240.912 | 401 | 0.601 | | |
| | Total | 243.490 | 405 | | | |

The significance values for all IHRM elements is above 0.05 indicating that there is no impact of current experience on the perception of IHRM practices in the Organization

**Therefore, Alternate Hypothesis – There is a significant impact of current experience on Perception of IHRM**

Objective -3 To find out the factors influencing Employee engagement and employee productivity in IT Organizations

### 4.4.3 Hypothesis 3

Null Hypothesis – Employee retention, Reward and recognition, Personality development and performance appraisal are not factors influencing Employee engagement

Alternate Hypothesis – Employee retention, Reward and recognition, Personality development and performance appraisal are factors influencing Employee engagement

Statistical test – Structural equation Modelling

Step -1 Exploratory Factor Analysis

**Table 4.35 – KMO Barletts statistics – Employee engagement factors**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.913 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 21050.372 |
| | df | 741 |
| | Sig. | 0.000 |

The KMO and Bartlett test takes into account all of the data that is currently accessible. If the KMO value is larger than 0.5 and the significance level of the Bartlett's test is less than 0.05, then there is a strong possibility that there is a significant amount of correlation in the data. It is also possible to determine the KMO measure for each variable. The use of numbers bigger than 0.5 is not problematic in any way. In the current model , the KMO Statistic is 0.913 which is above the acceptable criteria and statistically significant at p =0.000

The Chi sqr values is 21050.372 at 741 degrees of freedom. Bartlett's test of sphericity is a method that can be used to examine the possibility of rejecting the null hypothesis that the correlation matrix is an identical matrix. If the correlation matrix is completely filled with ones, this indicates that the variables are not connected to one another and that they will not do well in a factor analysis. In the current employee engagement Model correlation matrix is shown not to be an identity matrix (the null hypothesis is rejected) as a result of a statistical test that is significant.

**Table 4.36 – Communalities – Employee engagement Factors**

| **Communalities** | | |
|---|---|---|
| | Initial | Extraction |
| EE_ER_1 I am satisfied with the workplace flexibility offered by my organization | 1.000 | 0.861 |
| EE_ER_2 I have the option to work from home | 1.000 | 0.850 |
| EE_ER_3 I have the choice of completing work without fixed login time as long as the task is completed | 1.000 | 0.862 |
| EE_ER_4 My company is of good repute in the industry | 1.000 | 0.499 |
| EE_ER_5 I feel proud to work in this organization | 1.000 | 0.827 |
| EE_ER_6 I speak positive of my organization wherever I go | 1.000 | 0.873 |
| EE_ER_7 I would not hesitate to recommend this company to a friend seeking employment | 1.000 | 0.653 |
| EE_ER_8 Medical facilities are provided by the organization | 1.000 | 0.524 |
| EE_ER_9 Communication between senior leaders and employees is good in my organization | 1.000 | 0.741 |
| EE_ER_10 Receive feedback from superior based on performance without any bias | 1.000 | 0.769 |

| | | |
|---|---|---|
| EE_ER_11 My superior guides me to complete my task | 1.000 | 0.658 |
| EE_ER_12 I have the opportunities to apply my talents and expertise which are important for my growth | 1.000 | 0.665 |
| EE_ER_13 I receive enough recognition & encouragement for work that I do | 1.000 | 0.719 |
| EE_RR_1 We have team outings after completion of tasks or projects | 1.000 | 0.767 |
| EE_RR_2 The organization hosts cultural competitions and programmes | 1.000 | 0.703 |
| EE_RR_3 We have work related competitions with rewards | 1.000 | 0.801 |
| EE_RR_4 I get bonus for referrals | 1.000 | 0.803 |
| EE_RR_5 I am Satisfied with the bonus given in the organization | 1.000 | 0.763 |
| EE_RR_6 I am satisfied with my total benefits package | 1.000 | 0.706 |
| EE_RR_7 My employer is concerned about my financial well being | 1.000 | 0.751 |
| EE_PD_1 I feel my personality matches the image of this organization | 1.000 | 0.884 |
| EE_PD_2 I feel my values fit this organization and current employees in this organization | 1.000 | 0.842 |
| EE_PD_3 I think values & personality of this organization reflect my own values & personality | 1.000 | 0.852 |
| EE_PD_4 Superiors on this job give me feedback about how well I am improving my skill | 1.000 | 0.839 |
| EE_PD_5 Job requires me to use a number of complex or high-level skills | 1.000 | 0.770 |
| EE_PD_6 My organization encourages me to innovate and do things creatively | 1.000 | 0.845 |
| EE_PD_7 My job requires that I have to work closely with my superior | 1.000 | 0.665 |
| EE_PD_8 I need to complete my task along with superior | 1.000 | 0.649 |

| | | |
|---|---|---|
| EE_PD_9 In last year, I had opportunities at work to learn and grow | 1.000 | 0.770 |
| EE_PD_10 My manager encourages me to develop my career | 1.000 | 0.818 |
| EE_PD_11 I am pleased with the career advancement opportunities available to me | 1.000 | 0.746 |
| EE_PD_12 My company provides global opportunity to work in different countries | 1.000 | 0.408 |
| EE_PA_1 It helps to identify my strength and weakness | 1.000 | 0.776 |
| EE_PA_2 The superiors in my organization have great ability to assess my performance on regular basis | 1.000 | 0.880 |
| EE_PA_3 360 degree appraisal is done | 1.000 | 0.743 |
| EE_PA_4 Just doing the work required by the job provides many chances for me to figure out how well I doing | 1.000 | 0.822 |
| EE_PA_5 My job itself provides me with information about my work performance | 1.000 | 0.794 |
| EE_PA_6 There is regular feedback mechanism | 1.000 | 0.828 |
| EE_PA_7 I am assessed by my superior and colleagues | 1.000 | 0.766 |
| Extraction Method: Principal Component Analysis. | | |

The degree of variation that is shared by a group of things is known as their "common variance." Those items will share a lot of variation if they are highly connected.

Communality (sometimes called h2) is a definition of shared variance that runs between and . When the value is near to 1, it indicates that the extracted factors account for a larger portion of the variance in the single variable.

In the current Model, the communalities are least at 0.408 and highest at 0.880. Majority of the communalities are nearing one and are considered appropriate for the study

**Table 4.37 – Total Variance explained – Employee engagement**

| Total Variance Explained | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 24.253 | 62.188 | 62.188 | 24.253 | 62.188 | 62.188 | 14.587 | 37.402 | 37.402 |
| 2 | 2.714 | 6.960 | 69.148 | 2.714 | 6.960 | 69.148 | 5.845 | 14.988 | 52.389 |

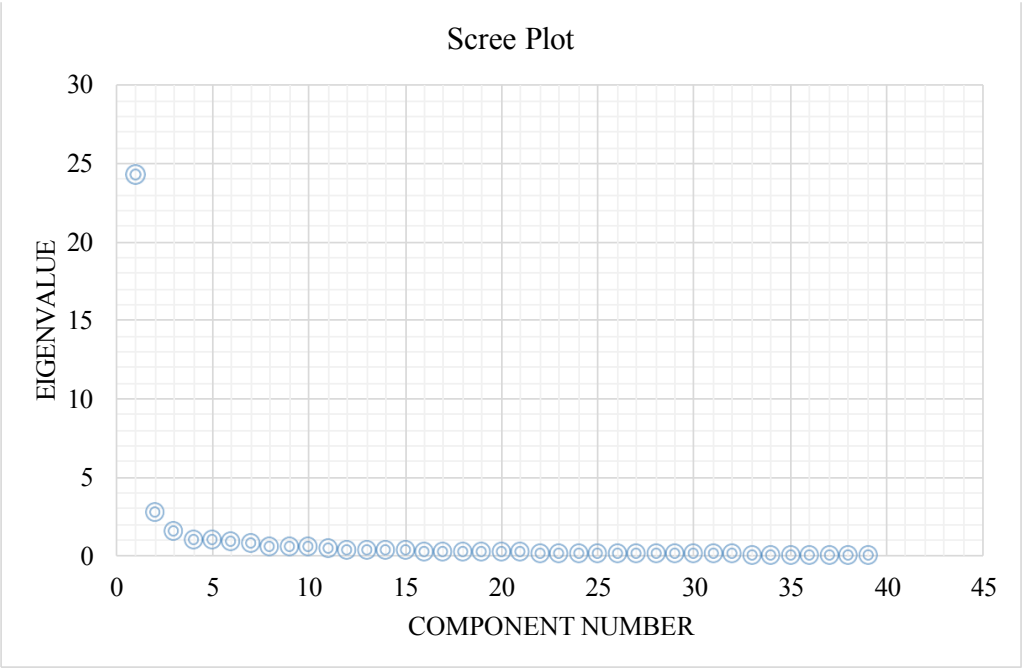
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 1.479 | 3.793 | 72.940 | 1.479 | 3.793 | 72.940 | 5.820 | 14.923 | 67.313 |
| 4 | 1.045 | 2.681 | 75.621 | 1.045 | 2.681 | 75.621 | 3.240 | 8.308 | 75.621 |
| 5 | 0.947 | 2.428 | 78.049 | | | | | | |
| 6 | 0.919 | 2.357 | 80.405 | | | | | | |
| 7 | 0.749 | 1.920 | 82.325 | | | | | | |
| 8 | 0.576 | 1.478 | 83.803 | | | | | | |
| 9 | 0.571 | 1.465 | 85.268 | | | | | | |
| 10 | 0.519 | 1.330 | 86.598 | | | | | | |
| 11 | 0.434 | 1.114 | 87.712 | | | | | | |
| 12 | 0.392 | 1.005 | 88.717 | | | | | | |
| 13 | 0.372 | 0.953 | 89.670 | | | | | | |
| 14 | 0.367 | 0.940 | 90.610 | | | | | | |
| 15 | 0.325 | 0.832 | 91.442 | | | | | | |
| 16 | 0.300 | 0.770 | 92.212 | | | | | | |
| 17 | 0.258 | 0.661 | 92.873 | | | | | | |
| 18 | 0.254 | 0.652 | 93.525 | | | | | | |
| 19 | 0.237 | 0.609 | 94.134 | | | | | | |
| 20 | 0.220 | 0.565 | 94.699 | | | | | | |
| 21 | 0.194 | 0.496 | 95.195 | | | | | | |
| 22 | 0.179 | 0.459 | 95.655 | | | | | | |
| 23 | 0.176 | 0.451 | 96.106 | | | | | | |
| 24 | 0.156 | 0.401 | 96.507 | | | | | | |
| 25 | 0.150 | 0.385 | 96.892 | | | | | | |
| 26 | 0.147 | 0.378 | 97.270 | | | | | | |
| 27 | 0.140 | 0.360 | 97.630 | | | | | | |
| 28 | 0.124 | 0.318 | 97.948 | | | | | | |
| 29 | 0.120 | 0.309 | 98.257 | | | | | | |
| 30 | 0.105 | 0.270 | 98.527 | | | | | | |
| 31 | 0.094 | 0.242 | 98.769 | | | | | | |
| 32 | 0.087 | 0.223 | 98.992 | | | | | | |
| 33 | 0.076 | 0.194 | 99.186 | | | | | | |
| 34 | 0.073 | 0.187 | 99.372 | | | | | | |
| 35 | 0.066 | 0.168 | 99.541 | | | | | | |
| 36 | 0.060 | 0.153 | 99.694 | | | | | | |
| 37 | 0.052 | 0.133 | 99.827 | | | | | | |
| 38 | 0.037 | 0.096 | 99.923 | | | | | | |
| 39 | 0.030 | 0.077 | 100.000 | | | | | | |

Extraction Method: Principal Component Analysis.

When performing a factor analysis, the eigenvalue reflects the total number of factors that can be recovered from the data, which should always be equal to the number of variables in the study. The next item shows all the factors extractable from the analysis together with their eigenvalues.

Only the initial eigenvalues and the extracted sums of squared loadings are of interest for the objectives of analysis and interpretation. The presence of eigenvalues greater than 1 is necessary for determining the number of components or factors stated by the chosen variables. First component is 24.323 > 1, second component is 2.714 > 1, third component is 1.479 > 1, and fifth component is 0.947 < 1 as shown in Table above. The specified collection of 39 variables represents 4 factors. Therefore, the aforementioned 39 variables can be effectively captured by a model consisting of only 4 components.

**Figure 4.4- Scree Plot – Employee engagement Factors**




The scree plot is a graph of the eigenvalues against all the components of employee engagement model. The chart might help to decide how many variables to keep. Where the curve begins to flatten is of particular interest. Between factors 5 and 6, a flattening of the curve can be noted. Also, keep in mind that the eigenvalue of any component from 4 onwards is less than 1, thus the current model had to narrow it down to just the top 4.

**Table 4.38- Rotated Component Matrix – Employee engagement**

| Rotated Component Matrix[a] | | | | |
|---|---|---|---|---|
| | Component | | | |
| | 1 | 2 | 3 | 4 |
| EE_PD_6 My organization encourages me to innovate and do things creatively | 0.816 | | | |
| EE_PD_9 In last year, I had opportunities at work to learn and grow | 0.775 | | | |
| EE_PD_4 Superiors on this job give me feedback about how well I am improving my skill | 0.772 | | | |
| EE_PD_7 My job requires that I have to work closely with my superior | 0.753 | | | |
| EE_PD_8 I need to complete my task along with superior | 0.746 | | | |
| EE_PD_10 My manager encourages me to develop my career | 0.741 | | | |
| EE_PD_5 Job requires me to use a number of complex or high-level skills | 0.692 | | | |
| EE_PD_2 I feel my values fit this organization and current employees in this organization | 0.692 | | | |
| EE_PD_3 I think values & personality of this organization reflect my own values & personality | 0.675 | | | |
| EE_PD_1 I feel my personality matches the image of this organization | 0.674 | | | |
| EE_PD_11 I am pleased with the career advancement opportunities available to me | 0.645 | | | |
| EE_PD_12 My company provides global opportunity to work in different countries | 0.441 | | | |

| | | | | |
|---|---|---|---|---|
| EE_PA_2 The superiors in my organization have great ability to assess my performance on regular basis | | 0.813 | | |
| EE_PA_6 There is regular feedback mechanism | | 0.808 | | |
| EE_PA_4 Just doing the work required by the job provides many chances for me to figure out how well I doing | | 0.780 | | |
| EE_PA_7 I am assessed by my superior and colleagues | | 0.778 | | |
| EE_PA_5 My job itself provides me with information about my work performance | | 0.776 | | |
| EE_PA_1 It helps to identify my strength and weakness | | 0.750 | | |
| EE_PA_3 360 degree appraisal is done | | 0.671 | | |
| EE_ER_10 Receive feedback from superior based on performance without any bias | | | 0.918 | |
| EE_ER_9 Communication between senior leaders and employees is good in my organization | | | 0.910 | |
| EE_ER_11 My superior guides me to complete my task | | | 0.886 | |
| EE_ER_12 I have the opportunities to apply my talents and expertise which are important for my growth | | | 0.747 | |
| EE_ER_13 I receive enough recognition & encouragement for work that I do | | | 0.677 | |
| EE_ER_8 Medical facilities are provided by the organization | | | 0.659 | |
| EE_ER_5 I feel proud to work in this organization | | | 0.648 | |

| | | | | |
|---|---|---|---|---|
| EE_ER_6 I speak positive of my organization wherever I go | | | 0.544 | |
| EE_ER_7 I would not hesitate to recommend this company to a friend seeking employment | | | 0.515 | |
| EE_ER_4 My company is of good repute in the industry | | | 0.397 | |
| EE_ER_1 I am satisfied with the workplace flexibility offered by my organization | | | 0.519 | |
| EE_ER_3 I have the choice of completing work without fixed login time as long as the task is completed | | | 0.458 | |
| EE_ER_2 I have the option to work from home | | | 0.345 | |
| EE_RR_7 My employer is concerned about my financial well being | | | | 0.821 |
| EE_RR_4 I get bonus for referrals | | | | 0.801 |
| EE_RR_5 I am Satisfied with the bonus given in the organization | | | | 0.799 |
| EE_RR_3 We have work related competitions with rewards | | | | 0.791 |
| EE_RR_1 We have team outings after completion of tasks or projects | | | | 0.685 |
| EE_RR_2 The organization hosts cultural competitions and programmes | | | | 0.621 |
| EE_RR_6 I am satisfied with my total benefits package | | | | 0.545 |

The goal of the rotation procedure is to lessen the number of factors on which the variables of interest have excessive loadings. As the analysis is unaffected by rotation, it can be read more easily. A variable's loading may exist on two or more components. Consequently, it is necessary to examine the factor loading value.

To be included in further analysis, a variable must have a value that is less than 0.3, or the limit established by the researcher (which could also be 0.3 depending on the necessity to include

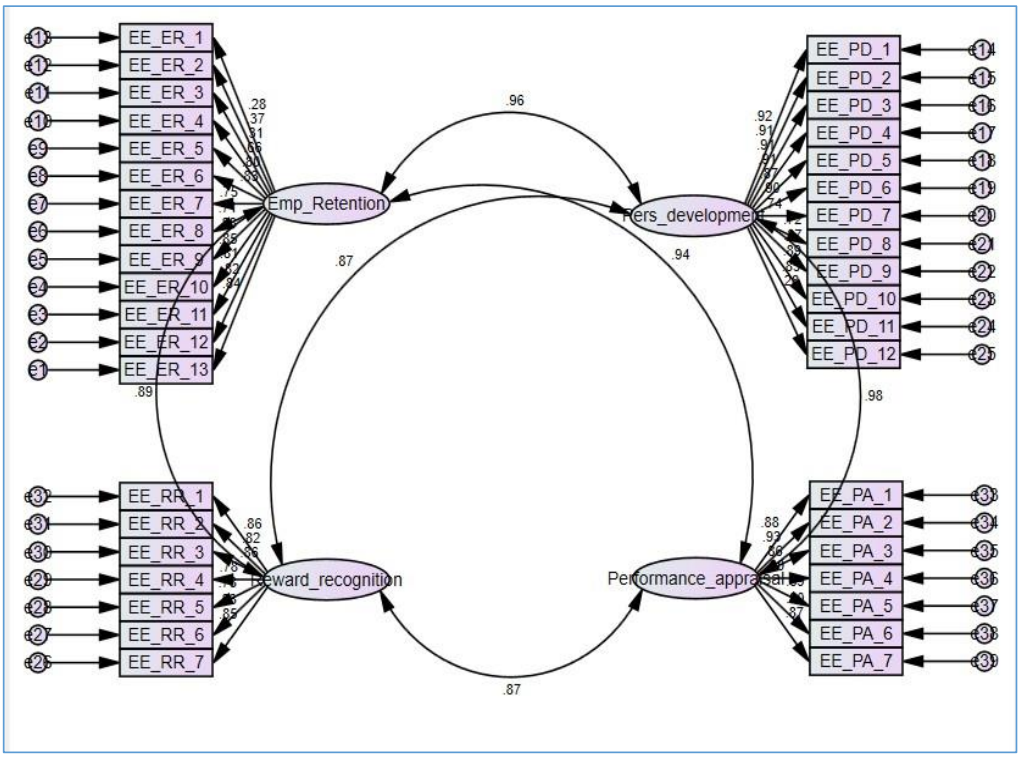
the desired factor loading). However, it is not useful for measuring a particular category because there is more than 0.3 loading in more than one component, which means that this variable represents two components. Therefore, they must be prevented.

All items were considered because their factor loadings were over 0.300 in the current study. In the employee engagement model, Employee Retention component have 13 items, Personality development factor had 12 items and Reward and Recognition and performance appraisal had 7 items each

**Step -2 Master validity using confirmatory factor analysis**

The master validity table illustrates the CR, the AVE, the MSV and MaxR are all included in the correlation table of constructs that is generated by this plugin and saved as an HTML file. Additionally, it offers some room for interpretation and hints at problems with validity. It also gives advice on what to do if there are problems with validity. More so, it generates a table of scale construct validity and discriminate validity results along with some comments. The inputs for Master validity table are Standardised regression estimates and inter tem correlations which are derived from the confirmatory factor analysis. The results are discussed below:

**Figure 4.5 – Correlation between items – CFA – Employee engagement**



A multivariate statistical technique, confirmatory factor analysis (CFA) examines the reliability of a model's structural model by comparing the number of constructs predicted by a model to the actual number of constructs measured. Exploratory factor analysis (EFA) is similar to confirmatory factor analysis (CFA), however in EFA, the data is merely investigated to reveal information about the necessary number of components to represent the data. All of the observed variables are linked to each and every unobserved factor in exploratory factor analysis. However, in confirmatory factor analysis (CFA), researchers have the freedom to choose the number of factors and the relationships between the measured and latent variables. Measurement theories can be supported or refuted with the help of confirmatory factor analysis (CFA). The above employee engagement model indicates that the items in the model are affirmed appropriately its factors

**Table 4.39 – Standardised estimate – Employee engagement factors**

| | | | Estimate |
|---|---|---|---|
| EE_ER_13 | <--- | Emp_Retention | 0.844 |
| EE_ER_12 | <--- | Emp_Retention | 0.822 |
| EE_ER_11 | <--- | Emp_Retention | 0.813 |
| EE_ER_10 | <--- | Emp_Retention | 0.847 |
| EE_ER_9 | <--- | Emp_Retention | 0.875 |
| EE_ER_8 | <--- | Emp_Retention | 0.713 |
| EE_ER_7 | <--- | Emp_Retention | 0.753 |
| EE_ER_6 | <--- | Emp_Retention | 0.827 |
| EE_ER_5 | <--- | Emp_Retention | 0.803 |
| EE_ER_4 | <--- | Emp_Retention | 0.656 |
| EE_ER_3 | <--- | Emp_Retention | 0.31 |
| EE_ER_2 | <--- | Emp_Retention | 0.373 |
| EE_ER_1 | <--- | Emp_Retention | 0.28 |
| EE_PD_1 | <--- | Pers_development | 0.919 |
| EE_PD_2 | <--- | Pers_development | 0.908 |
| EE_PD_3 | <--- | Pers_development | 0.907 |
| EE_PD_4 | <--- | Pers_development | 0.906 |
| EE_PD_5 | <--- | Pers_development | 0.872 |

| | | | |
|---|---|---|---|
| EE_PD_6 | <--- | Pers_development | 0.902 |
| EE_PD_7 | <--- | Pers_development | 0.742 |
| EE_PD_8 | <--- | Pers_development | 0.715 |
| EE_PD_9 | <--- | Pers_development | 0.873 |
| EE_PD_10 | <--- | Pers_development | 0.886 |
| EE_PD_11 | <--- | Pers_development | 0.851 |
| EE_PD_12 | <--- | Pers_development | 0.279 |
| EE_RR_7 | <--- | Reward_recognition | 0.855 |
| EE_RR_6 | <--- | Reward_recognition | 0.832 |
| EE_RR_5 | <--- | Reward_recognition | 0.783 |
| EE_RR_4 | <--- | Reward_recognition | 0.778 |
| EE_RR_3 | <--- | Reward_recognition | 0.859 |
| EE_RR_2 | <--- | Reward_recognition | 0.818 |
| EE_RR_1 | <--- | Reward_recognition | 0.856 |
| EE_PA_1 | <--- | Performance_appraisal | 0.875 |
| EE_PA_2 | <--- | Performance_appraisal | 0.933 |
| EE_PA_3 | <--- | Performance_appraisal | 0.857 |
| EE_PA_4 | <--- | Performance_appraisal | 0.904 |
| EE_PA_5 | <--- | Performance_appraisal | 0.892 |
| EE_PA_6 | <--- | Performance_appraisal | 0.902 |
| EE_PA_7 | <--- | Performance_appraisal | 0.87 |

When performing a multiple regression analysis with variables with varying units of measurement, it is common practice to standardize the coefficient in order to determine which independent variable has the most impact on the dependent variable (for example, income measured in dollars and family size measured in number of individuals). Also, it can be used as a proxy for the "magnitude" of an effect, or how much one variable influences another. The correlation between the independent and dependent variables can be calculated using the standardized regression coefficient in simple linear regression with orthogonal predictors Proponents of standardized coefficients point out that these coefficients can be compared across studies with no concern for the units of measurement used in any of the included variables.

**Table 4.40 – Inter item correlation between items – Employee engagement factors**

| | | | Estimate |
|---|---|---|---|
| Emp_Retention | <--> | Pers_development | 0.961 |
| Emp_Retention | <--> | Reward_recognition | 0.894 |
| Emp_Retention | <--> | Performance_appraisal | 0.937 |
| Pers_development | <--> | Reward_recognition | 0.874 |
| Pers_development | <--> | Performance_appraisal | 0.979 |
| Reward_recognition | <--> | Performance_appraisal | 0.873 |

Since the item correlations are greater than 0, the model is confirmed by the confirmatory factor analysis. There is a satisfactory correlation between the variables in the model. Stats Tool is used to input the findings of a confirmatory factor analysis (Standardized regression estimates and correlation between constructs) in order to derive the overall validity. One of the most important parts of an item analysis is looking at the relationships between the items in the model. Analysing how one item's score relates to the rest of the scale is what inter-item correlations do.

**Figure 4.6 – Master Validity results – Employee engagement factors**

| | CR | AVE | MSV | MaxR(H) | Reward_recognition | Emp_Retention | Pers_development | Performance_appraisal |
|---|---|---|---|---|---|---|---|---|
| Reward_recognition | 0.938 | 0.683 | 0.699 | 0.940 | **0.826** | | | |
| Emp_Retention | 0.926 | 0.514 | 0.624 | 0.952 | 0.894 | **0.717** | | |
| Pers_development | 0.963 | 0.691 | 0.658 | 0.975 | 0.874 | 0.961 | **0.832** | |
| Performance_appraisal | 0.964 | 0.793 | 0.658 | 0.966 | 0.873 | 0.937 | 0.979 | **0.891** |

Fornell and Larcker (1981) provide the following criteria for determining validity:

1) Convergent validity requires a CR for the construct greater than 0.70 and an average variance extracted (AVE) greater than 0.50.

2) The AVE of a latent variable needs to be greater than the squared correlations of all other variables in order to have discriminant validity, AVE > MSV.

In the current model of Employee engagement factors, the Master validity table affirms Convergent and discriminate validity and is appropriate for SEM analysis.

**Step 3 - Run the Model**

**Model fit**

The CMIN/DF ratio, where DF is the degree of freedom, has been proposed as a measure of fit by a number of authors. Ratios as low as 2 or as high as 5 have been advocated by various studies to indicate a reasonable match" (Marsh & Hocevar, 1985), and it appears obvious that a ratio > 2.00 implies an inadequate fit. (Byrne, 1989).In the current Model the CMIN/DF statistics is 3.198 and appears to be adequate

Goodness of Fit measures how much the calculated population covariance explains. An acceptable GFI is one that is more than 0.90.The current model demonstrate the GFI of 0.897 The sample covariance matrix residuals are compared to the residuals predicted by the hypothesized model, and the square root of the difference is the Root Mean Square Residual (RMR). Considering that the RMR is often below.08. The RMR in the current model is 0.071. Fitting statistics for the current employee engagement model are very close to being perfect, and it is widely accepted as a valid model.

**Table 4.41- Structural relationship between variables – Employee engagement Factors**

| | | | Unstd Estimate | Std Estimate | P |
|---|---|---|---|---|---|
| EE_ER_13 | <--- | Emp_Retention | 1 | 0.843 | *** |
| EE_ER_12 | <--- | Emp_Retention | 1.002 | 0.833 | *** |
| EE_ER_11 | <--- | Emp_Retention | 1.029 | 0.825 | *** |
| EE_ER_10 | <--- | Emp_Retention | 1.009 | 0.841 | *** |
| EE_ER_9 | <--- | Emp_Retention | 1.034 | 0.881 | *** |
| EE_ER_8 | <--- | Emp_Retention | 0.836 | 0.706 | *** |
| EE_ER_7 | <--- | Emp_Retention | 0.803 | 0.74 | *** |
| EE_ER_6 | <--- | Emp_Retention | 0.78 | 0.812 | *** |
| EE_ER_5 | <--- | Emp_Retention | 0.796 | 0.805 | *** |
| EE_ER_4 | <--- | Emp_Retention | 0.651 | 0.66 | *** |
| EE_ER_3 | <--- | Emp_Retention | 0.548 | 0.329 | *** |
| EE_ER_2 | <--- | Emp_Retention | 0.679 | 0.39 | *** |
| EE_ER_1 | <--- | Emp_Retention | 0.513 | 0.316 | *** |
| EE_PD_1 | <--- | Pers_development | 1 | 0.939 | *** |

| | | | | | |
|---|---|---|---|---|---|
| EE_PD_2 | <--- | Pers_development | 1.042 | 0.934 | *** |
| EE_PD_3 | <--- | Pers_development | 1.025 | 0.925 | *** |
| EE_PD_4 | <--- | Pers_development | 1.064 | 0.891 | *** |
| EE_PD_5 | <--- | Pers_development | 1.019 | 0.882 | *** |
| EE_PD_6 | <--- | Pers_development | 0.968 | 0.882 | *** |
| EE_PD_7 | <--- | Pers_development | 0.843 | 0.724 | *** |
| EE_PD_8 | <--- | Pers_development | 0.917 | 0.699 | *** |
| EE_PD_9 | <--- | Pers_development | 0.98 | 0.864 | *** |
| EE_PD_10 | <--- | Pers_development | 1.024 | 0.864 | *** |
| EE_PD_11 | <--- | Pers_development | 1.03 | 0.839 | *** |
| EE_PD_12 | <--- | Pers_development | 0.419 | 0.252 | *** |
| EE_RR_7 | <--- | Reward_recognition | 0.81 | 0.852 | *** |
| EE_RR_6 | <--- | Reward_recognition | 0.734 | 0.819 | *** |
| EE_RR_5 | <--- | Reward_recognition | 0.897 | 0.849 | *** |
| EE_RR_4 | <--- | Reward_recognition | 0.869 | 0.855 | *** |
| EE_RR_3 | <--- | Reward_recognition | 0.851 | 0.851 | *** |
| EE_RR_2 | <--- | Reward_recognition | 0.705 | 0.767 | *** |
| EE_RR_1 | <--- | Reward_recognition | 0.846 | 0.826 | *** |
| EE_PA_1 | <--- | Performance_appraisal | 3.339 | 0.87 | *** |
| EE_PA_2 | <--- | Performance_appraisal | 3.622 | 0.929 | *** |
| EE_PA_3 | <--- | Performance_appraisal | 4.033 | 0.855 | *** |
| EE_PA_4 | <--- | Performance_appraisal | 3.442 | 0.896 | *** |
| EE_PA_5 | <--- | Performance_appraisal | 3.347 | 0.901 | *** |
| EE_PA_6 | <--- | Performance_appraisal | 3.808 | 0.904 | *** |
| EE_PA_7 | <--- | Performance_appraisal | 3.235 | 0.882 | *** |
| **Emp_engagement** | **<---** | **Emp_Retention** | **0.096** | **0.083** | *** |
| **Emp_engagement** | **<---** | **Pers_development** | **0.109** | **0.093** | *** |
| **Emp_engagement** | **<---** | **Reward_recognition** | **0.345** | **0.117** | *** |
| **Emp_engagement** | **<---** | **Performance_appraisal** | **0.277** | **0.025** | *** |

The Unstandardized regression estimates show the amount of change in independent variable leads to change in the dependent variables. In this model, Employee retention, Personality

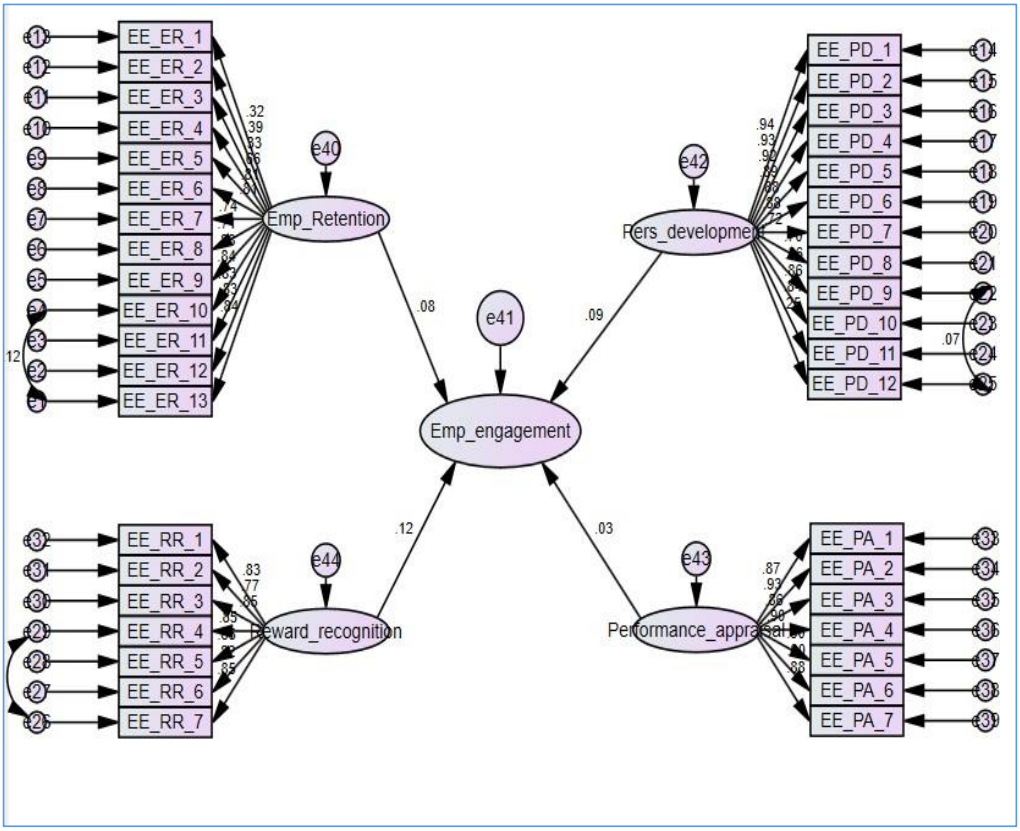
development, reward and recognition and Performance appraisal are independent and contributors to Employee engagement .

Reward recognition and Performance appraisal are most important contributors to employee engagement with Beta values of 0.345 and 0.277 with p values of 0.000. This indicates that 1 unit increase in Reward and recognition lead to 34.5% increase in employee engagement among the IT Employees, similarly 1 unit increase in Performance appraisal leads to 28% increase in employee engagement.

Employee retention and Personality development each contribute to 10% increase in Employee Engagement. The beta co-efficient of 0.096 for employee retention and 0.109 for personality development are all statistically significant at p=0.000

The results indicate that for any IT organization to effectively enhance employee engagement practices Reward recognition and performance appraisal are most impactful.

**Figure 4.7- Pictorial representation of Structural relationship between variables – Employee engagement Factors**



The above figure shows the pictorial representation of standardised estimates for the Employee Engagement Model. The standardised regression estimates are used for ranking the constructs in the Model. The higher the standardised estimate the greater the impact on the model.

- ✓ The factor with highest standardized estimate is Reward and recognition with standardized estimate of 0.117 , which is the most significant factor of Employee engagement model
- ✓ The factor with second highest standardized estimate is Personality development with 0.093 which is the second most significant factor of employee engagement model.

**Table 4.42 - Ranking of IHRM Constructs**

| *Variable* | *Rank* |
|---|---|
| *Reward and Recognition* | 1 |
| *Personality development* | 2 |
| *Employee retention* | 3 |
| *Performance Appraisal* | 4 |

The rewards and recognition has the highest impact on employee engagement and also ranked first with the highest standardised estimate. On the overall model Personality development is ranked second. The IT Organizations in the study should give importance to rewards and recognition, performance appraisal and personality development through use of latest applications in HRM.

***Therefore, Alternate Hypothesis – Employee retention, Reward and recognition, Personality development and performance appraisal are factors influencing Employee engagement is accepted***

### 4.4.4 Hypothesis 4

Null Hypothesis – Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are not factors influencing Employee Productivity

Alternate Hypothesis – Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are factors influencing Employee Productivity

Statistical test – Structural equation Modelling

Step 1 – Exploratory Factor analysis

**Table 4.43 – KMO Bartlett's test – Employee Productivity Factors**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.757 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 5356.665 |
| | df | 351 |
| | Sig. | 0.000 |

The KMO and Bartlett test takes into account all of the data that is currently accessible. If the KMO value is larger than 0.5 and the significance level of the Bartlett's test is less than 0.05, then there is a strong possibility that there is a significant amount of correlation in the data. It is also possible to determine the KMO measure for each variable. The use of numbers bigger than 0.5 is not problematic in any way. In the current employee productivity model, the KMO Statistic is 0.757 which is above the acceptable criteria and statistically significant at p =0.000 The Chi sqr values is 5356.665 at 351 degrees of freedom. Bartlett's test of sphericity is a method that can be used to examine the possibility of rejecting the null hypothesis that the correlation matrix is an identical matrix. If the correlation matrix is completely filled with ones, this indicates that the variables are not connected to one another and that they will not d o well in a factor analysis. In the current Model correlation matrix is shown not to be an identity matrix (the null hypothesis is rejected) as a result of a statistical test that is significant.

**Table 4.44 – Communalities – Employee Productivity Factors**

| Communalities | | |
|---|---|---|
| | Initial | Extraction |
| EP_IWS_1 Inter-departmental problem solving is present in the organization | 1.000 | 0.658 |
| EP_IWS_2 Existing Innovative HR Practices increases my productivity | 1.000 | 0.707 |
| EP_IWS_3 I get the opportunity to provide suggestions for a launch of new project or any important discussion | 1.000 | 0.756 |
| EP_EC_1 I am given an opportunity to bring forward ideas before decisions are made | 1.000 | 0.604 |
| EP_EC_2 The talent management aspects of my organization increases my contribution to work | 1.000 | 0.747 |
| EP_EC_3 My work load allows me to balance between personal life and professional career | 1.000 | 0.695 |
| EP_EC_4 I can provide suggestions or grievances to the organization without revealing Identity | 1.000 | 0.757 |
| EP_V_1 The organization's communication motivates and stimulates an enthusiasm for meeting its goals | 1.000 | 0.768 |
| EP_V_2 The organization's communication makes me identify with it and feel a vital part of it | 1.000 | 0.657 |
| EP_DD_1 I take initiative to improve the way in which the work is done | 1.000 | 0.734 |
| EP_DD_2 I find the work that I do, full of meaning and purpose | 1.000 | 0.662 |
| EP_DD_3 The work processes we have in place allows me to be as productive as possible | 1.000 | 0.780 |
| EP_PF_1 At my work I always persevere, even when things do not go well | 1.000 | 0.740 |
| EP_PF_2 Employee retention strategies in my organization keeps me positive | 1.000 | 0.639 |
| EP_PF_3 The mission or purpose of my company makes me feel my job is important | 1.000 | 0.672 |

| | | |
|---|---|---|
| EP_PF_4 My company fulfills its commitment to society by engaging in various community services | 1.000 | 0.618 |
| EP_PF_5 My employer is concerned about my mental well being | 1.000 | 0.713 |
| EP_MF_1 The rewards and recognition motivates me to focus on my job duties | 1.000 | 0.700 |
| EP_MF_2 The rewards and recognition motivates me to focus on my job duties | 1.000 | 0.583 |
| EP_MF_3 The training in my organization motivates me to work better | 1.000 | 0.711 |
| EP_MF_4 My company has excellent leadership | 1.000 | 0.749 |
| EP_EF_1 The CEO and superiors directly address the employees to encourage you and handle grievances | 1.000 | 0.656 |
| EP_EF_2 I am allowed to influence important decisions concerning work | 1.000 | 0.581 |
| EP_ICE_1 There is guaranteed growth and promotion based on work experience | 1.000 | 0.841 |
| EP_ICE_2 In my Organization there is freedom to plan my work | 1.000 | 0.837 |
| EP_ICE_3 I have a considerable amount of freedom to do my job | 1.000 | 0.865 |
| EP_ICE_4 The present job helps to enhance my skills and knowledge | 1.000 | 0.341 |
| Extraction Method: Principal Component Analysis. | | |

The degree of variation that is shared by a group of things is known as their "common variance." Those items will share a lot of variation if they are highly connected.

Communality (sometimes called h2) is a definition of shared variance that runs between and . When the value is near to 1, it indicates that the extracted factors account for a larger portion of the variance in the single variable.

In the current employee productivity Model, the communalities are least at 0.341 and highest at 0.865. Majority of the communalities are nearing one and are considered appropriate for the study

**Table 4.45 – Total Variance explained – Employee productivity factors**

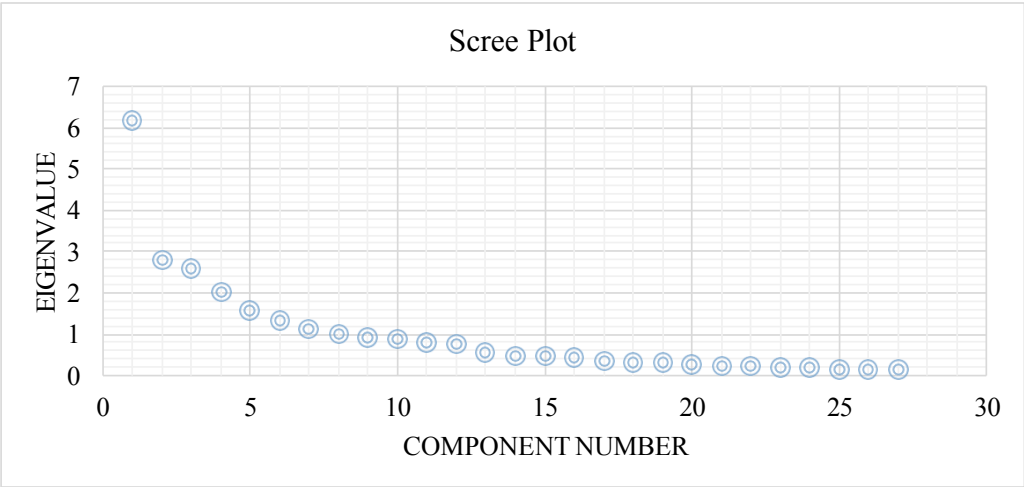
| Total Variance Explained | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 6.202 | 22.970 | 22.970 | 6.202 | 22.970 | 22.970 | 3.668 | 13.587 | 13.587 |
| 2 | 2.803 | 10.382 | 33.353 | 2.803 | 10.382 | 33.353 | 2.573 | 9.529 | 23.116 |
| 3 | 2.621 | 9.709 | 43.061 | 2.621 | 9.709 | 43.061 | 2.403 | 8.899 | 32.014 |
| 4 | 2.034 | 7.532 | 50.593 | 2.034 | 7.532 | 50.593 | 2.341 | 8.672 | 40.686 |
| 5 | 1.603 | 5.936 | 56.529 | 1.603 | 5.936 | 56.529 | 2.235 | 8.279 | 48.966 |
| 6 | 1.331 | 4.930 | 61.459 | 1.331 | 4.930 | 61.459 | 1.903 | 7.048 | 56.014 |
| 7 | 1.159 | 4.293 | 65.752 | 1.159 | 4.293 | 65.752 | 1.889 | 6.997 | 63.011 |
| 8 | 1.020 | 3.779 | 69.531 | 1.020 | 3.779 | 69.531 | 1.760 | 6.520 | 69.531 |
| 9 | 0.930 | 3.445 | 72.976 | | | | | | |
| 10 | 0.917 | 3.396 | 76.372 | | | | | | |
| 11 | 0.826 | 3.059 | 79.430 | | | | | | |
| 12 | 0.772 | 2.861 | 82.291 | | | | | | |
| 13 | 0.591 | 2.190 | 84.481 | | | | | | |
| 14 | 0.499 | 1.849 | 86.331 | | | | | | |
| 15 | 0.487 | 1.803 | 88.134 | | | | | | |
| 16 | 0.436 | 1.615 | 89.749 | | | | | | |
| 17 | 0.388 | 1.437 | 91.185 | | | | | | |
| 18 | 0.338 | 1.253 | 92.438 | | | | | | |
| 19 | 0.317 | 1.174 | 93.612 | | | | | | |
| 20 | 0.295 | 1.094 | 94.706 | | | | | | |
| 21 | 0.255 | 0.945 | 95.651 | | | | | | |
| 22 | 0.242 | 0.897 | 96.548 | | | | | | |
| 23 | 0.223 | 0.826 | 97.374 | | | | | | |
| 24 | 0.206 | 0.765 | 98.139 | | | | | | |
| 25 | 0.184 | 0.683 | 98.821 | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 26 | 0.167 | 0.619 | 99.441 | | | | | | |
| 27 | 0.151 | 0.559 | 100.000 | | | | | | |
| Extraction Method: Principal Component Analysis. | | | | | | | | | |

When performing a factor analysis, the eigenvalue reflects the total number of factors that can be recovered from the data, which should always be equal to the number of variables in the study. The next item shows all the factors extractable from the analysis together with their eigenvalues.

Only the initial eigenvalues and the extracted sums of squared loadings are of interest for the objectives of analysis and interpretation. The presence of eigenvalues greater than 1 is necessary for determining the number of components or factors stated by the chosen variables. First component is 6.202 > 1, second component is 2.803 > 1, third component is 2.621 > 1, and Ninth component is 0.930 < 1 as shown in Table above. The specified collection of 27 variables represents 8 factors. Therefore, the aforementioned 27 variables can be effectively captured by a model consisting of only 8 components.

**Figure 4.8 – Scree Plot – Employee Productivity**




The scree plot is a graph of the eigenvalues against all the components of employee productivity model . The chart might help to decide how many variables to keep. Where the curve begins to flatten is of particular interest. Between factors 9 and 10, a flattening of the curve can be noted. Also, keep in mind that the eigenvalue of any component from 8 onwards is less than 1, thus the current model had to narrow it down to just the top 8.

**Table 4.46- Rotated Component Matrix – Employee productivity Factors**

| Rotated Component Matrix[a] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Component | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| EP_PF_5 My employer is concerned about my mental well being | 0.894 | | | | | | | |
| EP_PF_4 My company fulfills its commitment to society by engaging in various community services | 0.863 | | | | | | | |
| EP_PF_3 The mission or purpose of my company makes me feel my job is important | 0.857 | | | | | | | |
| EP_PF_2 Employee retention strategies in my organization keeps me positive | 0.789 | | | | | | | |
| EP_PF_1 At my work I always persevere, even when things do not go well | 0.752 | | | | | | | |
| EP_MF_1 The rewards and recognition motivates me to focus on my job duties | | 0.911 | | | | | | |
| EP_MF_2 The rewards and recognition motivates me to focus on my job duties | | 0.891 | | | | | | |
| EP_MF_3 The training in my organization motivates me to work better | | 0.864 | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| EP_MF_4 My company has excellent leadership | | 0.706 | | | | | | |
| EP_ICE_3 I have a considerable amount of freedom to do my job | | | 0.874 | | | | | |
| EP_ICE_1 There is guaranteed growth and promotion based on work experience | | | 0.816 | | | | | |
| EP_ICE_2 In my Organization there is freedom to plan my work | | | 0.715 | | | | | |
| EP_ICE_4 The present job helps to enhance my skills and knowledge | | | 0.645 | | | | | |
| EP_IWS_2 Existing Innovative HR Practices increases my productivity | | | | 0.721 | | | | |
| EP_IWS_3 I get the opportunity to provide suggestions for a launch of new project or any important discussion | | | | 0.71 | | | | |
| EP_IWS_1 Inter-departmental problem solving is present in the organization | | | | 0.611 | | | | |
| EP_EC_1 I am given an opportunity to bring forward ideas before decisions are made | | | | | 0.892 | | | |
| EP_EC_4 I can provide suggestions or grievances to | | | | | 0.821 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| the organization without revealing Identity | | | | | | | | |
| EP_EC_2 The talent management aspects of my organization increases my contribution to work | | | | | 0.791 | | | |
| EP_EC_3 My work load allows me to balance between personal life and professional career | | | | | 0.655 | | | |
| EP_EF_1 The CEO and superiors directly address the employees to encourage you and handle grievances | | | | | | 0.722 | | |
| EP_EF_2 I am allowed to influence important decisions concerning work | | | | | | 0.698 | | |
| EP_V_1 The organization's communication motivates and stimulates an enthusiasm for meeting its goals | | | | | | | 0.881 | |
| EP_V_2 The organization's communication makes me identify with it and feel a vital part of it | | | | | | | 0.745 | |
| EP_DD_1 I take initiative to improve the way in which the work is done | | | | | | | | 0.711 |
| EP_DD_2 I find the work that I do, full of meaning and purpose | | | | | | | | 0.652 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| EP_DD_3 The work processes we have in place allows me to be as productive as possible | | | | | | | | 0.554 |

The goal of the rotation procedure is to lessen the number of factors on which the variables of interest have excessive loadings. As the analysis is unaffected by rotation, it can be read more easily. A variable's loading may exist on two or more components. Consequently, it is necessary to examine the factor loading value.

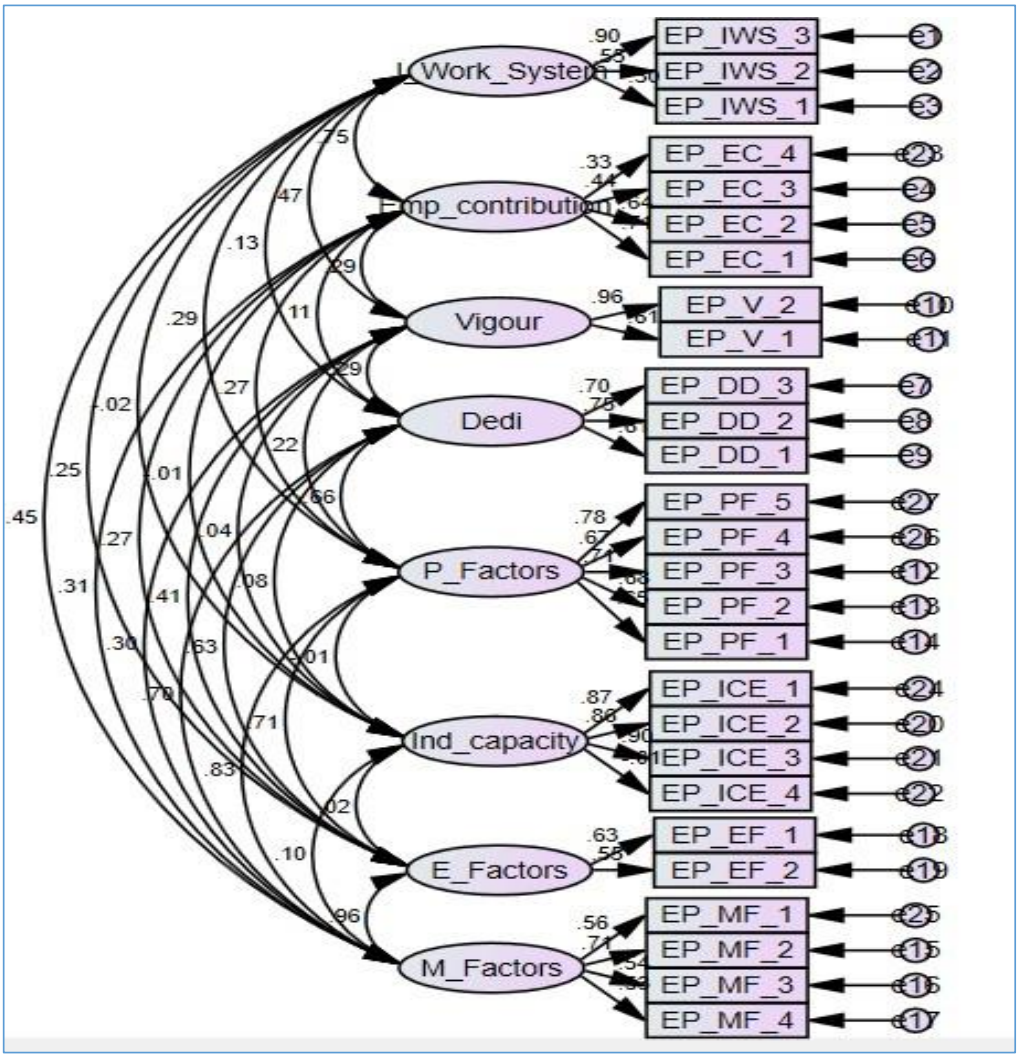
To be included in further analysis, a variable must have a value that is less than 0.3, or the limit established by the researcher (which could also be 0.3 depending on the necessity to include the desired factor loading). However, it is not useful for measuring a particular category because there is more than 0.3 loading in more than one component, which means that this variable represents two components. Therefore, they must be prevented.

All items were considered because their factor loadings were over 0.300 in the current study. In the employee productivity model- The Internal work system factor and Dedication Factor has 3 items each, Employee Contribution, Motivational factors and Internal capacity factors have 4 items each, Vigour and Experience factors have 2 items each and Psychological factors has 5 items

**Step 2 – Master validity using Confirmatory factor analysis**

The master validity table illustrates the CR, the AVE, the MSV and MaxR are all included in the correlation table of constructs that is generated by this plugin and saved as an HTML file. Additionally, it offers some room for interpretation and hints at problems with validity. It also gives advice on what to do if there are problems with validity. More so, it generates a table of scale construct validity and discriminate validity results along with some comments. The inputs for Master validity table are Standardised regression estimates and inter tem correlations which are derived from the confirmatory factor analysis. The results are discussed below:

**Figure 4.9- Inter item correlation between employee productivity factors**




A multivariate statistical technique, confirmatory factor analysis (CFA) examines the reliability of a model's structural model by comparing the number of constructs predicted by a model to the actual number of constructs measured. Exploratory factor analysis (EFA) is similar to confirmatory factor analysis (CFA), however in EFA, the data is merely investigated to reveal information about the necessary number of components to represent the data. All of the observed variables are linked to each and every unobserved factor in exploratory factor analysis. However, in confirmatory factor analysis (CFA), researchers have the freedom to choose the number of factors and the relationships between the measured and latent variables. Measurement theories can be supported or refuted with the help of confirmatory factor analysis

(CFA). The above model indicates that the items in the model are affirmed appropriately its factors

**Table 4.47 – Standardised estimates – Employee productivity factors**

| | | | Estimate |
|---|---|---|---|
| EP_IWS_3 | <--- | I_Work_System | 0.898 |
| EP_IWS_2 | <--- | I_Work_System | 0.547 |
| EP_IWS_1 | <--- | I_Work_System | 0.499 |
| EP_EC_3 | <--- | Emp_contribution | 0.441 |
| EP_EC_2 | <--- | Emp_contribution | 0.641 |
| EP_EC_1 | <--- | Emp_contribution | 0.708 |
| EP_DD_3 | <--- | Dedi | 0.702 |
| EP_DD_2 | <--- | Dedi | 0.751 |
| EP_DD_1 | <--- | Dedi | 0.61 |
| EP_V_2 | <--- | Vigour | 0.963 |
| EP_V_1 | <--- | Vigour | 0.608 |
| EP_PF_3 | <--- | P_Factors | 0.714 |
| EP_PF_2 | <--- | P_Factors | 0.683 |
| EP_PF_1 | <--- | P_Factors | 0.646 |
| EP_MF_2 | <--- | M_Factors | 0.714 |
| EP_MF_3 | <--- | M_Factors | 0.541 |
| EP_MF_4 | <--- | M_Factors | 0.527 |
| EP_EF_1 | <--- | E_Factors | 0.631 |
| EP_EF_2 | <--- | E_Factors | 0.554 |
| EP_ICE_2 | <--- | Ind_capacity | 0.862 |
| EP_ICE_3 | <--- | Ind_capacity | 0.903 |
| EP_ICE_4 | <--- | Ind_capacity | -0.009 |
| EP_EC_4 | <--- | Emp_contribution | 0.329 |
| EP_ICE_1 | <--- | Ind_capacity | 0.871 |
| EP_MF_1 | <--- | M_Factors | 0.561 |
| EP_PF_4 | <--- | P_Factors | 0.665 |
| EP_PF_5 | <--- | P_Factors | 0.779 |

When performing a multiple regression analysis with variables with varying units of measurement, it is common practice to standardize the coefficient in order to determine which independent variable has the most impact on the dependent variable (for example, income measured in dollars and family size measured in number of individuals). Also, it can be used as a proxy for the "magnitude" of an effect, or how much one variable influences another. The correlation between the independent and dependent variables can be calculated using the standardized regression coefficient in simple linear regression with orthogonal predictors Proponents of standardized coefficients point out that these coefficients can be compared across studies with no concern for the units of measurement used in any of the included variables.

**Table 4.48 – Correlation between items – Employee Productivity Factors**

| | | | Estimate |
|---|---|---|---|
| I_Work_System | <--> | Emp_contribution | 0.747 |
| I_Work_System | <--> | Dedi | 0.128 |
| I_Work_System | <--> | Vigour | 0.467 |
| I_Work_System | <--> | P_Factors | 0.295 |
| I_Work_System | <--> | M_Factors | 0.447 |
| I_Work_System | <--> | E_Factors | 0.245 |
| I_Work_System | <--> | Ind_capacity | -0.02 |
| Emp_contribution | <--> | Dedi | 0.112 |
| Emp_contribution | <--> | Vigour | 0.292 |
| Emp_contribution | <--> | P_Factors | 0.273 |
| Emp_contribution | <--> | M_Factors | 0.314 |
| Emp_contribution | <--> | E_Factors | 0.275 |
| Emp_contribution | <--> | Ind_capacity | -0.01 |
| Dedi | <--> | Vigour | 0.286 |
| Dedi | <--> | P_Factors | 0.662 |
| Dedi | <--> | M_Factors | 0.701 |
| Dedi | <--> | E_Factors | 0.627 |
| Dedi | <--> | Ind_capacity | 0.084 |

| | | | |
|---|---|---|---|
| Vigour | <--> | P_Factors | 0.219 |
| Vigour | <--> | M_Factors | 0.304 |
| Vigour | <--> | E_Factors | 0.411 |
| Vigour | <--> | Ind_capacity | 0.039 |
| P_Factors | <--> | M_Factors | 0.833 |
| P_Factors | <--> | E_Factors | 0.711 |
| P_Factors | <--> | Ind_capacity | -0.015 |
| M_Factors | <--> | E_Factors | 0.964 |
| M_Factors | <--> | Ind_capacity | 0.099 |
| E_Factors | <--> | Ind_capacity | 0.017 |

Since the item correlations are greater than 0, the model is confirmed by the confirmatory factor analysis. There is a satisfactory correlation between the variables in the model. Stats Tool is used to input the findings of a confirmatory factor analysis (Standardized regression estimates and correlation between constructs) in order to derive the overall validity. One of the most important parts of an item analysis is looking at the relationships between the items in the exam. Analysing how one item's score relates to the rest of the scale is what inter-item correlations do.

**Figure 4.10 – Master validity – Employee Productivity Factors**

| | CR | AVE | MSV | MaxR(H) | E_Factors | I_Work_S | Emp_cont | Dedi | Vigour | P_Factors | M_Factor | Ind_capac |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E_Factors | 0.820 | 0.553 | 0.929 | 0.525 | **0.594** | | | | | | | |
| I_Work_System | 0.897 | 0.552 | 0.558 | 0.831 | 0.245 | **0.672** | | | | | | |
| Emp_contributior | 0.817 | 0.604 | 0.558 | 0.674 | 0.275 | 0.747 | **0.551** | | | | | |
| Dedi | 0.730 | 0.676 | 0.491 | 0.741 | 0.627 | 0.128 | 0.112 | **0.690** | | | | |
| Vigour | 0.778 | 0.649 | 0.218 | 0.930 | 0.411 | 0.467 | 0.292 | 0.286 | **0.805** | | | |
| P_Factors | 0.826 | 0.589 | 0.694 | 0.832 | 0.711 | 0.295 | 0.273 | 0.662 | 0.219 | **0.699** | | |
| M_Factors | 0.878 | 0.549 | 0.929 | 0.697 | 0.964 | 0.447 | 0.314 | 0.701 | 0.304 | 0.833 | **0.591** | |
| Ind_capacity | 0.804 | 0.579 | 0.010 | 0.913 | 0.017 | -0.020 | -0.010 | 0.084 | 0.039 | -0.015 | 0.099 | **0.761** |

Fornell and Larcker (1981) provide the following criteria for determining validity:

1) Convergent validity requires a CR for the construct greater than 0.70 and an average variance extracted (AVE) greater than 0.50.

2) The AVE of a latent variable needs to be greater than the squared correlations of all other variables in order to have discriminant validity, AVE > MSV.

In the current model of Employee Productivity factors, the Master validity table affirms Convergent and discriminate validity and is appropriate for SEM analysis.

**Step 3 – Run the Model**

**Model Fit**

The CMIN/DF ratio, where DF is the degree of freedom, has been proposed as a measure of fit by a number of authors. Ratios as low as 2 or as high as 5 have been advocated by various studies to indicate a reasonable match" (Marsh & Hocevar, 1985), and it appears obvious that a ratio > 2.00 implies an inadequate fit. (Byrne, 1989).In the current Model the CMIN/DF statistics is 2.981 and appears to be adequate

Goodness of Fit measures how much the calculated population covariance explains. An acceptable GFI is one that is more than 0.90.The current model demonstrate the GFI of 0.911 The sample covariance matrix residuals are compared to the residuals predicted by the hypothesized model, and the square root of the difference is the Root Mean Square Residual (RMR). Considering that the RMR is often below.08. The RMR in the current model is 0.035. Fitting statistics for the current model are very close to being perfect, and it is widely accepted as a valid model.

**Structural model**

**Table 4.49 – Structural relationship between variables – Employee Productivity model**

| | | | Estimate | Estimate | P |
|---|---|---|---|---|---|
| EP_IWS_3 | <--- | I_Work_System | 1 | 0.814 | *** |
| EP_IWS_2 | <--- | I_Work_System | 0.715 | 0.619 | *** |
| EP_IWS_1 | <--- | I_Work_System | 0.766 | 0.641 | *** |
| EP_EC_3 | <--- | Emp_contribution | 1 | 0.528 | *** |
| EP_EC_2 | <--- | Emp_contribution | 1.58 | 1.002 | *** |
| EP_EC_1 | <--- | Emp_contribution | 0.722 | 0.425 | *** |
| EP_DD_3 | <--- | Dedi | 1 | 0.856 | *** |
| EP_DD_2 | <--- | Dedi | 0.887 | 0.736 | *** |
| EP_DD_1 | <--- | Dedi | 0.834 | 0.717 | *** |
| EP_V_2 | <--- | Vigour | 0.218 | 0.195 | *** |
| EP_V_1 | <--- | Vigour | 0.198 | 0.195 | *** |
| EP_PF_3 | <--- | P_Factors | 1 | 0.724 | *** |

| | | | | | |
|---|---|---|---|---|---|
| EP_PF_2 | <--- | P_Factors | 0.954 | 0.693 | *** |
| EP_PF_1 | <--- | P_Factors | 0.787 | 0.594 | *** |
| EP_MF_2 | <--- | M_Factors | 1 | 0.957 | *** |
| EP_MF_3 | <--- | M_Factors | 0.44 | 0.469 | *** |
| EP_MF_4 | <--- | M_Factors | 0.307 | 0.307 | *** |
| EP_EF_1 | <--- | E_Factors | 1 | 0.726 | *** |
| EP_EF_2 | <--- | E_Factors | 0.248 | 0.182 | *** |
| EP_ICE_2 | <--- | Ind_capacity | 1 | 0.862 | *** |
| EP_ICE_3 | <--- | Ind_capacity | 0.889 | 0.902 | *** |
| EP_ICE_4 | <--- | Ind_capacity | 0.022 | 0.021 | *** |
| EP_EC_4 | <--- | Emp_contribution | 0.357 | 0.209 | *** |
| EP_ICE_1 | <--- | Ind_capacity | 0.923 | 0.872 | *** |
| EP_MF_1 | <--- | M_Factors | 0.527 | 0.543 | *** |
| EP_PF_4 | <--- | P_Factors | 1.007 | 0.767 | *** |
| EP_PF_5 | <--- | P_Factors | 1.126 | 0.747 | *** |
| **Emp_Productivity** | **<---** | **I_Work_System** | **0.493** | **0.079** | *** |
| **Emp_Productivity** | **<---** | **Emp_contribution** | **0.386** | **0.051** | *** |
| **Emp_Productivity** | **<---** | **Vigour** | **0.119** | **0.098** | *** |
| **Emp_Productivity** | **<---** | **Dedi** | **0.099** | **0.083** | *** |
| **Emp_Productivity** | **<---** | **P_Factors** | **0.103** | **0.071** | *** |
| **Emp_Productivity** | **<---** | **M_Factors** | **0.293** | **0.093** | *** |
| **Emp_Productivity** | **<---** | **E_Factors** | **0.102** | **0.071** | *** |
| **Emp_Productivity** | **<---** | **Ind_capacity** | **0.283** | **0.084** | *** |

The Unstandardized regression estimates show the amount of change in independent variable leads to change in the dependent variables. In this model , Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are factors independent variables influencing Employee Productivity

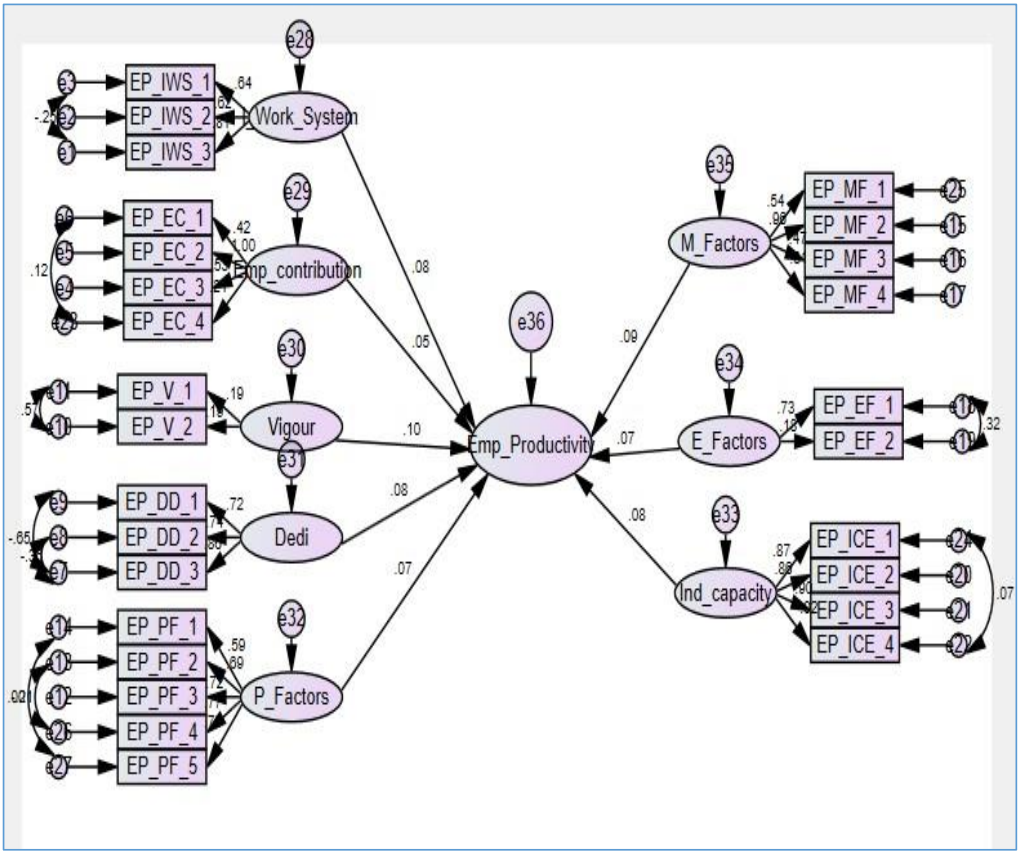
Internal work system , Employee contribution , Motivational Factors and Individual capacity are most important factors influencing Employee productivity with Beta values of 0.493,

0.386, 0.293 and 0.283 with p values of 0.000. This indicates that 1 unit increase Internal work system lead to 49 % increase in employee productivity,

Vigour, Dedication, Psychological factors, Experience Factors each contribute to 10% increase in Employee Productivity. The beta co-efficient of 0.119 for Vigour, 0.099 for dedication, 0.103 for Psychological factors and 0.102 for experience factors are all statistically significant at p=0.000

The results indicate that for any IT organization to effectively enhance Employee productivity internal work system, Employee contribution, Motivational Factors and Individual capacity are most significant.

**Figure 4.11 – Pictorial representation- Structural relationship between variables – Employee Productivity model**



The above figure shows the pictorial representation of standardised estimates for the Employee Productivity Model. The standardised regression estimates are used for ranking the constructs in the Model. The higher the standardised estimate the greater the impact on the model.

- ✓ The factor with highest standardized estimate is Vigour with standardized estimate of 0.098 , which is the most significant factor of employee productivity
- ✓ The factor with second highest standardized estimate is Motivational factors with 0.093 which is the second most significant factor of employee productivity

**Table 4.50 - Ranking of Employee Productivity Constructs**

| *Variable* | *Rank* |
|---|---|
| *Vigour* | 1 |
| *Motivational factor* | 2 |
| *Dedication, Internal capacity, Internal work system* | 3 |
| *Psychological factor and Experience factor* | 6 |
| *Employee contribution* | 8 |

Internal work system, Employee contribution, Motivational Factors and Individual capacity are most impacting factors of employee productivity; Vigour and Motivational factor have higher standardised estimates and ranked in first two positions. Hence, The IT organizations while laying emphasis on employee productivity Model should consider giving importance to all the constructs.

***Therefore, Alternate Hypothesis – Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are factors influencing Employee Productivity***

Objective -4 To analyse the impact of IHRM on Employee engagement and employee productivity

### 4.4.5 Hypothesis 5

Null Hypothesis – There is no significant impact of IHRM on employee engagement

Alternate Hypothesis – There is a significant impact of IHRM on employee engagement

Statistical test – Structural equation Modelling.

**Model Fit**

The CMIN/DF ratio, where DF is the degree of freedom, has been proposed as a measure of fit by a number of authors. Ratios as low as 2 or as high as 5 have been advocated by various studies to indicate a reasonable match" (Marsh & Hocevar, 1985), and it appears obvious that a ratio > 2.00 implies an inadequate fit. (Byrne, 1989).In the current Model the CMIN/DF statistics is 2.981 and appears to be adequate

Goodness of Fit measures how much the calculated population covariance explains. An acceptable GFI is one that is more than 0.90.The current model demonstrate the GFI of 0.901 The sample covariance matrix residuals are compared to the residuals predicted by the hypothesized model, and the square root of the difference is the Root Mean Square Residual (RMR). Considering that the RMR is often below.08. The RMR in the current model is 0.046. Fitting statistics for the current model are very close to being perfect, and it is widely accepted as a valid model.

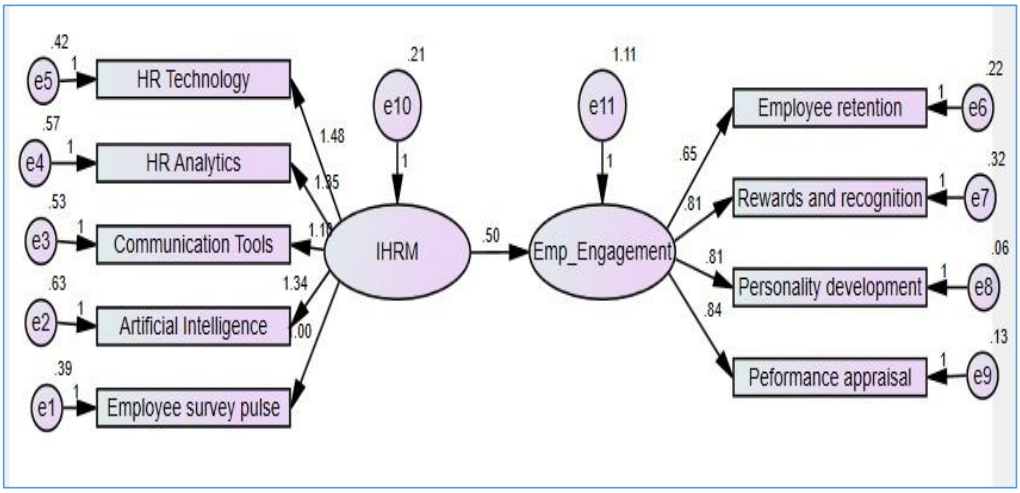
Structural Model

**Table 4.51 – Structural relationship between variables – IHRM -→ Employee Engagement**

| | | | UnStd Estimate | Std Estimate | P |
|---|---|---|---|---|---|
| **Emp_Engagement** | **<---** | **IHRM** | **0.496** | **0.209** | *** |
| ESP | <--- | IHRM | 1 | 0.589 | *** |
| AI | <--- | IHRM | 1.34 | 0.609 | *** |
| CCT | <--- | IHRM | 1.097 | 0.565 | *** |
| HRA | <--- | IHRM | 1.349 | 0.632 | *** |
| HRT | <--- | IHRM | 1.484 | 0.724 | *** |
| ER | <--- | Emp_Engagement | 0.648 | 0.83 | *** |
| RR | <--- | Emp_Engagement | 0.809 | 0.838 | *** |
| PD | <--- | Emp_Engagement | 0.811 | 0.965 | *** |
| PA | <--- | Emp_Engagement | 0.84 | 0.928 | *** |

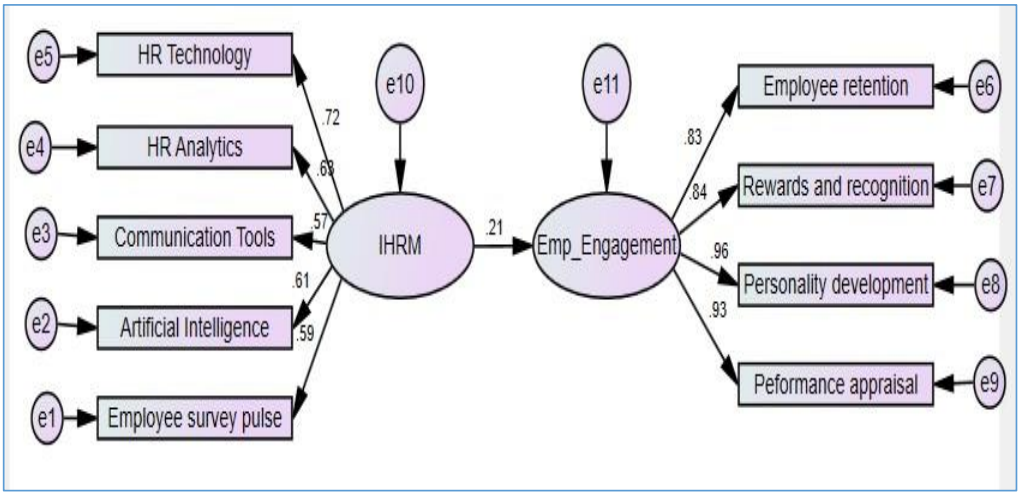
The regression estimates show the amount of change in independent variable leads to change in the dependent variables. In this model , IHRM factors are independent and Employee engagement is a dependent variable.

**Figure 4.12- Pictorial representation – structural relationship – Unstandardized estimates - IHRM -→ Employee Engagement**




The unstandardized estimate of (B=0.496, p=0.000) indicates that there is a significant change in employee engagement due to IHRM . As IHRM practices increase by 1 unit the employee engagement increases by 50% and is statistically significant.

**Figure 4.13 - Pictorial representation – Structural relationship – Standardized estimates - IHRM -→ Employee Engagement**



The standardized estimate of (B=0.209, p=0.000) indicates that there is a significant impact of IHRM on employee engagement. As IHRM practices increase by 1 unit the employee engagement increases by 21% and is statistically significant.

***Therefore, Alternate Hypothesis – There is a significant impact of IHRM on employee engagement is accepted***

### 4.4.6 Hypothesis 6

Null Hypothesis – There is no significant impact of IHRM on employee productivity

Alternate Hypothesis – There is a significant impact of IHRM on employee productivity

Statistical test – Structural equation Modelling

**Model Fit**

The CMIN/DF ratio, where DF is the degree of freedom, has been proposed as a measure of fit by a number of authors. Ratios as low as 2 or as high as 5 have been advocated by various studies to indicate a reasonable match" (Marsh & Hocevar, 1985), and it appears obvious that a ratio > 2.00 implies an inadequate fit. (Byrne, 1989).In the current Model the CMIN/DF statistics is 2.876 and appears to be adequate

Goodness of Fit measures how much the calculated population covariance explains. An acceptable GFI is one that is more than 0.90.The current model demonstrate the GFI of 0.866

The sample covariance matrix residuals are compared to the residuals predicted by the hypothesized model, and the square root of the difference is the Root Mean Square Residual (RMR). Considering that the RMR is often below.08. The RMR in the current model is 0.058. Fitting statistics for the current model are very close to being perfect, and it is widely accepted as a valid model.

Structural Model

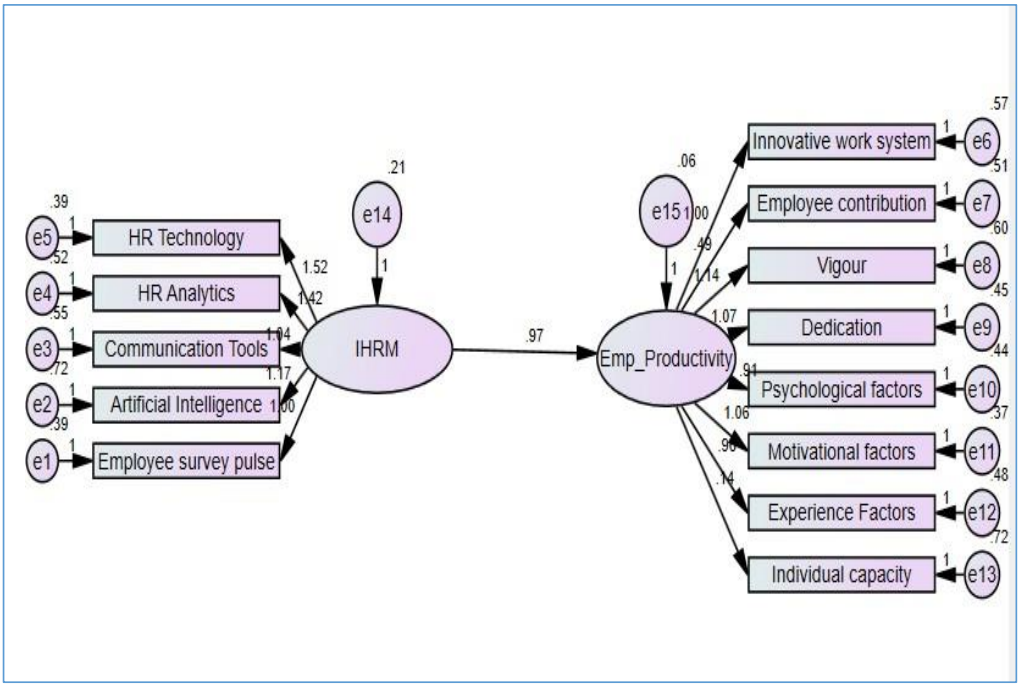
**Table 4.52 – Structural relationship between variables – IHRM -→ Employee Productivity**

| | | | Unstd Estimate | Std Estimate | P |
|---|---|---|---|---|---|
| **Emp_Productivity** | **<---** | **IHRM** | **0.966** | **0.877** | *** |
| ESP | <--- | IHRM | 1 | 0.593 | |
| AI | <--- | IHRM | 1.171 | 0.536 | *** |

| | | | | | |
|---|---|---|---|---|---|
| CCT | <--- | IHRM | 1.043 | 0.541 | *** |
| HRA | <--- | IHRM | 1.422 | 0.671 | *** |
| HRT | <--- | IHRM | 1.519 | 0.746 | *** |
| IWS | <--- | Emp_Productivity | 1 | 0.556 | |
| EC | <--- | Emp_Productivity | 0.486 | 0.325 | *** |
| V | <--- | Emp_Productivity | 1.143 | 0.599 | *** |
| DD | <--- | Emp_Productivity | 1.073 | 0.627 | *** |
| PF | <--- | Emp_Productivity | 0.913 | 0.57 | *** |
| MF | <--- | Emp_Productivity | 1.061 | 0.663 | *** |
| EF | <--- | Emp_Productivity | 0.956 | 0.57 | *** |
| ICE | <--- | Emp_Productivity | 0.142 | 0.084 | 0.124 |

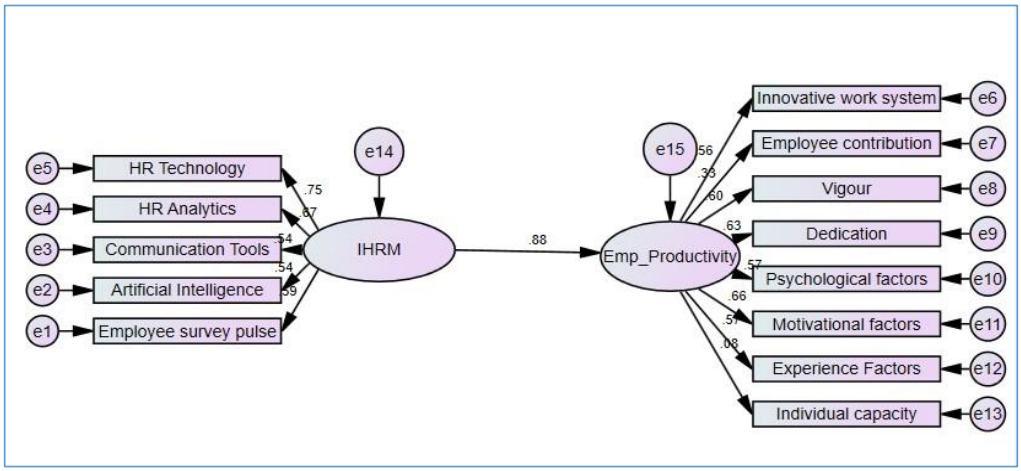
The regression estimates show the amount of change in independent variable leads to change in the dependent variables. In this model, IHRM factors are independent and Employee productivity is a dependent variable.

**Figure 4.14- Pictorial representation – structural relationship – Unstandardized estimates - IHRM -→ Employee Productivity**



The unstandardized estimate of (B=0.966, p=0.000) indicates that there is a positive change in employee productivity due to implementation of IHRM in the Organization. As IHRM practices increase by 1 unit the employee productivity increases by 97% and is statistically significant.

**Figure 4.15 - Pictorial representation – structural relationship – Standardized estimates - IHRM -→ Employee Productivity**




The standardized estimate of (B=0.877, p=0.000) indicates that there is a significant impact of IHRM on employee productivity. As IHRM practices increase by 1 unit the employee productivity increases by 88% and is statistically significant.

***Therefore, Alternate Hypothesis – There is a significant impact of IHRM on employee productivity is accepted***

Objective -5 To examine the mediating role of Employee engagement on the relationship between IHRM and Employee productivity.

### 4.4.7 Hypothesis 7

Null Hypothesis – Employee engagement does not mediate the role between IHRM and employee productivity

Alternate Hypothesis – Employee engagement mediates the role between IHRM and employee productivity

Statistical test – Mediation Analysis

Model : 4- Andrew Hayes – Mediation Analysis

Y: Employee Productivity

X: IHRM

M: Employee Engagement

Sample

Size: 406

**********

OUTCOME VARIABLE:

Employee engagement

Model Summary

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| .4480 | .2007 | .8526 | 7.0300 | 1.0000 | 28.0000 | .0130 |

Model

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| constant | 1.1610 | .4498 | 2.5812 | .0154 | .2396 | 2.0824 |
| IHRM | .8729 | .3292 | 2.6514 | .0130 | .1985 | 1.5473 |

**********

OUTCOME VARIABLE:

Employee Productivity

Model Summary

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| .6389 | .4082 | .6202 | 9.3134 | 2.0000 | 27.0000 | .0008 |

Model

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| constant | .1649 | .4268 | .3863 | .7023 | -.7110 | 1.0407 |
| IHRM | .1860 | .3141 | .5923 | .5586 | -.4584 | .8305 |
| Employee Engagement | .5733 | .1612 | 3.5568 | .0014 | .2426 | .9040 |

********** Σ EFFECT MODEL **********

OUTCOME VARIABLE:

Employee Productivity

Model Summary

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| .3619 | .1310 | .8783 | 4.2203 | 1.0000 | 28.0000 | .0494 |

Model

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| constant | .8305 | .4565 | 1.8192 | .0796 | -.1047 | 1.7657 |
| IHRM | .6864 | .3341 | 2.0543 | .0494 | .0020 | 1.3709 |

********** Σ, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

The Σ effect of X on Y

| Effect | se | t | p | LLCI | ULCI | c_ps | c_cs |
|---|---|---|---|---|---|---|---|
| .6864 | .3341 | 2.0543 | .0004 | .0020 | 1.3709 | .6949 | .3619 |

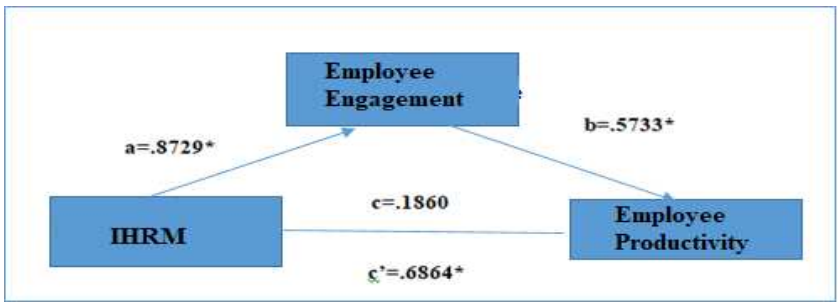
Direct effect of X on Y

| Effect | se | t | p | LLCI | ULCI | c'_ps | c'_cs |
|---|---|---|---|---|---|---|---|
| .1860 | .3141 | .5923 | .0086 | .4584 | .8305 | .1883 | .0981 |

(a) Relationship between IHRM and Employee engagement is significant at t(28) = 2.6514, p= .0000, p=0.0130, the lower-level confidence interval .1985 and higher-level confidence interval is 1.5473 does not move through 0. Therefore, this relationship is significant. The co-efficient is .8729 indicating that IHRM leads to 87.29% positive change in IT Employees engagement

(b) Relationship between Employee engagemnet and Employee Productivity is significant at t(28) = 3.5568, p= .000, p=0.014, the lower-level confidence interval .2426 and higher-level confidence interval is .9040 does not move through 0. Therefore, this relationship is significant. The co-efficient is .5733 indicating that employee engagement leads to 57.33% positive change in IT Employees Productivity.

**Figure 4.16 - Employee engagement mediates the role between IHRM and employee productivity**




(C ) Direct effect of X on Y Relationship between IHRM and Employee productivity is significant at t(28) = .1860, p= .0000, p=0.0086 , the lower level confidence interval 0.4584 and higher-level confidence interval is .8305 and does not moves through 0. Therefore, this relationship is significant.

(C1) Σ Effects of X on Y Relationship between IHRM and Employee productivity through Employee engagemnet is significant at t(28) = .6864, p = .0000, p = 0.0004, the lower-level confidence interval .6949 and higher-level confidence interval is .3619 does not move through 0. Therefore, this relationship is significant.

The direct relationship between IHRM and Employee Productivity is significant but small; the total effect relationship is significant showing IHRM and Employee productivity through employee engagemnet is significant and Higher the direct relationship. . Alternate Hypothesis accepted.

***Therefore, Alternate Hypothesis – Employee engagement mediates the role between IHRM and employee productivity is accepted***

# Chapter 5

# FINDINGS, SUGGESTIONS AND CONCLUSION

## 5.1 Introduction

This section aims at providing the findings of the study in an extensive manner. The researcher also extends the suggestions by giving valuable insight to the IT industry for implementing Innovative HR Practices and enhancing employee engagement and productivity. This chapter also elucidates the implications from the study and concludes with the scope for further research.

Overall, this particular chapter has been divided into 5 areas, to be certain the accompanying is:

1. Findings
2. Suggestions
3. Implications of research
4. Conclusion
5. Scope for further research

## 5.2 Findings from the study

### 5.2.1 Findings from demographic variables

- 39.7% IT employees in the study are in the age group of 25-35 years followed by 37.9% belong to 36-45 years. The IT industry is predominated by employees who are in age group of 25-45 years. A small percentage of 15.8% are in the age group of 18-24 years and only 6.7% are in age group of 46-54 years
- The Indian society is patriarchal in nature and predominated by male work force. But in the current scenario women are participating in workforce as the Top IT companies are working towards gender diversity in the Organizations. 54.7% respondents in the study are male and 45.3% are female employees.
- 27.8% respondents each have 3-5 years and 6-8 years of overall working experience in IT Industry. 29.1% have above 9 years of experience. A majority of the respondents in the study have above 3 years of experience. A cumulative 15.3 % respondents have less than 2 years of experience

- Experience in the current organization shows that a cumulative 66.7% respondents in the study have 1-5 years of experience. 10.8% have above 89 years of experience.13.5% have less than 1 year of experience. The respondents in the study have more than 1 year of experience and are well aware of the activities of the organization.
- A large proportion of 48.5% IT Employees in the study earn between 4Lakhs – 6 Lakhs per annum. 17.7% earn between 7-9 lakhs , 6.2 % ern around 9-11lakhs and 5.7% earn more than 11 lakhs per annum.

### 5.2.2 Findings from Descriptive statistics

(a) Innovative Human resource management Practices

- The mean scores for HR Technologies falls between 3.17 and 3.54 indicating that IT Employees perceive moderate implementation of HR Technologies in their Organization. The IT Employees in the study perceived that Employee relations are handled through HR Technologies (M= 3.54) and Compensation planning and Management is done through HR Technology (M=3.51)
- The mean scores for HR analytics falls between 3.54 and 3.73 indicating that IT Employees perceive higher implementation of HR Analytics in their Organization. The IT Employees in the study perceived that their organization relies on Predictive Analytics for forecasting attrition rates, probability of employee success on job based on recruitment / selection etc (M= 3.73) and organization used Descriptive analytics for data visualization, adhoc reports, drilling-down, dashboards / score cards, SQL Queries (M=3.67)
- The mean scores for CCT item falls between 3.17 and 3.26 indicating that IT Employees perceive lower use of CCT in their Organization The IT Employees in the study perceived that organization uses right internal communication strategy (M= 3.26) and unified workplace communication in my organization (M=3.21)
- The mean scores for AI in HR item falls between 3.33 and 3.46 indicating that IT Employees perceive moderate use of AI in HR in their Organization The IT Employees in the study perceived that Communication in the organization is powered by AI (M= 3.41) and organization uses AI for HR Functions (M=3.33)
- The mean scores for ESP item falls between 3.75 and 3.51 indicating that IT Employees perceive high use of ESP in their Organization The IT Employees in the study perceived that Company values pulse to track company values are truly being "lived"

in the organisation (M= 3.75) and Change pulse is used to check in on employee sentiment more regularly through an organisational change program (M=3.73)

(b) Employee Engagement

- The mean scores for Employee retention item falls between 4.33 and 2.95 indicating that IT Employees perceive higher importance to employee retention strategies in their Organization The IT Employees in the study expressed that they feel proud to work in this organization (M= 4.33 ) and speak positive of their organization wherever they go (M=4.32)
- The mean scores for Reward and recognition item falls between 4.07 and 3.82 indicating that IT Employees perceive moderate importance to reward and recognition strategies in their Organization. The IT Employees in the study expressed that he organization hosts cultural competitions and programmes (M= 4.07 ) and Satisfied with the bonus given in the organization (M=3.67)
- The mean scores for Personality development item falls between 2.99 and 4.14 indicating that IT Employees perceive moderate importance to Personality development strategies in their Organization . The IT Employees in the study expressed that Job requires me to use a number of complex or high-level skills (M= 4.14 ) and the organization encourages to innovate and do things creatively (M=4.13 )
- The mean scores for Performance appraisal item falls between 4.13 and 3.84 indicating that IT Employees perceive higher importance to Performance appraisal strategies in their Organization. The IT Employees in the study expressed that they assessed by their superior and colleagues (M= 4.13 ) and 360 degree appraisal is done (M=3.84 )

(c ) Employee Productivity

- The mean scores for internal works system item falls between 3.58 and 3.66 indicating that IT Employees perceive moderate influence of internal works system on employee productivity.
- The mean scores for Employee contribution item falls between 3.27 and 3.92 indicating that IT Employees perceive moderate influence of Employee contribution on employee productivity.
- The mean scores for Vigour item falls between 3.63 and 3.60 indicating that IT Employees perceive moderate influence of Vigour on employee productivity.

- The mean scores for Dedication item falls between 3.63 and 3.71 indicating that IT Employees perceive moderate influence of Dedication on employee productivity
- The mean scores for Psychological Factors item falls between 3.26 and 3.48 indicating that IT Employees perceive moderate influence of Psychological Factors on employee productivity.
- The mean scores for Motivational Factors item falls between 3.32 and 3.51 indicating that IT Employees perceive moderate influence of Motivational Factors on employee productivity.
- The mean scores for Experience Factors item falls between 3.30 and 3.54 indicating that IT Employees perceive moderate influence of Experience Factors on employee productivity
- The mean scores for internal capacity efforts item falls between 3.87 and 3.66 indicating that IT Employees perceive higher influence of internal capacity efforts on employee productivity.

### 5.2.3 Findings from Testing of Hypothesis

**Table 5.1 – Findings from Testing of hypothesis**

| Hypothesis | Type of statistical test used | Hypothesis accepted / Rejected | Outcomes |
|---|---|---|---|
| **H1 - HR Technology, HR Analytics, Collaboration Tools, AI in HR and Employee Pulse survey are contributors to Innovative Human resource practices** | SEM | Accepted | The results indicate that for any IT organization to effectively enhance IHRM Practices HR analytics and AI in HR are more impactful |
| **H2 - There is a significant impact of demographic variables on Perception of IHRM** | ANOVA, Independent t test | Rejected | |

| | | | |
|---|---|---|---|
| **H3- Employee retention, Reward and recognition, Personality development and performance appraisal are factors influencing Employee engagement** | SEM | Accepted | The results indicate that for any IT organization to effectively enhance employee engagement practices Reward recognition and performance appraisal are most impactful |
| **H4 - Innovative work system, Employee contribution, Vigour, Dedication, Psychological factors, Motivational factors, Experience Factors and Individual capacity are factors influencing Employee Productivity** | SEM | Accepted | The results indicate that for any IT organization to effectively enhance Employee productivity internal work system, Employee contribution, Motivational Factors and Individual capacity are most significant. |
| **H5- There is a significant impact of IHRM on employee engagement** | SEM | Accepted | The unstandardized estimate of (B=0.496, p=0.000) indicates that there is a significant change in employee engagement due to IHRM . As IHRM practices increase by 1 unit the employee engagement increases by 50% and is statistically significant |
| **H6 - There is a significant impact of IHRM on employee productivity** | SEM | Accepted | The unstandardized estimate of (B=0.966, p=0.000) indicates that there is a positive change in employee productivity due to implementation of IHRM in the Organization. As IHRM |

| | | | |
|---|---|---|---|
| | | | practices increase by 1 unit the employee productivity increases by 97% and is statistically significant. |
| **H7 - Employee engagement mediates the relationship between IHRM and employee productivity** | Mediation analysis - Andrew hayes , Model 4 | Accepted | The direct relationship between IHRM and Employee Productivity is significant but small; the total effect relationship is significant showing IHRM and Employee productivity through employee engagement is significant and Higher the direct relationship |

## 5.3 Suggestions

The following suggestions are given to the IT organizations

- It is suggested to IT organization to make big financial investments in getting cutting-edge HR technology. IHRM aids in hiring, on boarding, training, development, employee engagement, etc. Inventions are useful in any circumstance.
- As a result of the time and money that can be saved, the accuracy that can be assured, and the growth prospects that can be obtained, it is imperative that every Organization prioritize the continual improvement and innovation of their HR practices, or IHRM.
- Reading through all of the applications, profiles, and cover letters is a tedious process. IHRM Strategies related to Recruitment aid in establishing standards, screening applications, administering exams, organizing interviews, and making final hiring decisions.
- A company's ability to retain and recruit talented workers now depends on how involved those workers are in their work. In order to foster a more contented workforce,

the IT organizations might deploy IHRM initiatives pertaining to employee engagement platforms.

- After COVID-19, the entire globe went into a panic. Everyone's well-being is paramount in such a setting. The health of a company's employees is increasingly important, making this a pressing issue. The healthiest possible workforce is essential to the success of every IT company, hence it is imperative that these businesses use IHRM worker wellness systems.
- Corporate environments are increasingly using games at a variety of points to increase engagement, maintain a positive mood, and add variety to the workday. It could be in the form of a monthly goal, daily health objective, or recruitment quota. Games like this are great for increasing productivity, morale, and overall office pleasure. This is why IT companies need to start using game mechanics in their operations.
- Recognition is a useful tool for human resources in gauging employee growth and promoting deserving workers. Recent trends indicate that acknowledgment needs to be done on all levels and by all parties. IT organizations need to implement IHRM strategies within the company that emphasize the importance of peer recognition.
- Employee input is essential in this age of widespread publicity regarding workplace policies. It is only just that people have some input into the policymaking process, as the rules ultimately affect them. To this end, the IHRM Strategies suite of employee survey tools is invaluable.

## 5.4 Implications of research

**Contributions and Implications**

Implications and contributions may be assessed from a variety of angles, but in this study, the emphasis is on two perspectives: theoretical and analytical implications, and administrative or functional contribution. The consequences and contribution of the thesis are explained in the subsections that follow.

### 5.4.1 Contribution to Theory

a. **Extension of the literature on the Factors influencing Innovative HRM Practices, Employee engagement and employee productivity**

In the literature, there was only a limited amount of observational research relating to the potential benefits of IHRM and its impact on organizational variables. Although

there are a few research projects underway around the world, the emphasis on the IT industry in Bangalore is very small and under-focused. Still no substantial study brings into account the IHRM practices related to HR Technology, HR Analytics, AI in HR, Employee survey Pulse. As a result, this research endeavor adds substantially to the existing literature, and the generic principles are relevant not just in Bangalore city sense but also on a National scale.

b. **Extension of the literature to gain a better understanding of the impact of IHRM on employee engagement and productivity**

This study further examines the relative relevance of various IHRM , as well as their impact on employee engagement and productivity .

c. **Contribution to Literature review to better appreciate the significance and effect of demographic profiles on the perception of Innovative HRM Practices**

There is a scarcity of data that examines the impact of a demographic profile on perception of IHRM Practices. There is a lot of literature out there that explores and analyses only one or two demographic features with IHRM. This thesis offers a forum for exploring the effect of Employee profile on understanding the IHRM Practices.

### 5.4.2 Contribution to Methodology

a. **A Novel Approach to Innovative Human resource Practices**

IHRM factors are used as significant variable in this report, which gives a basis for using multivariate regression. This demonstrates the promise of using a limited number of manifests to assess a significant dimension of factors influencing IHRM, Employee engagement and employee Productivity without diluting measurement efficacy, thereby adding to the research endeavor.

b. **The Importance of Demographic Profiles**

This research study assisted in the review of various factors relating to the employees profile. Using ANOVA and an independent t test on a series of intertwined queries, a systematic and thorough approach to studying the relationship between independent variables (profile-related) and dependent variables was feasible (IHRM). This multi-stage method, which explains each phase of the study, can also be suggested as guidelines for prospective research projects.

## 5.5 Conclusion

The human resource function is under pressure to show how it can improve the bottom line of the company in light of the new economic realities. The function's importance to organizational effectiveness was frequently questioned in the early conceptualizations, largely because HR was seen to play a role that was purely administrative and reactive. This study has demonstrated the broad impact of innovative HR practices on the outcomes in the field of human resources. These practices range from functional activities to broad-ranging strategic initiatives, and they have the potential to influence every aspect of an organization's social structure.

The current study is a novel attempt to examine the effects of novel HR strategies, with employee productivity and engagement being the key outcome variables. The role of the intervening variable employee engagement in establishing the connection between IHRM and employee engagement has been confirmed by the results. This discovery could help human resource management academics gain a deeper grasp of the beneficial effects of cutting-edge HR strategies on HR outcomes. Thus, the study's clear contribution is to weave together yet another connection between the complementary fields of human resource management and employee factors.

By examining its antecedents, the current study also advances our understanding of employee engagement and productivity. The results show that more innovative HR practices are introduced, started, and satisfied, which results in improved employee productivity and engagement. The perception model was used by the researcher to better understand how employees felt about cutting-edge HR methods. Therefore, by illustrating the extended relationship path from innovative HR practices to employee engagement and employee productivity and proving that innovative HR practices at the organizational level also have an impact on employee attitudes and behaviours, this study contributes to the larger literature on employee variables.

This study provides insights into how employees are affected by innovative HR practices and provides practical consequences for organizations looking to encourage staff. By using motivational strategies that are directly tied to employees' immediate interests and that are intended to affect their views and attitudes, innovative HR practices can assist firms in projecting a sense of employee engagement. Employees are further encouraged to be selfless and altruistic by the degrees of perceived satisfaction with the creative HR methods. As a result, they become more open to doing tasks that aren't directly relevant to their professions but

nevertheless helpful to their businesses. This would increase the efficiency of enterprises in managing their human resources, particularly those businesses that are team-based.

## 5.6 Scope for further research

The scope for further research is as follows:

1. There is scope for further research in this area by taking the opinion of Top level managers, HR managers on Innovative HR Practices
2. Future researchers can use qualitative research methods such as interviews to get in depth knowledge on implementing IHRM
3. The Future researchers can work on the impact of IHRM on other organizational variables such as Job satisfaction, Organizational commitment and Organizational Performance.
4. The research on IHRM can be extended to various other industries such as BFSI industry and labour intensive units.
5. The research on same lines can be carried out in other geographical locations such as Chennai, Hyderabad and Mumbai
6. The current study considers only top IT companies, research can be carried out across growing IT companies to explore the current status of IHRM implementation
7. The current study covers 5 aspects of IHRM, Future researchers can work on understanding other IHRM tools and techniques implemented

# BIBILIOGRAPHY

## JOURNAL ARTICLES


- Abdeldayem, M. M., &Aldulaimi, S. H. (2020). Trends and opportunities of artificial intelligence in human resource management: Aspirations for public sector in Bahrain. International Journal of Scientific and Technology Research, 9(1), 3867-3871.
- Adepu, K., Agarwal, K., Chitranshi, J., Nagendra, A., & Islam, T. (2020). Study of usage of artificial intelligence in human resource in it industry. Indian Journal of Ecology, 47(spl), 132-134.
- Adresi, A. A., & Darun, M. R. (2017). Investigating mediating effect of perceived organizational support between SHRM practices and employee trust. *International Journal of Engineering Business Management*, *9*, 1847979017701131.
- Agarwal, M., Jain, E., Sharma, S. K., & Kumar, A. (2022). Influence of artificial intelligence on employee engagement and employee behavior. *JIMS8I International Journal of Information Communication and Computing Technology*, *10*(1), 547-552.
- Agarwala, T. (2003). Innovative human resource practices and organizational commitment: An empirical investigation. *International journal of human resource management*, *14*(2), 175-197.
- Ahmed, O. (2018). Artificial intelligence in HR. International Journal of Research and Analytical Reviews, 5(4), 971-978.
- Al Adresi, A., & Darun, M. R. (2017). Determining relationship between strategic human resource management practices and organizational commitment. *International Journal of Engineering Business Management*, *9*, 1847979017731669.
- Bankins, S. The ethical use of artificial intelligence in human resource management: a decision-making framework. Ethics InfTechnol 23, 841–854 (2021). https://doi.org/10.1007/s10676-021-09619-6
- Bhardwaj, G., Singh, S. V., & Kumar, V. (2020, January). An empirical study of artificial intelligence and its impact on human resource functions. In 2020 International Conference on Computation, Automation and Knowledge Management (ICCAKM) (pp. 47-51). IEEE.
- Braganza, A., Chen, W., Canhoto, A., & Sap, S. (2021). Productive employment and decent work: The impact of AI adoption on psychological contracts, job engagement and employee trust. *Journal of business research*, *131*, 485-494.

- Burnett, J. R., & Lisk, T. C. (2019). The future of employee engagement: Real-time monitoring and digital tools for engaging a workforce. *International Studies of Management & Organization*, *49*(1), 108-119.
- Buzko, I., Dyachenko, Y., Petrova, M., Nenkov, N., Tuleninova, D., &Koeva, K. (2016). Artificial Intelligence technologies in human resource development. Computer modelling and new technologies, 20(2), 26-29.
- Chatterjee, S., Chaudhuri, R., Vrontis, D., &Siachou, E. (2021). Examining the dark side of human resource analytics: an empirical investigation using the privacy calculus approach. International Journal of Manpower.
- Choubey, S., &Zohuri, B. (2021). Merits and Demerits of AI in HR. Management, 9(5), 412-415.
- Cochran, W. G. (1940). Note on an approximate formula for the significance levels of z. *The Annals of Mathematical Statistics*, *11*(1), 93-95.
- DemetrisVrontis, Michael Christofi, Vijay Pereira, ShlomoTarba, Anna Makrides&Eleni Trichina (2021) Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review, The International Journal of Human Resource Management, DOI: 10.1080/09585192.2020.1871398
- Dutta, B., & A. (2021, October 16). What Is the Role Of AI In Human Resource Management? | Analytics Steps. What is the Role of AI in Human Resource Management? | Analytics Steps. https://www.analyticssteps.com/blogs/what-role-ai-human-resource-management.
- Dutta, D., Mishra, S. K., & Tyagi, D. (2022). Augmented employee voice and employee engagement using artificial intelligence-enabled chatbots: a field study. *The International Journal of Human Resource Management*, 1-30.
- Edralin, D. M. (2008). Innovative human resource management (HRM) practices as predictors of employee job involvement and organizational commitment. *Asian Journal of Technology Innovation*, *16*(2), 67-81.
- Eubanks, B. (2022). Artificial intelligence for HR: use AI to support and develop a successful workforce. Kogan Page Publishers.
- Gaur, B. (2020, July). HR4. 0: an analytics framework to redefine employee engagement in the fourth industrial revolution. In *2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT)* (pp. 1-6). IEEE.

- Glikson, E., & Woolley, A. W. (2020). Human trust in artificial intelligence: Review of empirical research. Academy of Management Annals, 14(2), 627-660.
- Guenole, N., &Feinzig, S. (2018). The business case for ai in HR. IBM [Электронныйресурс].–Режимдоступа: https://www. ibm. com/downloads/cas/AGKXJX6M (датаобращения: 10.04. 2020).
- Hertzog, M.A. (2008). Considerations in determining sample size for pilot studies. Research in Nursing & Health, 31,180-191.
- Hill, R. (1998). What sample size is “enough” in internet survey research? Interpersonal Computing and Technology: An Electronic Journal for the 21st Century, 6(3-4).
- Jaiswal, A., Arun, C. J., & Varma, A. (2021). Rebooting employees: upskilling for artificial intelligence in multinational corporations. The International Journal of Human Resource Management, 1-30.
- Jia, Q., Guo, Y., Li, R., Li, Y., & Chen, Y. (2018, June). A conceptual artificial intelligence application framework in human resource management. In Proceedings of the International Conference on Electronic Business (pp. 106-114).
- Kaur, Mandeep; A. G., Rekha; Vikas, Sona,(2021) Indian Journal of Industrial Relations ., Vol. 57 Issue 2, p331-342. 12p.
- Khatri, S., Pandey, D. K., Penkar, D., &Ramani, J. (2020). Impact of Artificial Intelligence on Human Resources. In Data Management, Analytics and Innovation (pp. 365-376). Springer, Singapore.
- Leong, C. (2018). Technology & recruiting 101: how it works and where it’s going. Strategic HR Review.
- Li, J. J., Bonn, M. A., & Ye, B. H. (2019). Hotel employee's artificial intelligence and robotics awareness and its impact on turnover intention: The moderating roles of perceived organizational support and competitive psychological climate. Tourism Management, 73, 172-181.
- Maduravoyal, C. (2018). Artificial intelligence in human resource management. International Journal of Pure and Applied Mathematics, 119(17), 1891-1895.
- Malik, A., Budhwar, P., &Srikanth, N. R. (2020). Gig economy, 4IR and artificial intelligence: Rethinking strategic HRM. In Human & Technological Resource Management (HTRM): New Insights into Revolution 4.0. Emerald Publishing Limited.

- Malik, A., Budhwar, P., Mohan, H., & NR, S. (2022). Employee experience–the missing link for engaging employees: Insights from an MNE's AI-based HR ecosystem. *Human Resource Management*.
- Malik, N., Tripathi, S. N., Kar, A. K., & Gupta, S. (2021). Impact of artificial intelligence on employees working in industry 4.0 led organizations. *International Journal of Manpower*.
- Mathis, J. (2018). Innovations are Coming to the Human Resource. The Journal of Private Equity, 21(4), 14–17. https://www.jstor.org/stable/26497439
- Meister, J. (2019). Ten HR trends in the age of artificial intelligence. Forbes. Retrieved, 20.
- Meskó, B., Hetényi, G., &Győrffy, Z. (2018). Will artificial intelligence solve the human resource crisis in healthcare?. BMC health services research, 18(1),
- Mikalef, P., & Gupta, M. (2021). Artificial intelligence capability: Conceptualization, measurement calibration, and empirical study on its impact on organizational creativity and firm performance. Information & Management, 58(3), 103434.
- Mishra, H., &Venkatesan, M. (2021). Blockchain in human resource management of organizations: an empirical assessment to gauge HR and non-HR perspective. Journal of Organizational Change Management.
- Mohammed, I. A.(2020) THE INTERACTION BETWEEN ARTIFICIAL INTELLIGENCE AND IDENTITY AND ACCESS MANAGEMENT: AN EMPIRICAL STUDY. International Journal of Creative Research Thoughts (IJCRT), ISSN, 2320(2882), 668-671.
- Mutreja, M., Khandelwal, K., Dham, H., & Chawla, P. (2021, July). Perception of IOT: Application and Challenges. In *2021 6th International Conference on Communication and Electronics Systems (ICCES)* (pp. 597-603). IEEE.
- Nankervis, A., Connell, J., Cameron, R., Montague, A., &Prikshat, V. (2021). 'Are we there yet?'Australian HR professionals and the Fourth Industrial Revolution. Asia Pacific Journal of Human Resources, 59(1), 3-19.
- Nawaz, N. (2019). Artificial intelligence interchange human intervention in the recruitment process in Indian software industry.
- Nawaz, Nishad (2020), EXPLORING ARTIFICIAL INTELLIGENCE APPLICATIONS IN HUMAN RESOURCE MANAGEMENT Journal of

Management Information and Decision Sciences; Weaverville Vol. 23, Iss. 5, : 552-563.

- Nishad, N. U., &Gurav, M. D. (2019). Impacts of Artificial Intelligence in Human Resource Management. Think India Journal, 22(32), 45-47.
- Parry, E., & Battista, V. (2019). The impact of emerging technologies on work: a review of the evidence and implications for the human resource function. Emerald Open Research, 1, 5.
- Pillai, R., &Sivathanu, B. (2020). Adoption of artificial intelligence (AI) for talent acquisition in IT/ITeS organizations. Benchmarking: An International Journal.
- Premnath, E., &Chully, A. A. (2020). Artificial Intelligence in Human Resource Management: A Qualitative Study in the Indian Context. Journal of Xi'an University of Architecture & Technology, XI, 1193-1205.
- Premnath, S. N., &Arun, A. (2020). A Qualitative Study of Artificial Intelligence Application Framework in Human Resource Management.
- Qamar, Y., Agrawal, R. K., Samad, T. A., &Jabbour, C. J. C. (2021). When technology meets people: the interplay of artificial intelligence and human resource management. Journal of Enterprise Information Management.
- Reilly, P. (2018). The impact of artificial intelligence on the HR function.
- Role Of Artificial Intelligence In the Growth Of HRM As a Function Of Management | ISME: Best MBA/PGDM, BBA, BCom, PhD Colleges In Bangalore | Ranked Top 40 B Schools In Indi. (n.d.). https://www.isme.in/role-of-artificial-intelligence-in-t he-growth-of-hrm-as-a-function-of-management/.
- Saha, S., Kankekar, T., & Jain, R. (2019) ARTIFICIAL INTELLIGENCE IN HR. DR. DY PATIL B-SCHOOL, PUNE, INDIA, 996.
- Sari, R. E., Min, S., Purwoko, H., Furinto, A., & Tamara, D. (2020). Artificial Intelligence for a Better Employee Engagement. *International Research Journal of Business Studies*, *13*(2), 173-188.
- Sattar, T., Ahmad, K., & Hassan, S. M. (2015). Role of human resource practices in employee performance and job satisfaction with mediating effect of employee engagement. *Pakistan Economic and Social Review*, 81-96.
- Shi Xuanbei. 2021, Big data and Artificial Intelligence Drive Human Resource Management Innovation Research, Journal of Physics: Conference Series; Bristol Vol. 1955, Iss. 1, (Jun 2021). DOI:10.1088/1742-6596/1955/1/012011

- Sivathanu, B., & Pillai, R. (2018). Smart HR 4.0–how industry 4.0 is disrupting HR. Human Resource Management International Digest.
- Smith, S. S., Rohr, S. L., & Panton, R. N. (2018). Human resource management and ethical challenges: building a culture for organization success. *International Journal of Public Leadership*, *14*(2), 66-79.
- Strohmeier, S., & Piazza, F. (2015). Artificial intelligence techniques in human resource management—a conceptual exploration. In Intelligent techniques in engineering management (pp. 149-172). Springer, Cham.
- Tambe, P., Cappelli, P., &Yakubovich, V. (2019). Artificial Intelligence in Human Resources Management: Challenges and a Path Forward. California Management Review, 61(4), 15–42. https://doi.org/10.1177/0008125619867910
- Tyagi, D. M., & Pandita, D. (2022, October). Artificial Intelligence and People Analytics-A Key to Employee Engagement. In *2022 International Conference on Sustainable Islamic Business and Finance (SIBF)* (pp. 224-228). IEEE.
- Urs, M. R., & Nagpal, P. (2019). A study on Determinants and Outcomes of Job Crafting in an Organization. *Journal of Emerging Technologies and Innovative Research*, *7*(15), 145-151.
- Vaishnavi; Amritaa, K S; Achwani, Samay.Gavesana, 2018, A Study on Use of Artificial Intelligence in Human Resource Management, Journal of Management; Hyderabad Vol. 10, Iss. 2, : 45-56
- Verma, R., &Bandi, S. (2019). Artificial intelligence & Human resource management in Indian IT sector. In Proceedings of 10th International Conference on Digital Strategies for Organizational Success.
- Verma, R., &Bandi, S. (2020, January). Challenges of artificial intelligence in human resource management in Indian IT sector. In XXI Annual International Conference Proceedings.
- Wijayati, D. T., Rahman, Z., Rahman, M. F. W., Arifah, I. D. C., & Kautsar, A. (2022). A study of artificial intelligence on employee performance and work engagement: the moderating role of change leadership. *International Journal of Manpower*.
- Yawalkar, M. V. V. (2019). a Study of Artificial Intelligence and its role in Human Resource Management. International Journal of Research and Analytical Reviews (IJRAR), 6, 20-24.

- Younis, R. A. A., & Adel, H. M. (2020). Artificial intelligence strategy, creativity-oriented HRM and knowledge-sharing quality: Empirical analysis of individual and organisational performance of AI-powered businesses. In Proceedings of the Annual International Conference of The British Academy of Management (BAM).
- Zahidi, F., Imam, Y., Hashmi, A. U., &Baig, M. M. (2020). Impact of Artificial Intelligence on HR Management–A.


**BOOKS**


- Connelly, L. M. (2008). Pilot studies. Medsurg Nursing, 17(6), 411-2.
- Hair, J. F. (2009). Multivariate data analysis.
- Hair, J. F., Page, M., & Brunsveld, N. (2019). *Essentials of business research methods*. Routledge.
- Hopgood, A. A. (2021). Intelligent Systems for Engineers and Scientists: A Practical Guide to Artificial Intelligence. CRC press.
- Hunt, E. B. (2014). Artificial intelligence. Academic Press.
- Isaac, S., & Michael, W. B. (1995). Handbook in research and evaluation. San Diego, CA: Educational and Industrial Testing Services.
- Israel, G. D. (1992). Determining sample size.
- Lichtenthaler, U. (2020). Integrated Intelligence: Combining Human and Artificial Intelligence for Competitive Advantage, Plus E-Book Inside (ePub, Mobi Oder Pdf). Campus Verlag GmbH.
- Minsky, M. (2007). The emotion machine: Commonsense thinking, artificial intelligence, and the future of the human mind. Simon and Schuster.
- Pallant, J. (2005). SPSS Survival Manual: A step by step guide to data analysis using SPSS for Windows (Version 12). Berkshire: Open Uni.Press.
- Treece, E. W., & Treece, J. W. (1982). Elements of research in nursing (3rd ed.). St. Louis, MO:Mosby.


**WEB REFERENCES**


- https://www.ibef.org/industry/information-technology-india
- Media Reports, Press Information Bureau (PIB), Department for Promotion of Industry and Internal Trade (DPIIT), Department of Information and Technology, Union Budget 2022-23

- https://www.ft.com/content/022aa805-3699-4bac-a845-81c95d015bc2
- Aliaga, O. A. (2005). A study of innovative human resource development practices in Minnesota companies. University of Minnesota.
- https://www.aihr.com/blog/hr-tech-stack/
- https://www.paychex.com/articles/hcm/technology-trends-in-hr
- https://www.aihr.com/blog/benefits-of-hr-analytics/
- https://www.qualtrics.com/au/experience-management/employee/what-is-employee-pulse-survey/
- Gallup, Inc. (2017). State of the American Workplace. Retrieved from https://news.gallup.com/reports/199961/7.aspx.