Use of ChatGPT as a Decision Support Tool in Human Resource Management

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ABSTRACT

Human Resource Management (HRM) is an important aspect of the success of an organization or company. Effective and efficient HR management can help organizations better achieve their goals and ensure optimal performance from each team member. However, HR management is also faced with various complex challenges, including the management of large teams, diverse needs and expectations of team members, and rapid changes in the business and technological environment. This research aims to investigate the effectiveness and potential use of ChatGPT as a decision-support tool in HR management. This research is a literature review that adopts a qualitative method approach, which means it will analyze and interpret data by relying on information and text from various sources. The study results show that the use of ChatGPT as a decision-support tool in Human Resource Management offers great potential in improving the efficiency, effectiveness, and transparency of HR processes. Artificial intelligence models such as ChatGPT can act as virtual assistants that provide text-based responses, assisting in recruitment, employee development, performance management, and employee support processes. ChatGPT can gather valuable data and insights about employees and the work environment, and help HR managers make more informed decisions.

Keywords: ChatGPT, Decision Support, HRM

INTRODUCTION

Human Resource Management (HRM) plays a crucial role in the achievement of organizational or corporate success (Gadzali, Ausat, et al., 2023). The use of effective and efficient human resource management practices can significantly enhance an organization's ability to attain its objectives and maximize the productivity and effectiveness of individual team members (Wahyoedi et al., 2023). Nevertheless, human resource management encounters a multitude of intricate obstacles, encompassing the oversight of sizable teams, addressing the varying requirements and expectations of team members, and adapting to the swift transformations in the commercial and technological landscape.

The advancement of artificial intelligence technology has yielded numerous potential breakthroughs that can effectively help the process of human resources management (Sutrisno, Kuraesin, et al., 2023); (Salamah, 2023) and (Sukenti, 2023). One of the most recent advancements in technology is the development of a chatbot system that possesses the ability to engage in conversations with humans using natural language (Harahap, Sutrisno, et al., 2023). Artificial intelligence (AI)-driven chatbots, shown by ChatGPT (Generative Pre-trained Transformer),
ChatGPT possesses natural language processing features that make it suitable for deployment as a virtual assistant or chatbot, hence facilitating the resolution of diverse issues within the domain of human resources management (Sudirjo, Ausat, et al., 2023). Some of the areas where ChatGPT can play a role in HR management include:

1. Recruitment Process: ChatGPT can help conduct an initial review of potential employees by conducting a short virtual interview. This can help shorten recruitment time and facilitate the initial screening process for the selection of the most suitable candidates.
2. Employee Development: ChatGPT can provide recommendations and advice to employees on training and development based on performance analysis and individual needs. This can help improve employee competence and satisfaction.
3. Performance Management: ChatGPT can assist in the process of assessing employee performance by collecting feedback from colleagues or conducting employee satisfaction surveys. This will make it easier for managers to identify areas for improvement and provide more appropriate corrective actions.
4. Problem-Solving: ChatGPT can be used as a platform to ask questions or request assistance in resolving issues or conflicts between employees.
5. Employee Counselling and Support: ChatGPT can also provide help and advice in dealing with personal or professional issues that may be faced by employees.

The application of ChatGPT in the field of HR management elicits enthusiasm, although it is imperative to acknowledge the existence of some obstacles and limitations associated with this technology. The use of this approach necessitates a comprehensive consideration of limitations about the comprehension of unique situations and nuances, as well as the potential privacy and ethical concerns.

Hence, the primary objective of this research is to examine the efficacy and prospective application of ChatGPT as a decision-support instrument within the realm of human resources management. This research aims to contribute to the optimization of organizational performance and success in HR management by examining the advantages, disadvantages, opportunities, and challenges associated with the application of ChatGPT. By identifying these factors, it is hoped that the appropriate and judicious use of artificial intelligence technology can be facilitated.

LITERATURE REVIEW

ChatGPT

ChatGPT is one example of an artificial intelligence-based natural language model developed by OpenAI. GPT stands for "Generative Pre-trained Transformer." It is a model that uses the popular Transformer architecture to generate text based on massive training data (Harahap, Junianto, et al., 2023). To better understand what ChatGPT is, let's first talk about the Transformer architecture. Transformer is a neural network architecture that is revolutionary in natural language processing. In traditional language models, such as LSTM (Long Short-Term Memory) or RNN (Recurrent Neural Network), there are limitations in understanding long contexts in text. However, Transformer successfully overcomes the problem by introducing an attention mechanism that allows the model to focus on important parts of the broader text. Pre-trained in the context of ChatGPT means that the model has been pre-trained using deep learning techniques on a very large dataset. The pre-training process involves exposing the model to a large amount of diverse and multi-layered text data to recognize language patterns and sentence structures. As a result, the model becomes "trained" in understanding natural language and can generate coherent and relevant text based on the input given to it. However, these pre-trained models are not initially task-specific. ChatGPT is an example of a specialized implementation of the GPT model intended for use in human-to-machine communication, specifically in the form of a chatbot or virtual assistant. This means that it can receive input in the form of text from users and respond to it in a natural and informative way. ChatGPT’s primary use is as a virtual assistant that provides text-based responses...
in a variety of contexts, including helping to answer questions, providing recommendations, providing assistance, and more (Sudirjo, Diantoro, et al., 2023). The model continues to evolve over time and is continually trained with newer data to remain relevant and effective in interacting with users. The success of ChatGPT and similar models have made a huge impact on the field of natural language processing and has opened up many opportunities for applications in various industries, including human resource management, that can utilize artificial intelligence to improve the efficiency and effectiveness of business processes (Ausat et al., 2023) and (Azzaakiyyah et al., 2023).

**Decision Support**

Decision Support is a concept and process in management and artificial intelligence that aims to assist decision-makers in dealing with complex problems or situations that require in-depth analysis and careful consideration (Bhatt & Zaveri, 2002). The main goal of Decision Support is to provide decision-makers with relevant, accurate, and structured information to help them make better and more effective decisions (Voorberg et al., 2021). In the context of business and management, the decisions faced by organizational leaders are often complex and have long-term impacts (Iswahyudi, 2018). Good and timely decision-making is key to achieving business goals, improving performance, and overcoming challenges that may arise. However, in a fast-paced and complex business environment, decision-making can be difficult due to the presence of many variables, uncertainty, and time constraints. Decision Support helps address these challenges by providing tools and methods that assist decision-makers in analyzing data, modeling situations, and evaluating different options or scenarios (Taherdoost & Madanchian, 2023). Some of the important elements in Decision Support include:

1. **Data Sets**: Decision Support requires access to relevant and high-quality data. This data can include historical data, current data, and projected future data.
2. **Data Analysis**: Decision Support involves using data analysis techniques to extract valuable information from existing data. This could include statistical analysis, regression analysis, trend analysis, and other methods.
3. **Modelling and Simulation**: Decision Support often uses mathematical models and simulations to predict the outcomes of various decisions or scenarios that may occur in the future.
4. **Use of Tools and Technology**: Decision Support is supported by a variety of tools and technologies, including management information systems, artificial intelligence, business analytics, and decision support systems.
5. **Fact-based Decision Making**: Decision Support encourages fact-based and data-driven decision-making, rather than intuition or experience-based approaches alone.

An example of the application of Decision Support in the context of human resource management relevant to the proposed research is using artificial intelligence tools such as ChatGPT to assist HR managers in making decisions related to recruitment, performance appraisal, employee development, and other complex situations. Thus, Decision Support plays an important role in improving efficiency and accuracy in decision-making in various fields, including organizational management.

**Human Resource Management (HRM)**

HRM stands for Human Resource Management. It is a management discipline that focuses on managing and developing human resources or workforce within an organization or company (Gadzali, Gazalin, et al., 2023). HRM aims to ensure that the organization has a qualified, motivated, and highly competitive workforce that can contribute effectively to achieving business goals (Iswahyudi & Ramadhani, 2023) and (Al-Kazlah & Badkook, 2022). Some of the main components of Human Resource Management include:

1. **Recruitment and Selection**: HRM is responsible for attracting and recruiting the right employees for available positions in the organization. This involves a careful selection process to ensure prospective employees have the appropriate qualifications and fit the needs of the organization.
2. Employee Development: Once employees are recruited, HRM endeavors to develop their skills and knowledge through training, education, and valuable work experience. The goal of employee development is to improve their performance and potential within the organization.

3. Performance Management: HRM is involved in regularly assessing employee performance and providing constructive feedback. Performance management helps in identifying good achievements and areas that need improvement for each employee.

4. Compensation and Rewards: HRM is responsible for managing the compensation and incentive system for employees as part of the effort to motivate them and retain high-performing employees.

5. Conflict Management: HRM is involved in handling conflicts and problems between employees or between employees and management. It aims to create a harmonious and productive work environment.

6. Employee Welfare: HRM is also concerned with the well-being and happiness of employees. This involves providing facilities and welfare programs to help employees achieve a healthy work-life balance.

7. Legal Compliance: HRM must ensure that human resource management policies and practices comply with applicable legal regulations. All of these aspects are critical in creating an effective and productive work environment, as well as in ensuring that the organization has qualified human resources with the potential to achieve long-term goals and success. HRM plays a strategic role in managing people as one of the most valuable assets in the organization (Diawati, Gadzali, Mahardhani, et al., 2023).

**RESEARCH METHOD**

This research is a literature review that adopts a qualitative approach, which means it will analyze and interpret data by relying on information and texts from various sources. The main focus of a qualitative literature review is to collate, evaluate and integrate existing knowledge on the topic under study, namely the use of ChatGPT as a decision-support tool in human resource management. In this research, data will be collected from various sources relevant to the topic under study, such as scientific journals, books, research reports, and other articles. The data period covers the time from 2000 to 2023, which allows the researcher to see developments, trends, and changes that have occurred during this period.

The qualitative approach in the literature review allows researchers to describe and characterize complex and multidimensional issues in greater depth (Elo et al., 2014). In addition, this method makes it possible to involve multiple sources of information and cover a range of different viewpoints, thus enriching the analysis and strengthening the validity of the findings. The data collection process will involve meticulous text analysis, searching for information, and categorizing relevant data for the research topic. Subsequently, the author will collate this information in a structured format, compare and synthesize findings from multiple sources, and identify patterns, themes, and trends that emerge from the collected data.

One of the advantages of a qualitative literature review is its flexibility in understanding and explaining complex phenomena, as it is not limited by numerical or statistical constraints (Rahman, 2016). This method also allows researchers to gain deep insights into how the topic under study has evolved, as well as how concepts and understandings of the topic have changed over the years. In this research, it is important to scrutinize the reliability and credibility of the sources used, as well as critically analyze the information collected. With a qualitative approach, the researcher must be able to present findings objectively and reflectively, provide clear and accurate interpretations, and recognize the limitations of the methods and data used (Bradshaw et al., 2017). The conclusion of this research will hopefully provide a comprehensive picture of the development of the topic under study over the 2000 to 2023 time period, and may also provide recommendations for further research that can broaden the understanding of issues related to the topic.

**RESULTS AND DISCUSSION**

The management of Human Resources (HR) is a crucial component in fostering the success
and expansion of a business. Human resource management encompasses a multitude of dimensions, encompassing but not limited to the processes of talent acquisition, employee growth and advancement, performance evaluation and enhancement, and other related areas (Sutrisno, Ausat, et al., 2023). The utilization of innovative tools in HR management procedures holds significant potential in the digital era and the advancement of artificial intelligence technology (Murugesan et al., 2023). One notable tool that is garnering interest in this particular setting is ChatGPT, an artificial intelligence model that relies on language processing. This model has undergone extensive training utilizing machine learning methodologies on vast amounts of textual data.

The algorithm known as ChatGPT, an abbreviation for Generative Pre-trained Transformer, possesses the ability to comprehend natural language and produce meaningful textual output in response to a specific query or inquiry (Subagja et al., 2023). The model has undergone pre-training by utilizing a substantial volume of varied and intricate textual material. Consequently, ChatGPT has undergone extensive training in comprehending human language, thereby enabling it to furnish pertinent and valuable textual responses.

Within the realm of Human Resource Management (HRM), the utilization of ChatGPT as a tool for decision support holds considerable potential for numerous advantageous outcomes. Initially, ChatGPT can serve as a virtual assistant to facilitate the process of personnel recruitment. Human resource managers can incorporate ChatGPT into their web-based recruiting system, enabling prospective employees to engage with ChatGPT to address preliminary inquiries on the position they are seeking or acquire relevant details about the organization (Diawati, Gadzali, Abd Aziz, et al., 2023). This approach has the potential to facilitate the evaluation of candidates who possess the most suitable qualifications for the available positions, expedite the recruiting process, and alleviate the administrative workload on the human resources team. Furthermore, ChatGPT can serve as a valuable resource for fostering staff growth and development. Employees can engage in communication with ChatGPT to solicit suggestions about training or development initiatives that align with their career aspirations as well as the organizational requirements of the organization. ChatGPT possesses the capability to assess data about employee performance and offer recommendations regarding specific areas in which employees may benefit from skill enhancement (Dwivedi et al., 2023). This enables human resource managers to build individual development plans that are more efficient and focused.

Performance management is a crucial component within the realm of human resource management (Panjaitan et al., 2023). ChatGPT can serve as a valuable instrument for collecting feedback from employees regarding their performance and their perceptions of the work environment. Through the utilization of ChatGPT, HR managers may administer employee satisfaction surveys to acquire a more profound understanding of the variables that impact employee performance and overall job satisfaction. This information has the potential to facilitate the identification of areas for development and offer more efficacious strategies for enhancing employee productivity and happiness. Furthermore, ChatGPT can also function as a valuable resource for problem-solving and providing assistance to employees. ChatGPT serves as a venue for employees to seek clarification on many matters about corporate regulations, perks, leave entitlements, and other challenges encountered in the workplace (Ray, 2023). The availability of timely and convenient access to critical information via ChatGPT might contribute to a sense of support and assistance among employees, hence potentially enhancing employee satisfaction and bolstering rates of employee retention.

Nevertheless, the utilization of ChatGPT as a decision-support tool in Human Resource Management (HRM) has certain issues and considerations that necessitate attention. One shortcoming of the approach is its inability to comprehend individual circumstances and nuances. ChatGPT demonstrates the ability to generate coherent responses by leveraging its training data (Hassani & Silva, 2023). However, it may encounter challenges in accurately identifying and understanding unique contextual cues or informal language commonly employed inside professional settings. Consequently, the involvement of human supervision and validation becomes necessary to guarantee the correctness and precision of the responses generated by ChatGPT. Furthermore, it is imperative to acknowledge the ethical and privacy concerns that arise while employing ChatGPT within the realm of Human Resource Management (HRM). Artificial
intelligent algorithms, such as ChatGPT, possess the capability to access and analyze confidential information about employees. Consequently, it is imperative to prioritize the maintenance of data confidentiality and adherence to ethical guidelines while utilizing such data (Iswahyudi, 2023). The implementation of stringent privacy standards and adherence to legal regulations are necessary to mitigate the possible hazards inherent in the utilization of artificial intelligence algorithms within a professional setting (Ryan & Stahl, 2021).

The utilization of ChatGPT as a decision support tool in the field of Human Resource Management holds significant promise in enhancing operational efficiency and overall effectiveness across multiple domains of HR management (Ayinde et al., 2023). Through the utilization of artificial intelligence, human resource managers can enhance and streamline various aspects of their operations, including recruitment, employee development, performance management, and employee assistance. Nevertheless, it is crucial to bear in mind that this technology does not entirely supplant human function in decision-making. Rather, it serves as a tool that can aid and enhance human decision-making abilities. Hence, the successful integration of ChatGPT into the HR management process necessitates a well-rounded and discerning approach.

When embarking on the integration of ChatGPT as a decision support tool in the field of Human Resource Management, it is imperative to prioritize the initial phase of reinforcing the ChatGPT model through comprehensive training and rigorous testing. The inclusion of pertinent and illustrative data about the organizational work setting and policies is crucial during the pre-training and fine-tuning stages of ChatGPT (Mogavi et al., 2023). Furthermore, it is imperative to subject the model to comprehensive testing across many scenarios to ascertain the precision and pertinence of the generated results. Moreover, the integration of ChatGPT in human resources (HR) management ought to be complemented by fostering collaboration between algorithms and human agents (Rustiawan, Gadzali, et al., 2023). Although ChatGPT is capable of generating helpful automated responses, it is crucial to acknowledge the continued significance of human involvement in monitoring and validation. Human resource managers need to possess a comprehensive comprehension of the use of ChatGPT, along with its inherent capabilities and limits. Furthermore, individuals should be equipped to intervene or rectify instances when the output generated by ChatGPT is deemed unsuitable or inadequate.

It is imperative to exercise mindfulness regarding ethical concerns that may potentially emerge in the utilization of ChatGPT within the domain of Human Resource Management (HRM) (Prastyaningtyas et al., 2023). It is imperative that the solutions generated by ChatGPT consistently prioritize the principles of sustainability, equality, and fairness. The utilization of the model should be avoided in instances of discrimination or the provision of unjust advantages to employees based on certain personal or group attributes (Pager & Western, 2012) and (Favaretto et al., 2019). Companies must establish explicit and resolute regulations regarding the use of artificial intelligence algorithms in the realm of human resources management, while concurrently demonstrating a steadfast dedication to upholding elevated ethical principles. Furthermore, it is imperative to customize the role of ChatGPT according to the preferences and comfort levels of employees. Certain employees may experience a greater sense of ease when engaging with human beings as opposed to communicating with algorithms (Rustiawan, Ausat, et al., 2023) and (Aisyah et al., 2023). Hence, it is imperative to incorporate adaptability into the deployment of ChatGPT as a decision support system, allowing employees the autonomy to select between engaging with ChatGPT or directly communicating with a member of the HR team.

The installation of ChatGPT should be conducted with a focus on maintaining ongoing engagement and communication with employees. Human resource managers must ensure the provision of unambiguous details regarding the utilization of ChatGPT within the HR management process, the anticipated advantages, and how employees can effectively employ this tool to enhance their assistance. By fostering a culture of open and transparent communication, organizations can enhance employee receptiveness and active engagement in utilizing ChatGPT as a decision-support tool.

In the context of integrating ChatGPT into HRM, firms must establish well-defined protocols and guidelines about the acquisition, retention, and manipulation of personnel information. Ensuring the security and privacy of data should be regarded as a paramount concern,
with employers taking necessary measures to securely store employee data and restrict its usage to legitimate purposes.

The strategic integration of technology and human resources can yield substantial benefits for organizations, particularly when employing ChatGPT as a decision-support tool within the realm of Human Resource Management. The implementation of this technology has the potential to expedite and enhance human resources procedures, optimize the productivity and efficacy of employee supervision, and fortify the rapport between the organization and its workforce (Ausat, 2023). Nevertheless, the efficacy of these applications is contingent upon a deliberate and enduring strategy for leveraging artificial intelligence, along with a steadfast dedication to principles of integrity, openness, and robust employee involvement at every stage.

Upon further examination of the subject matter under investigation, it is evident that organizations have the capacity to employ artificial intelligence algorithms to leverage the data and insights obtained, so enhancing their comprehensive human resources strategy. To begin with, the data produced by ChatGPT can be utilized to analyze comprehensive trends and patterns in employee performance. Through the systematic collection and analysis of data derived from the exchanges between ChatGPT and employees, human resource managers may discern patterns and pinpoint specific areas where employees commonly seek assistance or require supplementary information. This data can offer significant insights into areas where enhancements might be implemented in the delivery of information or assistance to employees. Furthermore, the process of assessing the data can also facilitate the identification of patterns in employee performance and shifts in employee development requirements.

Additionally, ChatGPT has the potential to be utilized for the purpose of administering routine employee satisfaction surveys. Leveraging ChatGPT as a platform for the facilitation of satisfaction surveys helps streamline the process and expedite employee answers (Haleem et al., 2022). Furthermore, ChatGPT can get candid and anonymous input from employees, so enabling HR managers to have a more comprehensive understanding of satisfaction levels and identify potential workplace issues. Additionally, the data produced by ChatGPT can be utilized to enhance the planning and organization of staff training and development initiatives, resulting in improved effectiveness. Through the analysis of commonly asked requests and inquiries from employees, human resource managers can discern the training subjects that are most pertinent and sought-after by employees (Jiang et al., 2012). This approach has the potential to enhance the efficient allocation of training resources and facilitate the implementation of more focused and tailored development initiatives.

The utilization of ChatGPT can be further expanded to offer assistance and support to human resource managers themselves. ChatGPT has the potential to function as a digital aide for human resource managers, providing support in the creation of staff development strategies, the organization of recruitment procedures, and the assessment of team performance. This technology has the potential to enhance efficiency and productivity for HR managers, enabling them to allocate their time and resources towards more strategic endeavors and enhancing the overall HR management process.

Although there exist numerous potential advantages associated with the utilization of ChatGPT in the domain of Human Resource Management, it is important to acknowledge the imperfections inherent in artificial intelligence technology. In certain instances, ChatGPT may tend to provide less suitable or less satisfactory replies, particularly when confronted with intricate or context-dependent scenarios. Hence, humans must continue to play a pivotal role in the decision-making process. Human resource managers should possess the capacity to analyze and authenticate the responses generated by ChatGPT, ultimately making a final determination based on a more extensive human evaluation. The continuous evolution and advancements in artificial intelligence technology necessitate the HRM application of ChatGPT to remain abreast of these changes. By incorporating the most recent tools and enhancements in the development of the ChatGPT model, the efficacy and caliber of this tool in HRM will be further enhanced.

In general, the utilization of ChatGPT as a decision support tool within the realm of Human Resource Management exhibits considerable potential in enhancing the efficacy and proficiency of HR procedures. Artificial intelligence algorithms can deliver prompt, precise, and pertinent
resolutions to intricate human resources challenges, while also offering valuable discernment into employees and the organizational milieu. The efficacy of this application is contingent upon adopting a harmonious integration of technology and human involvement. It is imperative for firms to consistently prioritize ethical considerations, transparency, and employee engagement while utilizing ChatGPT as a tool to enhance human resources management.

**CONCLUSION**

The utilization of ChatGPT as a decision support tool within the context of Human Resource Management holds significant promise in enhancing the operational productivity, efficacy, and openness of HR procedures. Artificial intelligence models, exemplified as ChatGPT, can function as virtual assistants, offering text-based responses that aid in many organizational functions, including recruitment, employee development, performance management, and employee support operations. ChatGPT possesses the capability to acquire significant data and discerning observations about employees and the work milieu, so aiding human resource managers in rendering more informed decisions. Nevertheless, it is vital to maintain a harmonious equilibrium between the utilization of ChatGPT and the involvement of human agents in overseeing, verifying, and comprehending the outcomes generated by the algorithm. Companies must prioritize the implementation of comprehensive training and testing protocols for ChatGPT models. Additionally, these companies must establish explicit guidelines and regulations about the ethical and privacy considerations associated with the utilization of artificial intelligence algorithms. Therefore, this study arrives at a suggestion among others:

a) Model Training and Validation: Before implementing ChatGPT in Human Resource Management, ensure that the model has been trained with data that is relevant and representative of the organizational context. Also, conduct thorough testing to validate the responses provided by ChatGPT in various scenarios.

b) Transparency and Communication: Communicate the use of ChatGPT to employees openly and transparently. Provide information on the benefits, limitations, and how to use the tool as support in HR processes.

c) Human Roles: Establish human roles as an important part of the decision-making process. HR managers should interpret and validate the results provided by ChatGPT before making a final decision.

d) Consider Ethics and Privacy: Ensure strict privacy policies to protect employee data accessed by ChatGPT. Avoid using artificial intelligence algorithms for discriminatory or adverse employee purposes.

e) Keep Up to Date with Technology: Pay attention to innovations in artificial intelligence technology, including the development of better ChatGPT models. Stay updated with the latest developments to improve the quality and effectiveness of using this tool.

By combining artificial intelligence and thoughtful human policies, the use of ChatGPT as a decision-support tool in Human Resource Management can bring significant benefits to organizations. Proper and responsible use of this algorithm will help improve organizational performance, employee satisfaction, and overall business goal achievement.

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