

Leveraging Big Data and AI in Hybrid Work Settings

Ms. Sivaranjani C.M¹, Ms. Alamelu.M², Ms. Vijayalakshmi Sailapathi³

^{1,2}Student, Department of Commerce, M.O.P. Vaishnav College for Women, India

³Assistant Professor, Department of Commerce, M.O.P. Vaishnav College for Women, India

Abstract: Incorporation of the hybrid mode in organisations is impossible without HR. Even though the foundation of the hybrid mode of work was laid before COVID-19, it was predominantly practised after the pandemic. The objective of this research is to provide a holistic view on the role played by HR in Hybrid mode. HR has to understand the employee's attitude towards remote work and hybrid work to smoothen the adaption process. The success of a hybrid mode depends upon how well an HR bridges the gap between the real and virtual world. one of the ways in which an HR could successfully implement the hybrid mode is by utilizing Big data and AI. In order to get a better understanding from employee's perspective, questionnaire was circulated to the middle level employees and HR.

Keywords: Hybrid mode of work, Big data, Artificial Intelligence, HR analytics, Employee engagement.

I.INTRODUCTION

Technology is the use of conceptual knowledge to accomplish practical objectives in a reproducible way. In today's world, technology has become a part and parcel of human life. It has transformed the entire world into a global village by enabling people to stay connected with each other by removing geographical barriers.

Artificial intelligence refers to the process whereby; computers perform analytical tasks. It uses algorithms and models to recognize data and facilitate HR to make data-driven decisions.

The concept of Hybrid mode of working was introduced in the early 2000s. The word "Hybrid" refers to the combination of two elements – in-office and work-from-home. Hybrid mode is a flexible working model which incorporates the advantages of both remote work and traditional work. The ratio in which these both are blended depends upon the needs of the organization and employees. It makes the work of the employees easier as they can work from anywhere which gives them utmost comfort.

After the pandemic, the Hybrid mode of work gained more importance. The success of a Hybrid mode depends upon how an HR helps the employees to overcome the challenges of Hybrid mode of work by designing the policies which help the employees to attain work-life balance. Team building becomes challenging for the organization adopting a hybrid mode. It is the responsibility of HR to connect people and foster team spirit among them which increases the productivity and employee engagement.

Big data refers to massive arrays of structured and unstructured data and methods for its processing and analysis. Structured data refers to the database where the information is stored in columns and rows. It increases efficiency as it is easy for human readers and computers to understand. Unstructured data refers to a database that does not have a pre-defined model or structure. Unstructured data amounts to 90% of Big data. It also includes semi-structured, open-source, geospatial data, and machine or operational logging data.

By analysing big data and AI tools, HR can derive insights that help in designing a hybrid work model as per the requirements of the organisation. Data experts place a high value on data as it enables decision-making without bias. HR Analytics using big data and AI helps to uncover trends and patterns in employee behaviour and engagement to implement a successful hybrid work model.

II.REVIEW OF LITERATURE

LynnAnn Brewer (2022) "HR's Role in Empowering a Highly Productive Hybrid Workforce" states that the success of a hybrid workforce depends upon how HR. He must effectively plan on work that can be done in the workplace or at home and validate the work-from-home option. To maintain productivity, an HR must ensure that the hybrid mode promotes employee's well-being and work-life balance.

Janani Rangarajan (2021) “Evolving Role of HR in the Future Hybrid Workforce” reveals that HR must examine various elements like structure, flexibility, adaptability to optimize hybrid workforce model. HR must implement measures to increase employee engagement, organize virtual team building and mental wellness. Application of digital technology helps an HR to improve employee experience.

Zhengkao Liu and Xi Zeng (2021) “Hybrid Intelligence in Big Data Environment: Concepts, Architectures and Applications of Intelligent Service” endeavours to investigate a novel paradigm of human-computer interaction as well as conduct extensive research on the creation and implementation of Intelligent Services within the context of Big Data.

Senthil Kumar Jagatheesaperumal, et.al (2020) “The Duo of Artificial Intelligence and Big Data for Industry 4.0: Review of Applications, Techniques, Challenges and Future Research Directions” states the challenges of AI and Big Data. Availability of quality data, accessibility of data are the major challenges. Data quality management is mandatory to facilitate AI and big data to make accurate decisions.

Julio C.S. Anjos, et.al (2018) “Enabling Strategies for Big Data Analytics in Hybrid Infrastructures” argues that even though the field of cloud computing has expanded quickly in recent years, there is still a lack of standardisation in the areas of resource management for Big data. To address this, Hybrid infrastructures, like cloud and volunteer computing are suggested for processing and analysis of Big

data. Through low and high scale simulation, hybrid infrastructures provide the reproducibility and predictability of Big data processing.

Lakshmisri Surya (2015) “An Exploratory study of AI and Big Data, and its future in the United States” highlights that integration of AI and big data enhances the way an organization interacts with their information and clients. Big data and AI have impacted various sectors such as Healthcare, Finance, Insurance, E-Commerce industry and so on.

III.OBJECTIVES

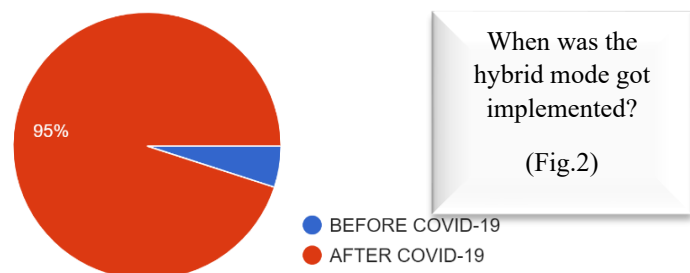
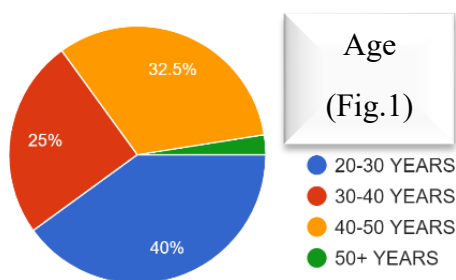
- ❖ To identify the importance of HR in hybrid mode of work
- ❖ To understand the employee’s attitude towards hybrid mode of work.
- ❖ To identify the opportunities for application of Big Data and AI in hybrid mode of work
- ❖ To analyse the challenges of hybrid work.
- ❖ To find the ways in which HR can use Big Data and AI to overcome the challenges.

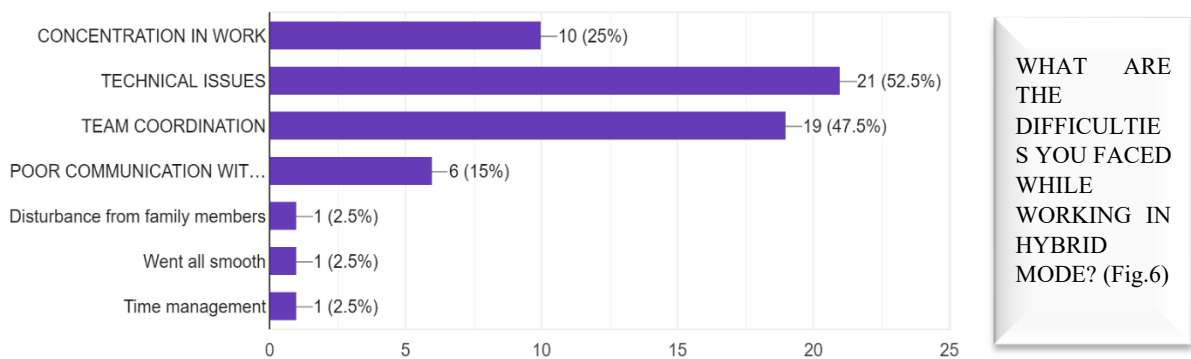
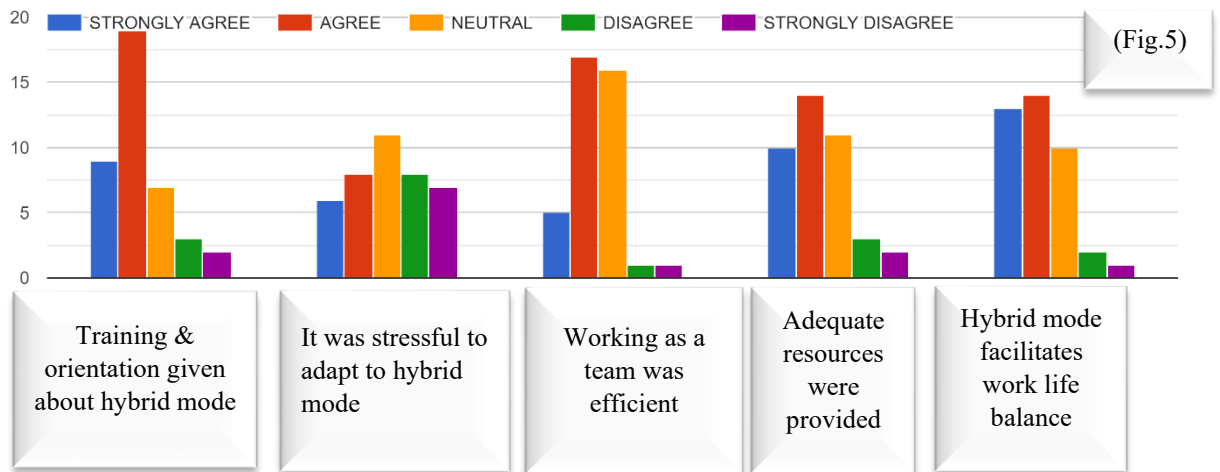
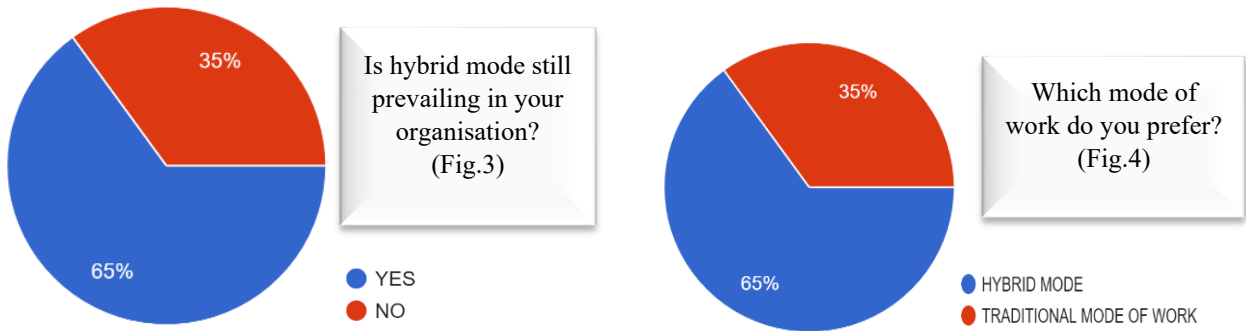
IV.METHODOLOGY

In order to get a better cognizance on Big data and HR in hybrid mode of work, a survey was conducted. Two set of questionnaires, one for the employees and one for the HR was circulated to understand their perspective. Question sent to employees were about their attitude towards hybrid mode and the difficulties faced by them. Questions to HR mainly deal on the ways in which an HR applies Big data to design, implement and maintain a successful Hybrid work model.

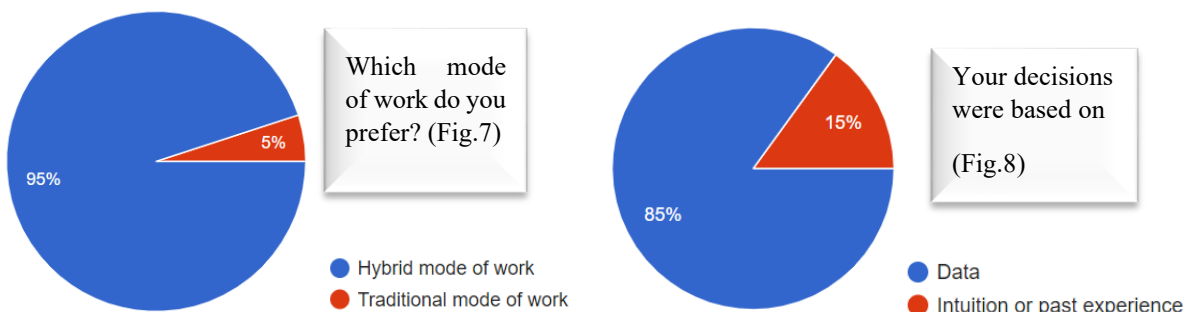
V.FINDINGS

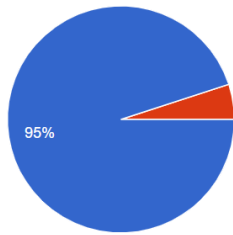
Employee’s Questionnaire:



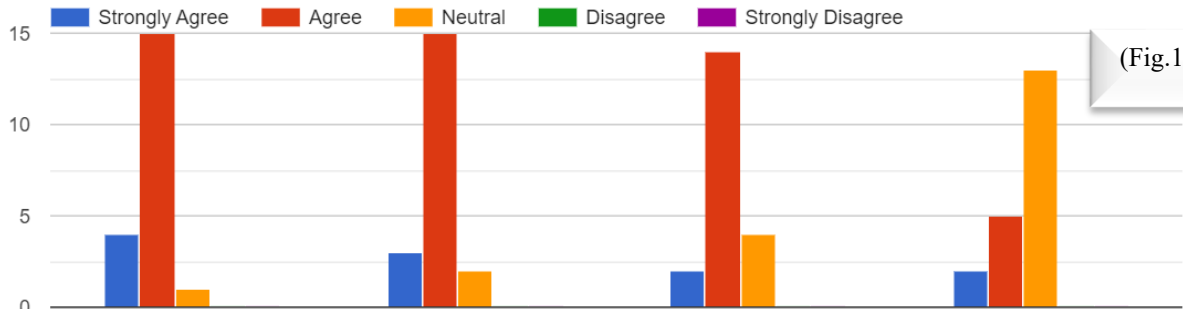


HR's Questionnaire:





Was big data and AI used while transforming from traditional mode to hybrid mode of work? (Fig.9)



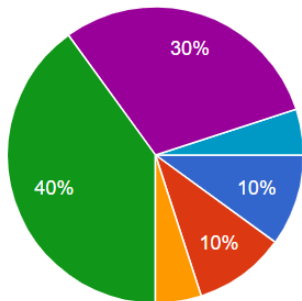
(Fig.10)

Data was used to design the working pattern (i.e., No. of working days-remote and in-office)

Proper training was given to handle Big Data and AI

Adequate software and technology were given to process Big Data and AI

Feedback was collected from the employees and hybrid model was modified accordingly



- Poor quality of data
- Data privacy concern
- Legal issues
- Data Storage
- High cost
- Collecting the data and categorising it

What were the data issues faced? (Fig.11)

VI.RESULT

Employee’s questionnaire:

Individuals between the ages of 20 and 30 favor hybrid work arrangements, while those over 40 favor traditional work arrangements. 95% of the organizations surveyed said they had used it both during and COVID-19. 65% of organizations still operate in hybrid mode. It was discovered that many organizations have trained their staffs to adjust to the hybrid work model. Regarding whether they felt stressed during the adaptation process, many respondents expressed a neutral opinion. It was inferred that HR should make better plans and encourage staff members to adjust to a new work environment. But it showed that the HR was

effective in connecting employees and fostering team spirit. The replies indicate that HR made sure the workers had the necessary resources to work efficiently. The hybrid work model has been designed by HR to assist employees in striking a balance between their personal and professional lives. The respondents were asked to mention the challenges that they encountered while working in hybrid mode. It was found that the two main difficulties were technical issues (52.5%) and team coordination (47.5%). Other difficulties included inadequate HR communication (15%), time management (2.5%), etc.

HR’s Questionnaire:

By conducting this survey, it was found that 95% of HR prefer hybrid mode and 5% of HR prefer traditional mode. It was observed that 85% of HR making decisions based on data while other base their decisions on past experience and intuition (15%). By understanding the benefits of Big data and AI, majority of HR population have used to make decisions to shift to hybrid mode of work (95%). The survey showed that majority of HR population agree with the fact that the data was used to design the working pattern of work. Big data and AI requires proper training to handle it and the responses showed that majority of HR was given proper training. It was found that HR personnel were given adequate technical support to work with Big data and AI. It was found that collecting feedbacks from the employees had a neutral opinion from the HR. The respondents mentioned that data storage (40%) was the major challenge faced while using Big data. The second major challenge reported was the high cost (30%) involved in hiring outsource experts, setting up software and creating an IT infrastructure. Poor quality of data (10%) also hinders HR to make decisions. HR finds data privacy (10%) as the next major problem. Data integration and Legal issues (1%) are considered as one of the challenges.

VII.SUGGESTIONS

- ❖ HR should suggest organization to invest in software that enables data storage.
- ❖ AI Applications can be developed to assess the quality of data. It must evaluate the dimensions of data quality which are completeness, uniqueness, timeliness, validity.
- ❖ AI-driven gamification components can be implemented to monitor and incentivize teamwork and productivity in the Hybrid workplace.
- ❖ Utilize Big Data to stimulate a range of situations that can affect the hybrid work model and create AI-powered backup plans to guarantee business continuity.

VIII.CONCLUSION

The role of HR, Big data and AI is inevitable in any kind of working model whether it be a hybrid or traditional mode of working. This paper presents the importance of HR and the application of Big data and AI in Hybrid mode of work. As employee engagement is gaining a greater concern, HR must use Big data and AI to design a Hybrid model that

not only caters to organizational needs but also satisfies the employees. This study proves that organizations use Big data and AI to make decisions in Hybrid mode.

REFERENCE

- [1] Brewer, L. (n.d.). *HR's Role in Empowering a Highly Productive Hybrid Workforce*.
- [2] C.S. Anjos, J., J.Matteussi, K., & R.R.De Souza, P. (2018). *Enabling Strategies for Big Data Analytics in Hybrid Infrastructures*.
- [3] Jagatheesaperumal. K et.al (2020). *The Duo of Artificial Intelligence and Big Data for Industry 4.0: Review of Applications, Techniques, Challenges and Future Research Directions*.
- [4] Liu, Z., & Zeng, X. (2021). *Hybrid Intelligence in Big Data Environment: Concepts, Architectures and Applications of Intelligent Service*.
- [5] Rangarajan, J. (2021). *Evolving Role of HR in the Future Hybrid Workforce*.
- [6] Surya L. (2015). *An Exploratory study of AI and Big Data, and its future in the United State*.