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Research Article / Survey Paper / Case Study

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## *Exploring the Applications of Artificial Intelligence in Human Resources Management*

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**Abstract:** *The prime focus of the study is to highlight the applications of AI in the field of Human Resources, its functions and how today it helps us and how beneficial it will be for the future. Artificial Intelligence (AI) is progressively ubiquitous in technologies, work & personal life. people have known this concept in various different ways in different timelines. AI has evolved itself from a checkers playing program to now a technology which is being used in every aspect of our life. So this study is basically to know how AI can be applied in Human Resources, how it will help its functions in the organization.*

**Keywords:** *Artificial Intelligence, Human Resource, Employees, Chatbot.*

### I. INTRODUCTION

Human Resources, as we all know, is one of a company's fundamental components since it directly affects the lives of the workers that work for the organization be it retail or any other sector. NAGPUR, U. R. S. A. (2016) Additionally, the staff members look for a positive working atmosphere and effective communication. The role of HR manager is to ensure that every employee feels comfortable, receives assistance, and has access to the tools they need to do their jobs well. One of the most cutting-edge and developing technologies, artificial intelligence, has improved the HR division. AI has the potential to completely transform the hiring and talent acquisition processes for employees, as well as to improve decision-making and increase productivity. The basic PROBLEM faced by the HR department today is the repetitive and time-consuming tasks which can be solved by AI amalgamating with HR department and then it can focus on more complex functions.

### II. BACKGROUND OF THE STUDY

Artificial intelligence (AI) is the capacity of a computer or robot to carry out operations frequently performed by intelligent individuals. AI technology is significant because it enables software to do human functions—understanding, reasoning, planning, communication, and perception—increasingly effectively, efficiently, and affordably.

This term is frequently applied to the projects of developing systems, analyzing human behavior, categorizing it, and learning from past experience and ability to reason.

Human resources refer to the collection of people who work for a certain enterprise, industry, sector, or country's economy. A more precise concept is the knowledge and skills that individuals possess, or human capital. The duties include managing background checks, scheduling interviews, and organizing resumes and job applications. They also involve organizing the hiring and choosing procedure. Integrating Artificial Intelligence with Human Resources -

Organizations will improve as a result of the incorporation of artificial intelligence (AI) into human resources (HR) operations since these applications can evaluate, anticipate, and diagnose to aid HR teams in making better decisions.

This study will showcase the applications of AI in HR, and how it helps in the functions of HR.

In this research I will be focusing on the Indian Company IBM, which is the first company in India to adopt AI technology in HR functions.

IBM said while using AI in HR, AI can be applied in almost any area of HR, including candidate attraction, hiring, learning, compensation, career management, and HR support.

### III. OBJECTIVES OF THE STUDY

The Objectives of this study are:

- To know how many employees are aware of AI in the field of human resources and how they feel about it.
- To find the functional areas in which AI has greater potential in the field of Human Resources.
- To assess the importance of AI in HR in the upcoming years.

### IV. LITERATURE REVIEW

One of the key influencing factors in an industry is technology. Robots have been taking the place of workers in the manufacturing sector since the 19th century. The third industrial revolution started in the 1970s, when personal computers and the internet were introduced into the workplace and human labour was supplanted by machines. Digital technologies like machine learning (ML) and artificial intelligence (AI) are now permeating day-to-day workplace operations and will drive company change. Yawalkar, M. V. V. (2019) and (Kediya et al., 2021). Since their introduction, a variety of recommendations on how to use Artificial Intelligence and Computational Intelligence in Human Resource Management have accumulated. Artificial Intelligence Techniques and its subset, Computational Intelligence Techniques, are not new to the field of human resource management. While such contributions provide in-depth understandings of certain application possibilities, a comprehensive overview of the potential is lacking. Strohmeier, S., & Piazza, F. (2015) and (Singh et al., 2021)

The promise of artificial intelligence (AI) in human resource (HR) management and the reality differ significantly. The complexity of HR phenomena, the limitations imposed by small data sets, the accountability concerns related to fairness and other ethical and legal constraints, and potential negative employee reactions to management decisions made using data-based algorithms are all identified as challenges in this article. (Cappelli et al., 2018). The science that deals with the development of human knowledge and gives robots the ability to mimic human thinking and intellect is known by the abbreviation AI. It mimics how humans might carry out tasks including recognition, prediction, categorization, comprehension, conversation, adaptability, and learning. Berhil, S., Benlahmar, H., & Labani, N. (2020) and (Dr. Jyoti Mahajan et al., 2022). It is possible to adapt to environmental needs more quickly and accurately by switching from the discrete paradigm of information processing (programming for Turing computers) to the continuous paradigm (learning of artificial intelligence). Making decisions with artificial intelligence technology is more pertinent in today's corporate environment. Singh, D., & Kediya, S. (2020).

and (Aymerich-Franch, 2019)

AI influences HR with innovations and usability since it has a strong association with both inventiveness and usability. This research will provide information about artificial intelligence, which is bringing forth a new industrial revolution known as Industry4.0. (Sahurkar, A. M., & Singh, 2011).

### V. RESEARCH METHODOLOGY

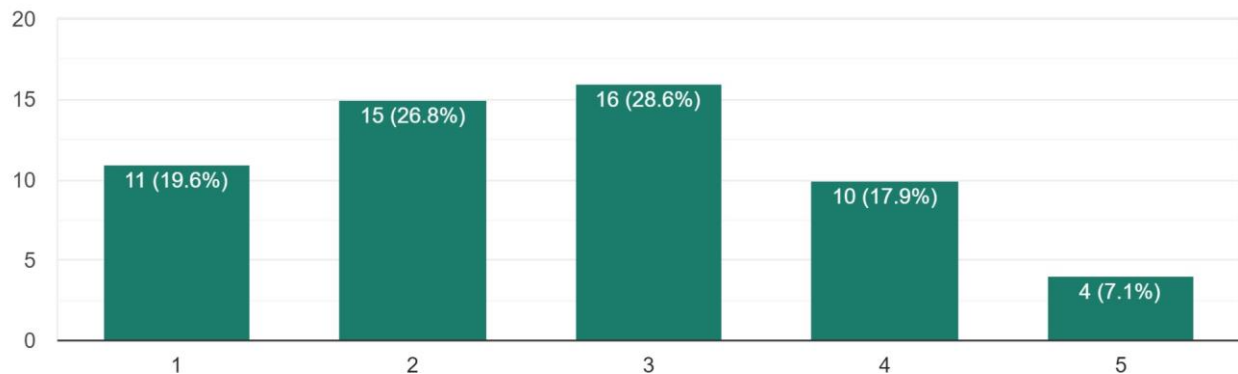
This study used a Descriptive type of research design. The research method used here is quantitative & qualitative. The Sampling Size is 56. The sampling plan of my research is Purposive, Sampling. Data is collected through questionnaires & interviews. Total no. of respondents is 56 where the analysis is done through pie charts & graphs.

## VI. ANALYSIS

1.

I consider myself knowledgeable about the topic of using artificial technology for the purposes of enhancing the human resources function :

56 responses

INTERPRETATION-

This analysis clears out our first objective of this research.

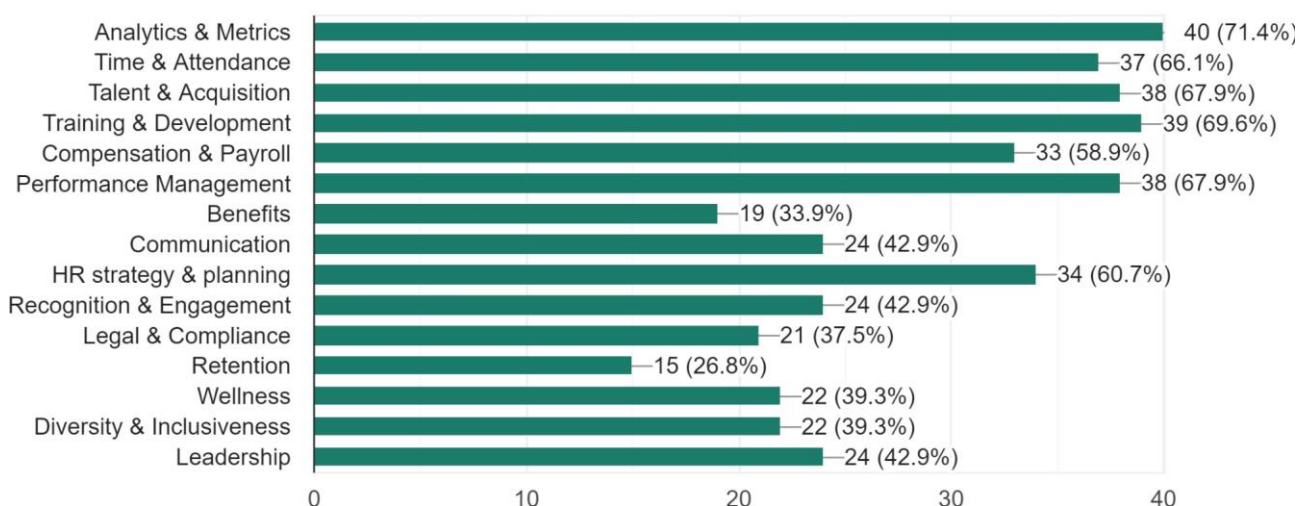
Most of the respondents are knowledgeable about AI technology being used in human resources and some see it as a future scope. AI will itself be a crucial change in the field of HR and it will boost the employee productivity, enhance the HR functions with fast decision making and good technology in hand and promote wider scope for managing work simultaneously.

1.As seen in the chart, the respondents see AI in HR as a great future scope and after a period of time every employee will work using AI and taking its help for accuracy, organizing, analyzing, predicting etc.

2.

Select the areas where you think AI has the greatest potential to improve the HR functions in few years. (Select all that apply)

56 responses

INTERPRETATION

Analytics is observed as the part of maximum HR potential.

While the respondents were provided with the questionnaire about in which area they believe AI has the highest possibility to improve HR, the maximum prevalent responses were-

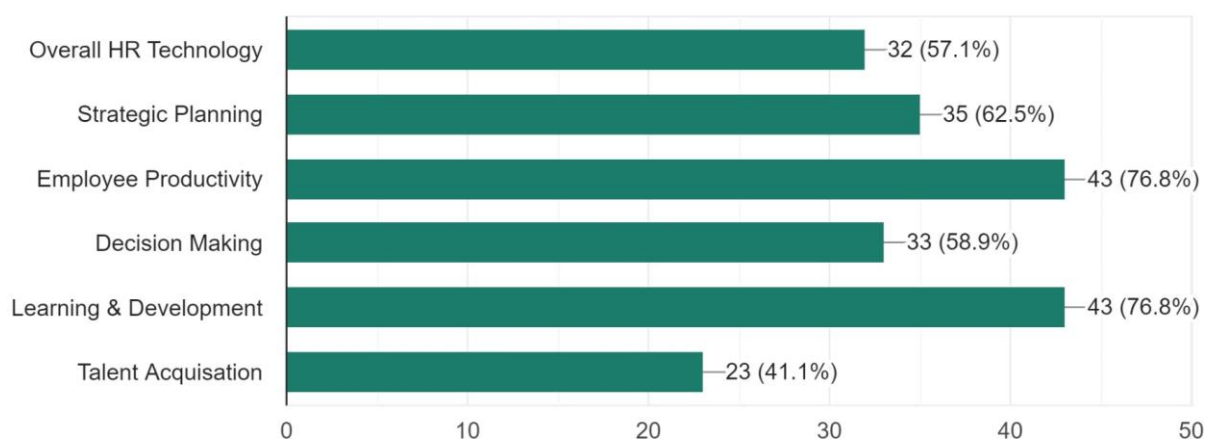
1. Analytics & Metrics,
2. Training & Development,
3. Talent Acquisition,
4. Time & Attendance &
5. Compensation & Payroll.

Most of establishments need to track the time & attendance & also compensation of the employees, hence implementing AI to these complex data makes sense, specially from an analytics point of view. This analysis clears out our second objective of this research.

3.

How important is AI to HR area ? (Select any 4)

56 responses



### INTERPRETATION

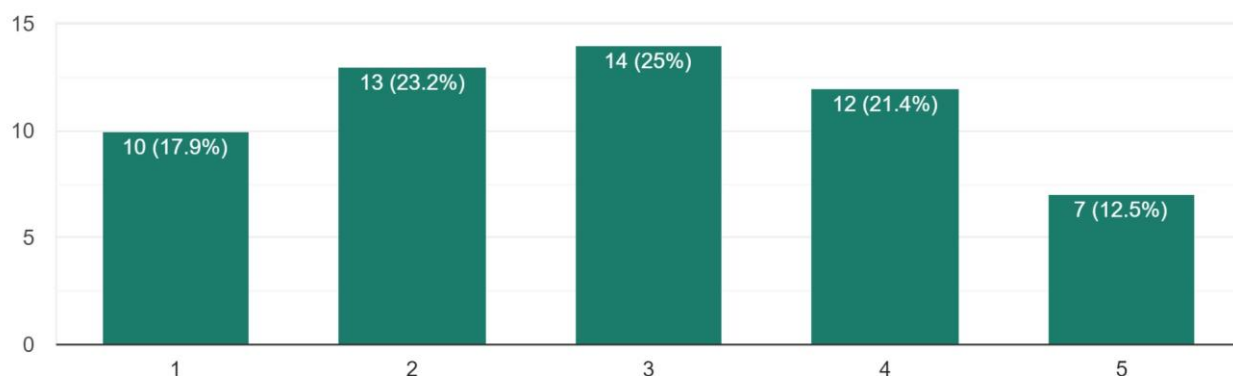
As we know that AI has been seen as an important technology in the HR dept, the respondents feel that in the near future the AI technology will become more important to their Employee Productivity, learning & development of the employees, strategic planning and the overall HR technology.

A quick scan indicates that AI is anticipated to significantly affect staff productivity as well as learning and education, enhancing strategic planning and facilitating quicker decision-making.

4.

AI Interfaces such as virtual assistants, chatbots will become an increasingly viable way for employees to get real time answers to their HR related questions.

56 responses



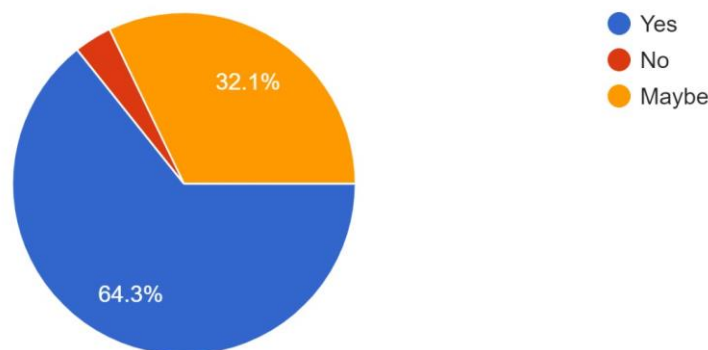
**INTERPRETATION**

23.2 % of the respondents Agree that AI interfaces like chatbot, virtual assistants will come as an increasingly sustainable way for workforces to get real-time answers to their HR allied questions. Whereas 25% respondents being neutral in this decision, this will depend on how employees adopt this technology and make it an advanced one in the future because there is a lot of hindrance on the part of users so the implementation will depend on its growth in the future.

5.

Do you think AI related technology present in an organization will influence the number of jobs?

56 responses

**INTERPRETATION-**

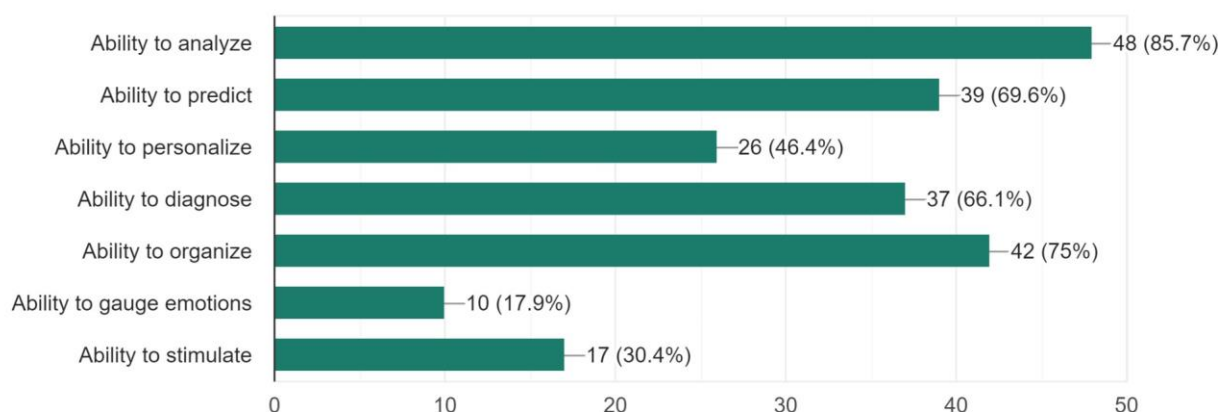
As the majority of the people considered for data gathering feel that yes AI will influence the number of jobs, it is because AI will lead to increased level of productions, specializations in job roles, and the augmented significance of Human related skills.

This will increase the retention rates and also will be able to increase employment and new talent acquisition in the company.

6.

Select the features you would you most like to see in AI-Powered HR Application? (Select up to four)

56 responses

**INTERPRETATION**

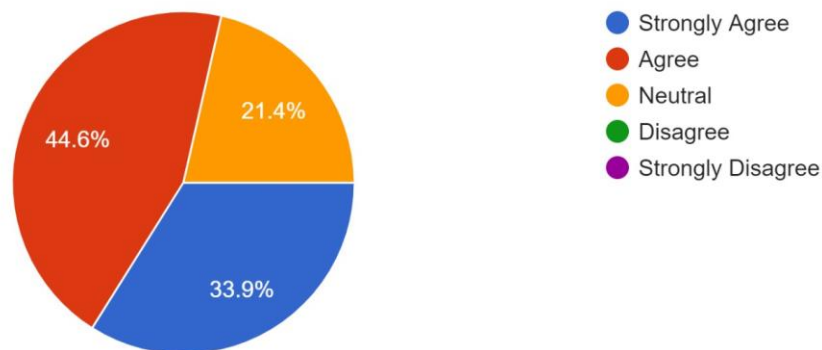
When asked what feature they would most want to see in an application driven by AI, the respondents' top answer was THE ABILITY TO ANALYZE.

The tools designed for HR leaders will help predict, analyze & organize the data for fast decision making and understanding complex data, employee preferences and not repeating tasks.

7.

AI based algorithms will help to scan and analyze candidate related information which will improve recruitment process?

56 responses



### INTERPRETATION-

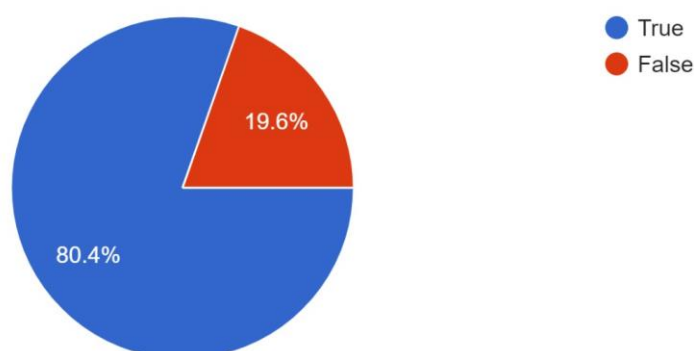
Majority of the individuals feel that AI based algorithms will help in the recruitment process of the organization. This will be ensured by the technology which will briefly study, scan the candidate and according to job preference the best candidate would be selected and enter to the interviewees list.

This will help employees not repeat similar tasks, increase the efficiency of the employees to focus on the more important task and make its decision faster.

8.

AI based algorithms used for analyzing interviews, facial expressions, word choice is a good way of assessing areas such as candidate engagement and emotion?

56 responses



### INTERPRETATION

Most of the respondents feel that AI will help in analyzing interviews, facial expressions and word choice for assessing candidate engagement and emotions.

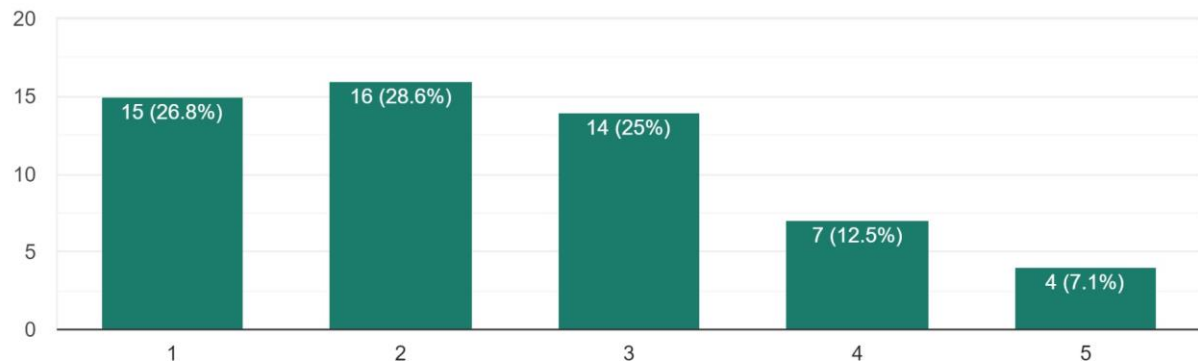
During video call interviews, the facial expression of the employees will be analyzed so that there will be honest answers and emotions. Companies like Unilever, IBM are already using this technology to avoid biases and create a platform for best candidate selection.



9.

In future will employees increase using the automated project management software?

56 responses

**INTERPRETATION**

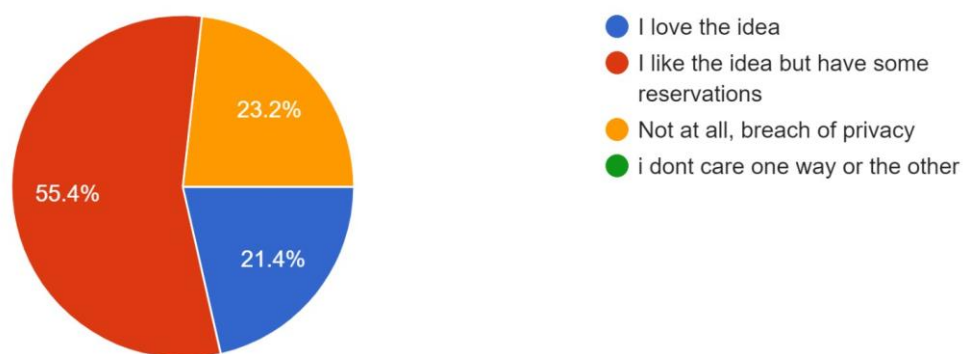
The respondents agree that in future the employees will be using the automated project management software. This technology will be a crucial change in the organization towards reducing cost and increasing efficiency of its employees.

The automated project management software will help complete basic projects management tasks without intervention. It can plan, organize, and manage resources and develop estimates.

10.

How do you feel about AI Software that tracks everything your employees do on their digital devices and analyzes those activities and reports back to the supervisors for recommendations ?

56 responses

**INTERPRETATION**

Most of the respondents like the idea but they have some reservations. The AI software for tracking must be applied to the company laptops phones rather than employees personal gadgets.

This will help their manager or supervisor gather the information and assess the personality, traits and capabilities of the employees and it will also not account for any breach of privacy.

**VII. FINDINGS AND CONCLUSION**

As we have analyzed through the responses the respondents are aware and are excited to see how Artificial Intelligence will be applied in the field of Human Resources and how it will impact the department when everything will become easy.

By analyzing and figuring out what all the respondents chosen in the questionnaire it becomes clear that -

- ❖ The respondents believe that Artificial Intelligence will promote productivity, faster decision making.
- ❖ AI will help in not overlapping the activities, no repetition of the tasks and focus on more complex problems.
- ❖ In future, the respondents feel that AI will definitely be able to analyze the data, organize it and understand the complex data set.
- ❖ The automated project management software should be inculcated in the working HR for fast work, increased productivity and making it easier to focus on different tasks and not only one task.
- ❖ Artificial Intelligence used in recruiting, interviewing, analytics and metrics is still one of the functions of HR that AI will boost and provide good outcomes.
- ❖ HR professionals need to understand the employees behavior through their facial expression, hand gestures etc., AI should be inculcated for better understanding of emotions and employee engagement and enhancement of performance.
- ❖ AI will provide a good feedback system through chatbot
- ❖ The functions of Compensation & Payroll, talent acquisition, Time & attendance will be much easier when AI takes place in these complicated functions for faster decision making and less load.
- ❖ The respondents feel that in the near future the AI technology will become more important to their Employee Productivity, learning & development of the employees, strategic planning and the overall HR technology.
- ❖ The respondents feel that the AI should not monitor them on a personal level by looking at what they do in their personal devices but they should be monitored by their supervisors on the basis of an AI in their office devices which can track their work and the supervisor can give them feedback. Singh, D. K., & Shahare, P. (2021).

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