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Synergy Model and Benefit Analysis of Digital Intelligent Employees and Human Employees

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Abstract: Artificial intelligence (AI) is transforming human resources (HR) because of its capacity to enhance comfort levels, productivity, and health of employees. Workplace safety is improved by artificial intelligence (AI)-driven technologies that track health data, identify hazards at work, and provide personalized health advice. Ergonomics evaluations powered by AI reduce injuries, and chatbots offer immediate support. As AI expedites administrative tasks, enhances productivity evaluation, and ensures accurate payment processing, HR personnel may focus on strategic responsibilities. By identifying talent gaps, offering unbiased feedback instantly, and facilitating HR digitization, artificial intelligence (AI) improves decision-making. Organizational network analysis benefits from AI's ability to identify key players since it promotes collaboration and communication. Case studies from Tesla, Netflix, and Amazon demonstrate the impact of AI. Whereas Amazon leverages AI-human interaction to optimize efficiency and customer satisfaction, Tesla blurs the lines between work and life to highlight concerns with balance. Netflix's machine learning innovations illustrate the uncertainty in the labor market caused by automation.

Keywords: Artificial intelligence (AI), Human Resources (HR), Administrative Tasks, Organizational Network, Benefit Analysis.

1 INTRODUCTION

This is the age of information, and the world is dramatically shifting towards technology. The integration of Artificial intelligence (AI) in Human Resource (HR) related tasks is doing wonders by changing working environment conditions. It is improving employee well-being and safety concerns due to its ability to amplify data from multiple sources, including sensors, cameras, and health monitoring devices (Dolan et al., 2022; Li et al., 2023). The involvement of artificial intelligence is improving the productivity of employees by assisting them in work-related tasks. Furthermore, AI-driven solutions are streamlining HR processes including productivity tracking, payroll automation, and real-time feedback, significantly reducing administrative headaches and errors (Johansson & Herranen, 2019). These advancements allow HR practitioners to focus on strategic responsibilities that support employee development and corporate progress. As demonstrated by case studies from leading companies like Netflix, Tesla, and Amazon, AI integration in HR offers real benefits and challenges. These examples demonstrate how artificial intelligence (AI), while boosting operational efficiency and employee happiness, also creates new issues related to work-life balance and job security (Lei & Wang, 2020; Li et al., 2023). This research explores how artificial intelligence (AI) impacts human resources (HR) operations. It specifically looks at how AI may enhance worker productivity, safety, comfort, and management (Singh et al., 2021). This study aims to shed light on how AI might transform the nature of employment.
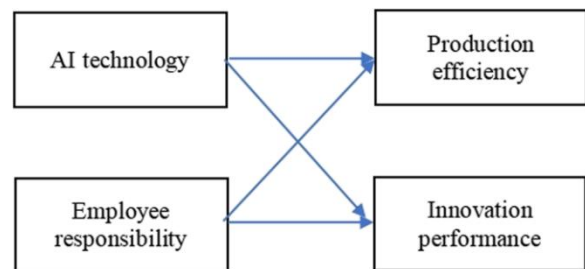

FIG. 1: COMPARISON OF INFLUENCE EFFECTS

2 DIGITAL INTELLIGENT EMPLOYEES AND HUMAN EMPLOYEES

2.1 ARTIFICIAL INTELLIGENCE (AI) AND HEALTH AND SAFETY IMPROVEMENT

HR can benefit from using AI to detect and prevent workplace dangers. Through the analysis of data from many sources, such as sensors, cameras, and other devices, AI-

capable systems can identify potential workplace hazards. Workers' safety at work can be increased with the use of this data. AI can also be used to help detect health issues (Dolan et al., 2022). Artificial intelligence (AI)-powered systems, for example, can monitor employee health data and identify patterns that may indicate health issues. Not only can this information provide staff with personalized health recommendations, it may also be used to prevent future health problems (Li et al.,2023). AI is also being used in HR through the use of chatbots to provide employees with rapid support. Chatbots can be made to reply to questions from employees, manage emergency situations, and provide details on workplace health and safety laws. AI can also be used to improve workplace ergonomics. Artificial intelligence-driven systems, for instance, can monitor employees' movements and identify any potential musculoskeletal disorders. Workstation ergonomic changes can be made with the use of this data to reduce the possibility of workplace accidents.

2.2 ARTIFICIAL INTELLIGENCE (AI) AND COMFORT OF EMPLOYEES

AI can improve worker comfort in a variety of ways. For starters, systems with artificial intelligence (AI) capabilities may assess data from various sources, such as temperature sensors, to maximize comfort in the workplace. The humidity and temperature, for example, can be adjusted by the system based on the number of people in the office (Dolan et al., 2022). Artificial Intelligence can also be used to tailor the comfort recommendations that people receive at work. For example, AI-powered solutions can recommend changes to the workstation or chair based on the employee's preferences and body type. Thirdly, artificial intelligence (AI) can recognize stressors at work and provide recommendations for reducing them (Usman, 2022). AI-powered systems can measure parameters like communication styles, employee engagement levels, and other work-related variables to identify potential sources of stress.

2.3 ARTIFICIAL INTELLIGENCE (AI) AND EMPLOYEE PRODUCTIVITY

Artificial intelligence (AI) has made it possible to automate tedious administrative tasks so that HR employees can focus on other aspects of their work. This could lead to increased productivity for HR employees, giving them more time to work on tasks related to their area of expertise (Tornjansk et al., 2020). AI can help in measuring staff productivity in real time. Artificial intelligence-powered solutions are able to assess employee data, including time spent on tasks and assignment completion rates, and provide real-time feedback on worker productivity (Johansson & Herranen, 2019). With this data, it is able to improve employee performance and identify areas that require improvement. Worker productivity may be measured more objectively with the help of AI. Evaluating staff productivity by subjective assessments is a popular method, but it has limitations.

2.4 ARTIFICIAL INTELLIGENCE (AI) AND AUTOMATING PAYROLL PROCESSING

Artificial intelligence (AI)-powered systems can automatically calculate pay and taxes, manage employee leave requests, and maintain personnel data. This can help HR professionals save a lot of time and avoid errors in the payroll process. AI also helps to improve the accuracy of payroll processes. With data analysis and trend recognition, artificial intelligence (AI) can help identify potential errors in payroll processing, like duplicate payments or incorrect tax calculations (Pai et al., 2022). This can lead to a reduction in payroll-related errors and an improvement in overall accuracy. Finally, payroll laws can be upheld with the help of artificial intelligence. Artificial intelligence (AI) systems can monitor payroll procedures to ensure that wages and overtime regulations are being followed.

2.5 ARTIFICIAL INTELLIGENCE (AI) AND REAL-TIME FEEDBACK

Artificial intelligence (AI) technologies can help provide real-time feedback to employees in a number of ways. Real-time tracking of employee performance by AI provides feedback on achievements and identifies areas for improvement (Coovert & Thompson., 2013). This is the first advantage of AI. By modifying this feedback to fit the specific needs of the employee, performance in certain areas can be improved. More objective feedback provision is another area in which AI may help (Sarkar & Maiti., 2020). One popular, skewed, and untrustworthy method of providing feedback is through subjective assessments. AI-powered systems are able to provide more objective feedback through the use of data and analytics, adding to the accuracy of the feedback. AI can help provide feedback more quickly, to name just one last use. Workers may be able to improve their performance immediately by using artificial intelligence (AI)-powered systems that can evaluate large amounts of data quickly and provide feedback in real-time or almost real-time.

2.6 ARTIFICIAL INTELLIGENCE (AI) AND IMPACT ON DIGITIZATION OF HR

AI-powered solutions may help automate HR processes like hiring, onboarding, performance management, and employee engagement. By automating processes like choosing and evaluating job applications, artificial intelligence (AI) holds the promise of lowering human labor and time (Jarrahi, 2018). AI might potentially help automate the onboarding process by creating customized training and development plans for new hires. With data-driven insights that can improve participation and performance management, artificial intelligence (AI) can also help with real-time worker

performance tracking. AI has a significant impact on digitization in HR, even beyond its operational efficacy (Dolan et al., 2022). AI can assist in raising the standard of HR decisions since it can offer data-driven insights that can direct strategic decision-making. For instance, AI-powered solutions can help HR professionals identify skills gaps in the workforce and establish specific training and development plans to upskill people.
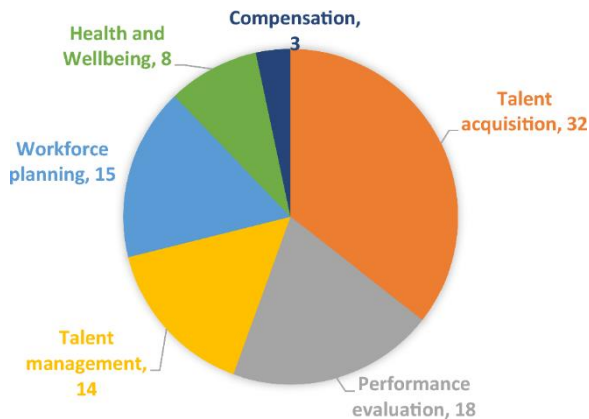

FIG. 2: IDENTIFIED HRM FUNCTIONS AND TYPES OF SYSTEMS

2.7 ARTIFICIAL INTELLIGENCE (AI) AND ORGANIZATIONAL NETWORK ANALYSIS

Artificial intelligence-powered technology can automate the Organizational Network Analysis (ONA) process of gathering and analyzing data. Through the analysis of email communication patterns, artificial intelligence (AI) may identify the key opinion leaders and influencers inside a business. By analyzing social media data, artificial intelligence can also detect the informal networks that are present within a company (Rožman et al., 2023). AI is also capable of analyzing employee survey data to identify the factors that impact employee engagement and collaboration. AI in HR has a bigger effect on ONA than just collecting and analyzing data. The application of AI can also be used to identify and close holes and inefficiencies in networks. HR professionals may create targeted interventions with AI-powered tools to improve communication and collaboration.

2.8 ARTIFICIAL INTELLIGENCE (AI) AND ORGANIZATIONAL DESIGN

Solutions enabled by artificial intelligence (AI) can automate data analysis related to organizational design. AI, for example, can assess information on work performance, experience, and skill sets to select the most qualified candidate for a certain role (Zhang et al., 2024). Artificial intelligence (AI) can also be utilized to analyze employee interest and preference data to find potential areas for talent development. AI in HR influences organizational design in ways other than just data analysis. By utilizing artificial intelligence, organizations can design more flexible and

adaptable architectures. AI could help HR professionals make job role and organizational structure adjustments by helping them recognize changes in customer expectations and market trends.
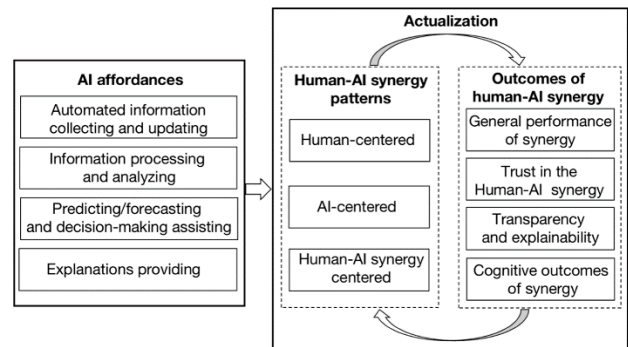

FIG. 3: HIGH-LEVEL SYNTHESIS OF RESEARCH ON HUMAN–AI SYNERGY IN DECISION-MAKING

3 BENEFIT ANALYSIS

3.1 AUGMENTING HUMAN WORKERS

The workforce will unavoidably change. Technology is advancing quickly, which has led to these changes. The way that people interact with robots is impacted by them; this is frequently referred to as "augmentation." Augmentation is the seamless merging of individuals with innovative technologies. It makes for smooth collaboration inside a single work method. A new concept called "augmentation" combines human creativity with mechanical efficiency. This ensures that humans can run machines, which is necessary for successfully transforming the workforce. It is not an easy move, as there could be job dislocation and safety concerns as a result. On the other hand, augmentation might have revolutionary effects (Chen., 2024). Thanks to its revolutionary potential, workplace innovation and societal growth are achievable. Although technology advances, people still matter. Robots can replace unskilled labor on production lines. As such, there will be more job prospects for welders and machine operators. The workforce is evolving, as seen by this. The involvement of humans is necessary for artificial intelligence (Chen et al., 2022). The self-regulating aspect of the human mind cannot be replicated by artificial intelligence, no matter how advanced.
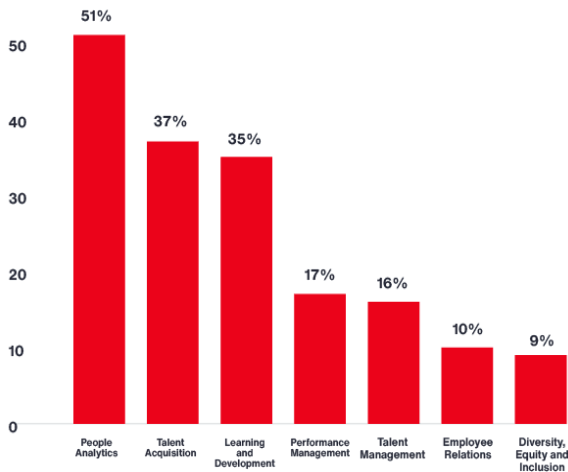
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FIG. 4: THE IMPACT OF ARTIFICIAL INTELLIGENCE ON HR ASPECTS

3.2 REDUCTION OF HUMAN ERRORS

Workers in the digital industry have an impact on manufacturing methods. Entrepreneurs anticipated this before. They can attest to that firsthand now. The benefits of automation are universal. Costs are reduced while output is raised. This leads to an unprecedented amount of production. This is the "workforce transformation." Accuracy is provided by workers in the digital age. They lessen mistakes in production (Vinichenko et al., 2019). They also speed up processes. More production is the outcome of this. It additionally guarantees consistency in quality. This increases customer satisfaction. There is ongoing change in the labor force. Continuous education and adaptation are therefore required. Furthermore, required is an effective change management plan. By doing this, a seamless transition could happen. That is in the past now and can be moved on from. AI eliminates mistakes and production delays. It is algorithms, not humans, which provide real-time error correction (Eisanen, 2019). Automation does not require sickness or vacation days to function. The absence of a key person from work won't cause the company any serious issues. Through manufacturing process simplification, automation boosts productivity.

3.3 TRAINING AND UPSKILLING THE WORKFORCE

Sustaining innovation in the digital technology space requires possessing the "right" skills. Productivity gains occur for both individual employees and companies. Inadequate proficiency in these areas affects digital employee technology engagement. This brings us to the 2017 report from Capgemini and LinkedIn. According to more than half of the questioned organizations, there is a lack of talent in the digital domain. This deficiency hinders the implementation of the workforce transformation projects (Treviño et al.,

2023). Closing this disparity is crucial. It is vital to spend money on education and training. This calls for a shift in organizational culture as well. This could be helpful in an educational setting. It might also stimulate communication online. Thus, this might help with workforce change. A competitive edge can also be ensured in the era of digitization. Employee upskilling offers a number of benefits. The organization ought to allocate funds for employee development. This approach guarantees talent retention over the long run. Workforce cohesion can be achieved as a result (Dolan et al., 2022). This increases the company's agility, which helps it overcome most growth-related obstacles. Employees stay longer as a result. Increased output is another benefit of improving staff skill levels. Organizational resources should be set aside for skill development. Research shows that there is a high correlation between performance and the resources allotted to this subject. That's why even more prudence is required in the digital age.

4 CASE STUDIES

4.1 AMAZON: INCREASE IN REMOTE WORKING

Prior research on involvement has been focused on full-time employees in traditional workplaces where they report in person for eight hours a day, five days a week. The development of modern technology and its ever-widening application have enabled and propelled numerous shifts in how people work and conduct business, and subsequent changes in employee engagement. It is evident that a growing number of people are working remotely (Lei & Wang., 2020). Employees are able to work from anywhere there is personal computer and Internet access. Since remote work allowed for adequate physical distance and maintained employee health and safety, it became especially popular after the Covid-19 pandemic in the beginning of 2020. When the task required it, several companies employed remote workers (Jain et al., 2021). A desk, chair, computer, reliable Internet access, adjusting to working with family members, and picking up new software tools and communication techniques were just a few of the new environments that staff members needed to quickly shift into. Engaged employees increased their commitment to work duties and activities because they felt an additional duty to put in more effort and help the business during these unplanned and sudden periods. An excellent illustration of a synergy model in action is Amazon's combination of digital intelligence staff and human labor, including automation and artificial intelligence. Automation, like delivery drones, inventory management powered by AI, and Kiva robots in production, results in increased operational efficiency and less manual labor (Ebel et al., 2021). In the meantime, human workers focus on complex customer service tasks, strategic decision-making, and creative work. Productivity increases, inventory optimization, order processing speed, and customer satisfaction are all improved by the combination of digital and human capabilities, which leads to a balanced and effective approach

to modern workforce management. Since firms have a social structure, the needs of remote workers can only be met through contacts with coworkers. A growing amount of time is being spent on frequent, clear communication as well as meetings that provide the impression that everyone is in the same place.

4.2 TESLA: DISAPPEARANCE OF BOUNDARIES BETWEEN PRIVATE AND WORKING TIME

Distinguishing between personal and professional time becomes more difficult, leading to work-life conflict. This is the second development. Since they are viewed as practical tools for reporting, control, coordination, and decision-making, employers and managers have embraced modern technology across the board. Utilizing both human and digital intelligent staff has been a leading strategy for Tesla to foster creativity and efficiency. However, this integration has also led to major problems with work-life balance. Worker concerns frequently center on long workdays and a blurred line between personal and professional life. Workplace stress and work-life conflicts have increased because of constant productivity pressure, the availability of digital technologies, and constant communication. This example demonstrates that while the use of both human and digital labor might increase operational effectiveness, improper management of this mix can also have detrimental effects on the personal life of workers. Their employers can always reach them, they feel constantly monitored and in charge, and they have regular working hours.

4.3 NETFLIX: JOB INSECURITY BECAUSE OF ADVANCES IN MACHINE LEARNING

Job instability mirrors the third shift as advances in robotics, artificial intelligence, and machine learning automate repetitive, routine, and highly standardized jobs. Netflix's usage of machine learning has changed the nature of the workplace and resulted in significant job instability. Netflix has automated a number of tasks that were previously completed by human workers by using AI to improve streaming quality, analyze user behavior, and propose content to users (Chen., 2012). Thanks to sophisticated algorithms that generate personalized viewing experiences and track viewing behaviors, the need for human content curators and analysts is decreasing. The shift toward automation has improved user experience and operational efficiency, but it has also made positions in content management and analysis less secure, highlighting the greater challenge of adapting to a more automated workplace (Li et al.,2023). There are many factors that have led to the rise in job insecurity, but modern technologies have played a vital role since they have promoted automation in most common professions and occupations. It is a desirable and beneficial practice to replace humans with robots in any profession that puts a person's health or safety at danger, especially physically demanding ones. Some employees are more engaged when they fear

losing their jobs; they push themselves to work more and create better work to keep their current position within the organization or change to a different role if that isn't possible (Taib et al., 2008). Nonetheless, some employees see a decline in engagement because of their dejection and despondency.

5 CONCLUSION

To conclude this, integration of artificial intelligence in the human resource department can increase the productivity of the employees. It cannot replace human involvement in the department but can be responsible for the replacement of a few of them. Implementation of artificial intelligence can improve the health and safety concerns of the registered workers by monitoring their real time data. However, digital intelligent employees cannot perform better than human employees. They are not emotionally intelligent and possess few limitations in certain areas.

INSTITUTIONAL REVIEW BOARD STATEMENT

Not applicable.

INFORMED CONSENT STATEMENT

Not applicable.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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AUTHOR CONTRIBUTIONS

Not applicable.

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