The Role of Information Technology in Improving the Efficiency and Effectiveness of Talent Management Processes

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ABSTRACT

Amidst the current era of globalization and heightened business competition, organizations across diverse sectors encounter obstacles in the recruitment, cultivation, and retention of optimal talent. The strategic management of talent has emerged as a critical area of emphasis for organizations seeking to cultivate a skilled and proficient labor force. The present study aims to investigate the impact of information technology, specifically the implementation of a human resource management system, on enhancing the efficiency and effectiveness of talent management procedures. This research is qualitative in nature. The techniques used to obtain information involve careful observation and meticulous note-taking, followed by analytical procedures such as data reduction, visualisation, and inference. The results of this study show that the role of IT in improving the efficiency and effectiveness of talent management processes is significant. The use of IT in employee recruitment and selection, skills development, employee engagement, and data management provide many benefits to organizations. However, challenges such as data privacy and security, digital divide, organisational complexity, ethical aspects, and the importance of human interaction need to be addressed to achieve optimal results.

Keyword: Information Technology, Efficiency, Effectiveness, Talent Management

INTRODUCTION

In the contemporary era of globalisation and heightened business competition, various organisations across diverse sectors encounter difficulties in the recruitment, development, and retention of highly skilled personnel (Schuler et al., 2011). The management of talent has emerged as a crucial area of emphasis for organisations in order to guarantee the presence of a skilled and proficient labour force (Al-Dalahmeh, 2020). The implementation of a proficient and productive talent management procedure is frequently intricate and necessitates a comprehensive strategy.

The advent of information technology has brought about a transformation in the approach of organisations towards talent management procedures in recent times. According to (Harahap,
Kraugusteeliana, et al., 2023), the utilisation of information technology facilitates the optimisation of talent management processes such as recruitment, development, evaluation, and retention within organisations. According to (Goestjahjanti et al., 2020), the integration of information technology in talent management can facilitate the comprehension of employee requirements and inclinations, recognise prospective talent prospects, and enhance employee engagement and motivation within organisations.

A cloud-based human resource management system is an instance of information technology employed in talent management. The aforementioned system enables corporations to incorporate employee information, execute performance monitoring in real-time, oversee the employee lifecycle, and mechanise administrative procedures associated with talent management. According to (Claus, 2019), the implementation of this system enables organisations to economise on time and resources that were previously expended on manual administrative tasks, thereby allowing them to concentrate on the formulation and execution of talent development strategies.

Furthermore, the field of information technology facilitates the process of employee development by means of electronic learning platforms and mobile applications (Marler et al., 2006). According to (Satriadi et al., 2022), e-learning platforms afford employees the opportunity to independently access training materials and engage in skills development at their convenience, regardless of time or location. Mobile applications have the potential to offer prompt feedback, foster team collaboration, and seamlessly incorporate training into daily work routines (Almaududi Ausat et al., 2021). Notwithstanding the potential and advantages presented by information technology in the realm of talent management, there exist certain obstacles that must be surmounted. An obstacle that warrants attention is the safeguarding of personal data and ensuring information security (Spalević & Vićentijević, 2022). It is imperative for organisations to guarantee the security of employee data and prevent unauthorised parties from misusing it. Furthermore, the implementation of information technology necessitates substantial investment, encompassing technology infrastructure and training to ensure proficient utilisation (Ausat & Suherlan, 2022).

Hence, investigating the significance of information technology in enhancing the efficiency and efficacy of the talent management procedure holds paramount importance. The present study aims to investigate the potential benefits of incorporating information technology, specifically cloud-based human resource management systems and e-learning platforms, in enhancing the efficiency and effectiveness of talent management procedures. The present study will examine the advantages that corporations accrue from the implementation of information technology in talent management. These benefits include heightened productivity, reduced administrative expenses, and improved employee satisfaction and engagement.

**LITERATURE REVIEW**

**Information Technology**

The term Information Technology (IT) pertains to the utilisation of technology for the purpose of processing, storing, retrieving, and disseminating information (Kamar et al., 2022). The process entails the utilisation of computer systems, both hardware and software, in conjunction with computer networks and telecommunications infrastructure to gather, retain, manipulate, scrutinise, and convey data. The field of Information Technology encompasses a multitude of components, such as computing, data communications, information systems, database management, information security, software development, and other related areas. The impact of technology is pervasive, encompassing a wide range of domains such as commerce, academia, governance, leisure, medical care, communication, and various other spheres. Information Technology is a widely utilised tool in the corporate sector, serving to streamline data processing, automate business operations, optimise operational efficiency, bolster performance, fortify information security, and enable informed decision-making (Kraugusteeliana et al., 2022). Organisations employ information technology (IT) to handle customer data, streamline supply chain operations, establish and sustain database systems, disseminate information via computer networks, among other functions (Harahap, Sutrisno, et al., 2023). Information Technology has a significant impact on various aspects of our daily lives, including communication, work, education,
and socialisation. The aforementioned activities encompass utilising electronic devices such as computers and mobile phones to gain access to the internet, engaging in social media to communicate with others, exchanging electronic mail, performing online searches, engaging in e-commerce transactions, and other comparable undertakings (Hopia et al., 2023). Information Technology (IT) is a crucial tool in the healthcare industry, utilised for various purposes such as managing electronic medical records, enhancing communication among medical professionals, creating early warning systems, supporting medical research, and enabling telemedicine, which refers to the provision of remote healthcare services through technology. In general, the field of Information Technology has brought about a transformation in our lifestyle, professional endeavours, and social engagement with the environment. The phenomenon in question exhibits a rapid rate of evolution and exerts a notable influence on diverse facets of human existence.

**Efficiency**

Efficiency pertains to the utilisation of available resources in an optimal manner to accomplish a desired outcome or objective in the most effective and economical way possible (Hutubessy et al., 2003). Efficiency in the realm of business and management pertains to the pursuit of attaining the highest possible output while utilising the least amount of resources (Gadzali et al., 2023). The concept of efficiency is frequently linked to heightened productivity and decreased wastage (Fauzi et al., 2023). Efficiency within an organization or process pertains to the most advantageous employment of resources, encompassing labor, time, finances, and materials, while avoiding any superfluous squandering. In this context, the entity or process has the capacity to achieve the desired results while minimizing costs, shortening the time frame, or reducing resource utilization. There are several approaches that can be employed to attain efficiency, such as:

1. **Automation**: Using technology and software to automate repetitive or time-consuming tasks, thereby reducing human involvement and increasing speed and accuracy.
2. **Standardisation**: Having clear procedures and methods for carrying out tasks and processes, thus avoiding unnecessary variations and minimising errors.
3. **Process analysis and improvement**: Analyse existing business processes, identify areas that require improvement or refinement, and implement changes to increase efficiency.
4. **Supply chain management**: Optimising the flow of materials, information, and services in the supply chain by reducing lead times, excess inventory, or overproduction.
5. **Use of technology**: Adopting appropriate and relevant technologies to improve efficiency, such as information management systems, automation software, or more efficient production machinery.

By achieving efficiency, organisations can save operational costs, optimise resource use, increase productivity, and provide added value to customers. Efficiency can also help organisations to compete better in competitive markets and achieve long-term sustainability by reducing negative impacts on the environment and natural resources.

**Effectiveness**

According to (Bailey, 2019), effectiveness pertains to the capacity to attain predetermined objectives or intended outcomes in a suitable manner. The primary emphasis is on the attainment of desired outcomes, irrespective of the utilisation of resources employed. Effectiveness, within the realm of business and management, pertains to the degree to which an entity, group, or individual is capable of accomplishing predetermined objectives in a suitable fashion. Effectiveness is frequently associated with the calibre of outcomes attained, the accurate attainment of desired results, and the provision of anticipated added value (Sutrisno et al., 2023). The primary emphasis of effectiveness lies in accomplishing the intended outcomes or “performing the correct action.” It is important to understand the difference between effectiveness and efficiency. Effectiveness is concerned with achieving desired results, while efficiency is concerned with achieving those results using optimally available resources (Giancotti et al., 2017). An organisation or individual can be efficient in using resources, but if it does not achieve the desired results, then its effectiveness will be in doubt (Rustiawan et al., 2023). A simple example to understand the difference between effectiveness and efficiency is as follows:
Suppose there are two companies that are launching a new product. Company A is able to achieve the set sales target exactly, i.e. it achieves 100% of the sales target. Company B, on the other hand, was more efficient in using resources by reducing production costs and improving operational efficiency, but only achieved 70% of the sales target.

In this example, Company A can be considered effective as it achieved the desired outcome, i.e. hitting the sales target. While Company B may be efficient in using resources, it is ineffective as it does not achieve the desired outcome, i.e. the set sales target. It is important to strike a balance between effectiveness and efficiency. While achieving the desired outcome is the primary goal, optimal use of resources also needs to be considered to achieve optimal performance. Effective and efficient organisations and individuals can produce the desired results by using the most efficient resources, thereby creating greater added value.

**Talent Management**

Talent management is a strategic methodology that involves the identification, development, motivation, and retention of skilled individuals within an organisation (Kaleem, 2019). The concept entails a set of procedures and strategies aimed at effectively overseeing and enhancing the capabilities of individuals towards attaining the objectives of an organisation (Cahyono et al., 2023). The concept of talent management pertains to the process of recognising, attracting, nurturing, and retaining individuals who possess the requisite abilities and competencies to thrive within an organisational context (McDonnell et al., 2017). The objective is to guarantee that the organisation possesses human resources that exhibit superior quality, competence, and proficiency in order to effectively confront the challenges that the organisation may encounter in the forthcoming period. Several crucial elements of talent management encompass:

1. **Talent Identification:** The process of identifying and assessing individuals who have high potential and aptitude to achieve excellence in a particular field. It involves the use of evaluation tools such as performance appraisals, interviews, psychological tests, and observations to identify individuals who best fit the needs of the organisation.

2. **Selection and Recruitment:** The implementation of proficient recruitment strategies to entice skilled individuals. The process may entail organizational self-promotion, proactive talent acquisition, and inventive recruitment strategies aimed at attracting individuals who are most suitable for fulfilling the organization's requirements.

3. **Development and Training:** Deliver suitable training and development programs to enhance the potential of each individual. The aforementioned comprises of programmes aimed at enhancing skills, leadership, technical expertise, and career progression, with the ultimate goal of equipping individuals to assume leadership roles and fulfil organisational requirements.

4. **Performance Management:** The implementation of a proficient performance management system that offers unambiguous feedback, establishes quantifiable objectives, and provides suitable incentives is crucial. This phenomenon contributes to the enhancement of motivation, job satisfaction, and personal achievement.

5. **Retention and Rewards:** Develop a strong retention strategy to retain talented, high-performing individuals. This involves using incentives, reward programmes, development opportunities, and creating an organisational culture that supports growth and achievement.

Talent management is an important approach to competing in a competitive labour market (Harini et al., 2023). By focusing on identifying, developing, and retaining talented individuals, organisations can build long-term competitive advantage and achieve their strategic goals.

**RESEARCH METHOD**

The research employed a desk-based (qualitative) research methodology, which involved the absence of primary data collection through direct field research by the researchers. To ensure efficient conduct of the research, the researchers utilised various reference materials for consultation. Relevant sources used for this research were obtained from digital media and scientific databases through keyword-based searches relating to the themes outlined in the document. These themes include the role of IT in improving the efficiency and effectiveness of
talent management processes. The research methods used by the authors appear to be adaptive, which paves the way for the selection of relevant reference materials and does not require the authors to limit their searches to specific journals or digital platforms. As a result, the authors were able to save time. Our justification is supported by a number of different sources, some of which are journal websites such as ResearchGate, Elsevier, and Emerald Insight. The main focus of this paper is the role of IT in improving the efficiency and effectiveness of talent management processes. The author's use of keyword emphasis aims to provide discourse boundaries and support logical consistency. This is achieved through the use of limiting phrases. The main focus of this research is on scientific journals, essays, and publications that have been published from 2015 to the present. During the search process, we used specific keywords to conduct searches across different publishing platforms. It is noteworthy that the papers, journals, and publications included in this research are exclusively those that are considered highly relevant to the topic of IT tools in improving the efficiency and effectiveness of talent management processes. Other papers, journals, and publications were excluded as they were deemed unrelated to the subject matter. This scholarly article includes a total of 35 different sources that discuss in depth.

The ongoing inquiry has been classified as a form of qualitative research. The data collection process encompassed various methodologies, including active listening and comprehensive record-keeping of all relevant data points. The aforementioned methodologies were employed to facilitate the examination of the data, which was conducted through a process that encompassed data reduction, data presentation, and conclusion drawing. The main aim of this investigation was to gain a deeper understanding of the literature review conducted as a part of this research undertaking. In the stage commonly referred to as “data reduction,” the acquired data was systematically arranged, classified, and refined to streamline the procedure of arriving at significant inferences and render the generation of noteworthy outcomes more feasible. Due to the intricate and diverse nature of the data, it was necessary to perform an analysis of them even during the reduction phase. The reduction phase aimed to determine the relevance of the information to the ultimate goal. Initially, a total of 44 distinct sources were gathered. The initial procedure led to the alteration of the numerical variable’s value to 35. Furthermore, the information will be presented through visual aids in the form of graphs or charts. The present phase represents the subsequent stride in the data reduction procedure, wherein the dataset is methodically arranged in a structured format to enhance understanding and streamline the process of making inferences. The representation of data in this particular setting involves the utilization of written discourse, particularly in the form of field notes. The implementation of this methodology for data presentation has the potential to enhance efficiency in the categorization and structuring of data in relational configurations. The conclusive stage of the process involves the derivation of inferences from the gathered data, thereby rendering the process complete. The aforementioned step signifies the conclusion of the methodology utilized for the examination of qualitative data. In this phase, a thorough examination was conducted to verify that the results of data reduction and presentation aligned with the research’s intended objectives. The aim of this phase is to extract significance from the acquired data through the identification of associations, resemblances, or disparities, with the purpose of developing remedies for previously recognized issues. The reliability of the results obtained from the utilized sources is considered to be high. The aim of this endeavor is to gather reliable and precise information, with the objective of augmenting understanding as a consequence.

RESULTS AND DISCUSSION

The significance of Information Technology (IT) in enhancing the efficiency and efficacy of talent management procedures has emerged as a crucial subject in contemporary corporate settings. In contemporary times, with the swift evolution of technology, entities across various industries have recognised the significance of utilising information technology to efficiently and effectively manage, develop, and leverage the skills of their workforce. The subsequent discourse will examine the ways in which information technology (IT) can have a beneficial effect on talent management and elucidate why this is of paramount importance to an organization’s enduring
The employee recruitment and selection process are a significant area where IT has made a notable contribution towards enhancing the efficiency and effectiveness of talent management. The implementation of sophisticated IT platforms and systems enables organisations to effectively interact with a larger pool of potential candidates, gather pertinent information about them, and centrally manage the collected data (Saadatmand et al., 2019). The utilisation of intelligent algorithms in IT facilitates expedited and streamlined employee search and selection processes by effectively matching candidate qualifications with job requirements (Az-zaakyyah et al., 2022). This enables organisations to procure top-notch talent at a reduced expense and within a shorter timeframe. Moreover, Information Technology (IT) also contributes to enhancing the efficacy of the process of employee development and management. By implementing an IT-based talent management system, organisations can effectively monitor and track the progress of their employees in developing their skills and competencies. The integration of online training systems, e-learning courses, and other digital resources into the IT platform can facilitate convenient and expeditious access for employees to enhance their competencies. Moreover, performance management systems that are IT-based have the capability to furnish instantaneous feedback, streamline performance evaluations with greater precision, and enhance the identification of employee strengths and weaknesses.

The field of Information Technology holds significant importance in the realm of employee retention and engagement. In a highly competitive corporate landscape, it is imperative for organisations to adopt a proactive stance in order to retain their top talent. Information technology (IT) can serve as a means for organisations to establish platforms that enhance communication between management and employees, foster employee engagement and involvement in organisational initiatives, and create avenues for employees to cultivate and broaden their professional networks (Men et al., 2020). Talent management systems that are based on information technology can aid in acknowledging and compensating employees for their accomplishments, thereby fostering their drive and allegiance (Masri & Suliman, 2019).

Notwithstanding the criticality of IT’s function in enhancing the efficiency and efficacy of talent management, it is imperative to contemplate the potential challenges that may ensue. One of the primary obstacles in leveraging information technology to enhance the efficiency and efficacy of talent management pertains to the issues of data privacy and security (Harahap, Ausat, et al., 2023). Organisations must ensure that the information technology systems utilised for managing employees' personal and sensitive information possess sufficient security measures to safeguard the data against unauthorised access or misuse. The compromise of data privacy can have detrimental effects on the trust of employees and the overall reputation of the organisation (Martin et al., 2017). Consequently, it is imperative for organisations to establish rigorous protocols and guidelines to safeguard the confidentiality and integrity of personnel information.

Moreover, the utilisation of information technology in the context of talent management may engender a digital divide among the workforce. There exists a disparity in the accessibility of essential technology and information technology proficiency among employees. This phenomenon may result in disparities in the availability of developmental prospects and access to essential information required for enhancing competencies and efficacy. Ensuring equitable access and providing adequate training to all employees are crucial for organisations to optimise the use of technology. Furthermore, it is imperative to acknowledge that information technology (IT) is merely a tool, and its effective implementation is contingent upon appropriate utilisation by both management and staff. The effective utilisation and integration of information technology into a comprehensive talent management strategy is crucial for realising its potential benefits (Savanevičienė & Vilčiauskaitė, 2017). Prior to implementing IT solutions, it is imperative for organisations to possess a comprehensive comprehension of their business objectives and talent requisites. Furthermore, the talent management process necessitates a human touch, which includes mentorship, in-person training, and a comprehensive comprehension of individual requirements and ambitions.

The fundamental significance of information technology (IT) in enhancing the efficiency
and efficacy of talent management procedures is noteworthy. By implementing effective recruitment and selection strategies, managing employee development in a proficient manner, and providing robust communication and engagement platforms, organisations can utilise information technology to attract and retain top talent, enhance employee productivity and performance, and establish a competitive edge. Notwithstanding the progress made in the implementation of IT solutions in talent management, there remain certain obstacles that require attention. These include concerns surrounding data privacy, the digital divide, and the necessity of a human-centered approach. Addressing these challenges is crucial for ensuring the efficacy and longevity of IT solutions in talent management.

In addition to the aforementioned challenges, there are supplementary factors that warrant consideration in the context of the Information Technology (IT) function's contribution towards enhancing the efficiency and efficacy of talent management. Initially, it is imperative to acknowledge the intricacy of the organisation when integrating information technology systems into talent management. Each organisation possesses distinct requirements and frameworks. Hence, the selection of an IT system that can seamlessly integrate with the current IT framework and can be customised to meet the particular requirements of the organisation holds significant importance. The introduction of a complex and incompatible system may impede the efficiency and efficacy of talent management, while also resulting in data management errors and inaccuracies (Mtshali et al., 2018). Furthermore, it is crucial to take into account the ethical implications of utilising information technology in the context of talent management. The utilisation of intelligent algorithms and analytics in candidate selection may inadvertently introduce biases, including but not limited to gender or race discrimination. It is imperative for organisations to proactively oversee and regulate the algorithms employed, and enlist the aid of human resources and legal professionals to guarantee that the selection procedure remains equitable, lucid, and non-prejudicial.

Moreover, it is imperative to acknowledge that information technology (IT) serves solely as a supplementary instrument in the realm of talent management, and interpersonal communication remains indispensable. Information technology can assist in data management, analysis, and automation of administrative tasks, but strategic decisions involving talent and employee development often require human judgement based on understanding the broader context. Proficiency in management and interpersonal communication continues to be crucial elements in the management of human resources, and information technology should be utilised as a mechanism to facilitate more informed decision-making. Finally, in an ever-evolving digital age, IT can also play an important role in creating a culture of innovation and collaboration among employees (Colbert et al., 2016). Digital platforms, such as social intranets or virtual workspaces, can be utilised by organisations to promote collaboration, knowledge sharing, and collective learning. Enhancing inter-team communication, mitigating hierarchical impediments, and facilitating expeditious and effective dissemination of novel concepts can be achieved through this approach.

In general, information technology (IT) plays a significant role in enhancing the efficiency and efficacy of talent management procedures. Achieving successful implementation necessitates a comprehensive comprehension of organisational requirements, seamless integration with pre-existing infrastructure, meticulous consideration of ethical and equitable considerations, and acknowledgement of the significance of interpersonal communication. By adopting an appropriate strategy, entities can leverage the capabilities of information technology to enhance the efficiency and efficacy of talent management, establish a more efficient workplace, and fortify their competitive edge in the industry.

**CONCLUSION**

In conclusion, the role of Information Technology (IT) in improving the efficiency and effectiveness of talent management processes is significant. The utilisation of information technology (IT) in the processes of employee recruitment and selection, skills enhancement, employee engagement, and data management confers numerous advantages to organisations.
Notwithstanding, in order to attain optimal outcomes, it is imperative to confront obstacles such as data privacy and security, the digital divide, organisational intricacy, ethical considerations, and the significance of interpersonal communication.

To optimise the use of information technology (IT) in talent management, a number of recommendations can be proposed: Initially, the process of choosing and integrating an appropriate information technology system. Select an information technology system that aligns with the requirements and framework of the organisation, and has the capability to be assimilated with the current infrastructure. Ensuring system customizability is crucial to accommodate the distinctive needs of the organization and provide flexibility in talent management. The implementation of robust security measures is crucial in ensuring the protection of employee data in relation to data security and privacy within the information technology system. It is recommended to establish rigorous protocols and guidelines pertaining to the protection of data privacy and security, and to demonstrate a firm dedication to preserving the confidentiality of employee information. Thirdly, it is crucial to take into account the matter of the digital divide. Ensuring equitable access to information technology resources for all employees is crucial. Providing sufficient training to staff members is crucial in order to equip them with the necessary skills to effectively utilize technological tools. In the event of necessity, supplementary resources may be furnished to aid employees who possess a lower level of proficiency in the domain of information technology.

Fourthly, it is imperative to take into account the ethical dimensions of utilising information technology, particularly in the context of personnel recruitment and selection. It is imperative to oversee and regulate the algorithms employed in order to mitigate the presence of partiality and inequity. It is recommended to engage professionals in the fields of human resources and law to ensure that the selection process maintains principles of equity, clarity, and non-prejudice. Fifthly, it is imperative to comprehend the context and the significance of individuals involved in the situation. It is imperative to first establish a comprehensive comprehension of the business objectives and talent requirements of the organisation prior to the implementation of information technology solutions. It is important to bear in mind that Information Technology (IT) serves as a supplementary tool, and making strategic determinations that pertain to talent and employee growth frequently necessitates human discernment grounded in a comprehensive comprehension of the situation. Ultimately, the establishment of a culture that prioritises innovation and fosters collaboration has been achieved. Leverage information technology to establish a professional setting that fosters cooperation, information sharing, and inventive thinking. Leverage digital platforms to enhance inter-team collaboration, expedite the dissemination of innovative concepts, and foster employee involvement.

By adhering to these recommendations, entities can proficiently utilise information technology in the realm of human capital management, enhance operational efficacy, fortify employee productivity, and establish a competitive edge. It is crucial to bear in mind that the function of Information Technology (IT) within the context of talent management is merely a constituent of a more comprehensive approach. The appropriate implementation of information technology (IT) must be customised to the specific context and objectives of the organisation. Furthermore, it is imperative for organisations to take into account the human dimension, encompassing employee engagement, interpersonal skill enhancement, and employee recognition.

REFERENCES


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