The Role of Information Technology in Improving the Efficiency and Productivity of Human Resources in the Workplace

Prety Diawati1, Silvy Sondari Gadzali2, Mohd Kasturi Nor Abd Aziz3, Abu Muna Almaududi Ausat4, Suherlan5

1Department of D4 Company Management, Faculty of Vocational School, Universitas Logistik dan Bisnis Internasional, pretydiawati@ulbi.ac.id
2Department of Business Administration, Faculty of Administrative Science, Universitas Subang, silvysondari@unsusb.ac.id
3Faculty of Business & Communication, Universiti Malaysia Perlis, Malaysia, kasturi@unimap.edu.my
4Department of Business Administration, Faculty of Administrative Science, Universitas Subang, abumuna742@gmail.com
5Department of Public Administration, Faculty of Administrative Science, Universitas Subang, suherlanfia@gmail.com

Submitted: 12-06-2023, Reviewed: 20-06-2023, Accepted 07-07-2023
https://doi.org/10.47233/jitkess.v5i3.872

Abstract
The ubiquity of information technology in contemporary society has rendered it an indispensable component across a wide range of domains. The utilization of information technology has had a noteworthy influence on enhancing efficiency and productivity in diverse domains, encompassing the professional milieu. The Human Resources function is a crucial element within an organization, playing a significant role in driving the success and expansion of the company. The objective of this investigation is to scrutinize the function of IT in enhancing HR efficacy and output within the workplace. It is crucial to comprehend the ramifications of IT employment within an organizational framework. The primary emphasis of this investigation is qualitative in nature. The process of data collection involves meticulous observation and recording of data, followed by the application of analytical methods such as data reduction, visualisation, and inference to derive meaningful insights. The research has deduced that in the constantly changing digital era, the significance of information technology in enhancing the effectiveness and output of human resources in the work environment is pivotal. IT facilitates the automation of mundane tasks, enhances collaboration, provides expedient access to information, enables effective training, supports intelligent data analysis, promotes efficient performance management, allows for work flexibility, and ensures information security.

Keywords: Information Technology, Efficiency, Productivity, Human Resource, Workplace

Abstrak

Keywords: Teknologi Informasi, Efisiensi, Produktivitas, Sumber Daya Manusia, Tempat Kerja

INTRODUCTION
The ubiquity of information technology in contemporary society has rendered it an indispensable component of virtually every facet of human existence [1]. The utilization of information technology has exerted a noteworthy influence on enhancing efficacy and output in diverse domains, encompassing the professional milieu [2]. The Human Resources (HR) department is a crucial element within an organization that plays a significant role in facilitating the success and expansion of the company [3]. The utilization of information technology within organizational settings presents a promising avenue for enhancing the efficacy and output of human resources management [4]. The utilization of
information technology has the potential to expedite the retrieval of information, automate repetitive tasks, enhance inter-team collaboration and communication, and elevate the caliber of decision-making [5]. The utilization of various technological tools, such as project management software, database management systems, human resource management systems, and digital communication tools, can enhance the efficiency and productivity of HR in performing their duties [6].

Moreover, the utilization of information technology has the potential to enhance the learning and development of human resources. The availability of online learning resources, remote training, and e-learning platforms has facilitated HR professionals in enhancing their competencies and expertise without the need to physically depart from their work environment [7]. This enables organizations to enhance and modernize their human resources credentials in accordance with the most recent advancements in the field.

Notwithstanding the numerous advantages presented by information technology, there remain obstacles that require resolution. Several challenges may arise in the adoption of information technology in human resources management. These include inadequate awareness and skills among HR personnel, apprehensions regarding data confidentiality and security, and the need for cultural and organizational adjustments to ensure effective integration of information technology.

Consequently, it is imperative to conduct research on the impact of information technology on enhancing the efficiency and productivity of human resources in the workplace. This will enable a comprehensive understanding of the ramifications of implementing information technology in an organizational setting. The anticipated outcome of this study is to furnish significant perspectives for corporations and human resources experts in enhancing the utilisation of information technology to enhance efficacy and output. Additionally, it aims to recognise pivotal elements that could potentially impact the acceptance and implementation of information technology in the work environment.

**RESEARCH METHOD**

The study did not entail the acquisition of primary data via comprehensive fieldwork. The researchers opted to utilize secondary sources and perform laboratory analyses instead. The investigators consulted diverse sources to carry out the inquiry proficiently. The study employed a methodical approach to retrieve information by conducting comprehensive searches on digital media and scientific databases, utilizing relevant keywords related to the presented topic. The topic at hand pertains to the function of information technology in enhancing human resources efficacy and output within the professional setting. The researchers employed a versatile search methodology, enabling them to retrieve a broader range of both physical and electronic sources in order to acquire the necessary data. The time savings that ensued were advantageous for our organization. The assertions put forth are buttressed by scholarly sources and databases, such as ResearchGate, Elsevier, and Emerald Insight, among others. The primary objective of this study is to investigate the impact of information technology on enhancing human resource efficacy and output within organizational settings. The author utilizes keyword emphasis as a means of constraining the extent of the discussion and guaranteeing coherence in the presented arguments. In order to attain this objective, qualifying terms were employed. The focus of this study primarily revolved around academic literature, including journal articles and essays published subsequent to 2001. During the search process, distinct keywords were employed to explore diverse online databases. It is noteworthy that the present study’s ambit is confined to articles, journals, and publications that are considered pertinent to the topic of the information technology’s function in enhancing the efficiency and productivity of human resources in the workplace. The analysis excluded papers, journals, and magazines that lacked direct relevance to the subject matter. Broadly speaking, the incorporation of 41 cited works within this article provides an extensive and thorough examination of the topic at hand.

![Review process adapted](image)

**Figure 1. Review process adapted**

The present investigation pertains to the domain of qualitative research. During the process of data collection, two methods employed were active listening and comprehensive documentation of all relevant information. The aforementioned methods were employed to ensure a comprehensive investigation, encompassing data reduction, data presentation, and conclusion formulation. The principal aim of this study was to enhance our

---

**Jurnal Teknologi Dan Sistem Informasi Bisnis**

**Vol. 5 No. 3 Juli 2023 Hal. 296-302**

http://jurnal.unidha.ac.id/index.php/jteksis

E-ISSN : 2655-8238

P-ISSN : 2964-2132
comprehension of the scrutinized literature. Systematic organization, classification, and refinement of collected data were necessary during the data reduction phase to obtain valuable insights and significant outcomes. Due to the intricate and diverse nature of the data, analysis was necessary during the reduction process. During this phase, our main focus was to optimize the content by identifying its most significant components in anticipation of the ultimate objective. Initially, a total of 60 distinct resources were collected. The initial methodology generated a numeric variable exhibiting a variance of 41 units. Furthermore, the utilization of visual aids such as graphs and charts will be integrated to facilitate comprehension of the data that is being presented. The subsequent phase of the data reduction procedure entails methodically arranging the data in a structured format to enhance comprehensibility and expedite deduction. Field notes are a form of written communication that is extensively employed for the purpose of conveying information. The utilization of this representation style has the potential to enhance the organization and categorization of data within relational frameworks. During the conclusive phase of an inquiry, researchers derive logical inferences based on the obtainable evidence. The measures mentioned have led to the attainment of a comprehensive methodology for analyzing qualitative data. Following the reduction and presentation of data, a thorough analysis was conducted to ensure alignment with the objectives of the study. The data that has been gathered will undergo analysis to detect patterns, commonalities, and variations that can be leveraged to devise remedies for existing issues. The outcomes derived from these sources are widely considered to be highly reliable. The objective of this undertaking is to accumulate reliable information that can be utilized to enhance comprehension.

**RESULTS AND DISCUSSION**

The significance of Information Technology (IT) in enhancing workplace efficiency and productivity of human resources has emerged as a crucial subject in the contemporary digital era. Within this particular context, the term “IT” pertains to the utilization of computer hardware, software, networks, and information systems in order to facilitate the acquisition, retention, manipulation, and dissemination of data. By implementing sophisticated and seamlessly integrated information technology systems, corporations can enhance the competencies and expertise of their workforce, while simultaneously enhancing operational procedures and overall efficacy [8-27]. Automating routine and repetitive tasks is a significant advantage of information technology (IT) in enhancing efficiency [28]. The advent of intelligent software has facilitated the expeditious and efficient execution of numerous tasks that were previously reliant on human labor and time [29]. The utilization of database management systems can facilitate expedited and precise data processing, thereby diminishing the necessity for executing laborious and possibly fallacious manual tasks.

Furthermore, Information Technology (IT) assumes a significant function in enabling effective communication and fostering collaboration among team members. In a digitally interconnected work setting, personnel can readily exchange information, collaborate, and coordinate their efforts, irrespective of their physical distance. Efficient communication can be facilitated without temporal and spatial constraints through the utilization of collaborative applications, email, chat platforms, and video conferencing tools [30]. This enables entities to optimize their combined capabilities and enhance group efficiency. The implementation of IT can facilitate immediate access to essential resources and information, thereby enhancing effectiveness. Corporate personnel have the ability to efficiently retrieve documents, data, and other resources through the utilization of information systems within the organization. The implementation of a knowledge management system enables employees to swiftly retrieve and retrieve the necessary information in a matter of seconds [31]. Automating information retrieval minimizes the necessity for manual search, optimizes time management, and expedites task completion.

Moreover, Information Technology (IT) facilitates enhanced employee training and development. The availability of diverse e-learning and technology-driven training resources enables employees to conveniently access educational materials and training resources at any time and from any location [32]. This approach mitigates the dependence on face-to-
face instruction, which can be both resource-intensive and expensive. The utilization of technology can facilitate the impartial monitoring and assessment of employee performance, thereby enhancing the provision of constructive feedback and promoting career advancement [33]. Moreover, Information Technology (IT) facilitates comprehensive and sophisticated data analysis. Organizations can conduct data analysis on information system-generated data through the utilization of advanced data analysis techniques and machine learning algorithms [34]. This process facilitates the identification of significant trends, patterns, and insights that can inform more effective and strategic decision-making [35]. By comprehending the available data and information, the human resources department can implement effective measures to enhance the overall performance of the organization.

Moreover, Information Technology (IT) has the potential to enhance performance management in a more efficient manner. IT-enabled performance management systems enable organizations to systematically and objectively monitor and evaluate employee performance [36]. This facilitates precise evaluation of performance, recognition of improvement opportunities, and furnishing comprehensive feedback to staff members. Information technology (IT) plays a crucial role in enhancing human resource management by facilitating the identification of individual strengths and weaknesses, and subsequently providing suitable development opportunities. Moreover, Information Technology (IT) facilitates the attainment of work flexibility and work-life balance [37]. The implementation of a strong information technology framework, including mobile devices, broad network connectivity, and collaborative software, enables employees to perform their duties remotely and at any hour. The provision of flexibility in task execution and facilitation of work-life equilibrium are enabled by this approach. In contemporary times, Information Technology (IT) facilitates the practice of working remotely, adopting flexible work arrangements, and utilizing technological tools to enhance personal efficiency and effectiveness. Information Technology (IT) assumes a crucial function in the management of data and ensuring the security of information [38].

In contemporary work settings characterized by heightened digital interconnectivity, safeguarding confidential data and information is of paramount importance for organizations. Information Technology (IT) offers the requisite tools and technology to ensure the safety of data, enforce security policies, and safeguard the privacy of both employees and the organization at large. By implementing robust security measures and protective protocols, individuals can operate with a sense of assurance, while institutions can uphold the confidence of their clients and preserve their standing.

In general, the significance of Information Technology in enhancing the efficiency and productivity of human resources in the workplace is noteworthy. Information Technology (IT) facilitates the optimization of an organization’s performance and potential by enabling task automation, improved collaboration, efficient information retrieval, effective training, intelligent data analysis, sound performance management, work flexibility, and secure information management. Through strategic utilization of technology, corporations can effectively attain their objectives, enhance operational efficiency, and secure a competitive advantage in a progressively competitive industry [39]. It is crucial to bear in mind that utilizing information technology as a means to enhance the efficiency and productivity of human resources is not the ultimate objective. The success of these IT implementations is contingent upon the human factor as a crucial element.

The utilization of information technology for the enhancement of human resource efficiency and productivity poses certain challenges and requires careful deliberation [40]. One imperative is the necessity to engage employees in the transformations facilitated by emerging technologies. The crucial aspect of technology implementation is the acceptance and adoption by employees. The lack of their support and participation may impede the realization of the anticipated benefits of information technology. Hence, it is imperative to furnish employees with sufficient education, training, and support to enable them to proficiently acquire and utilize technology.

Furthermore, it is imperative to take into account the privacy and security implications associated with the utilization of information technology. The proper handling of employees’ personal information during data collection, storage, and processing necessitates a particular emphasis on adherence to privacy regulations and implementation of appropriate data security protocols. It is recommended that organizations adhere to optimal data protection protocols and enforce stringent access controls to safeguard the confidentiality and integrity of sensitive data. Moreover, the prudent utilization of Information Technology (IT) must be directed towards unambiguous organizational goals. The
identification of areas that require enhancements in efficiency and productivity is crucial for organizations, which should then proceed to choose appropriate IT solutions that align with those requirements [41]. Strategically allocating resources towards pertinent technologies and evaluating their effects on performance are crucial measures in guaranteeing that IT investments yield the anticipated outcomes.

Given the ongoing trend of globalization and digitalization, the function of Information Technology in enhancing the efficacy and output of human resources within organizational settings is expected to undergo further development. Ongoing advancements in the field of information technology, including but not limited to artificial intelligence, sophisticated analytics, and automation of robotics processes, will persist in revealing fresh opportunities for enhancing the efficacy and productivity of human resources.

Nevertheless, it is crucial to bear in mind that these transformations revolve around human beings. The role of technology ought to be perceived as a means of enhancing and fortifying human abilities and competencies, rather than supplanting them. The integration of intelligent technology and distinctive human abilities is crucial in attaining a competitive edge and ensuring sustained prosperity in the contemporary era of digitization.

CONCLUSION

The significance of Information Technology (IT) in enhancing the effectiveness and output of human resources in the workplace is pivotal in the constantly evolving digital age. Information Technology (IT) facilitates the automation of mundane tasks, enhances collaboration, provides expedient access to information, enables efficient training, supports intelligent data analysis, facilitates effective performance management, allows for work flexibility, and ensures robust information security. The utilization of information technology (IT) necessitates a harmonious equilibrium with the acceptance and adoption of employees, safeguarding of privacy and data security, and a concentration on unambiguous business objectives.

Looking at all the above, this research arrives at a suggestion consisting of several important points including:

A. Involve employees: Be sure to involve employees in IT planning and implementation. Provide the necessary education, training, and support so that employees can master and use technology effectively.

B. Pay attention to privacy and security: Prioritise the privacy and security of employee data. Adopt best practices and strict access controls to protect the confidentiality and integrity of sensitive information.

C. Focus on business needs: Identify areas that need efficiency and productivity improvements. Select IT solutions that fit those needs and measure their impact on performance.

D. Use technology wisely: View technology as a support tool, not a replacement for human resources. Ensure collaboration between technology and human capabilities to achieve competitive advantage.

E. Keep up with IT: Stay up-to-date with the latest IT innovations. Continue to explore and utilise the new possibilities offered by smart technology and digital transformation.

Organizations can enhance the effectiveness, output, and overall efficacy of their human resources in the workplace, while also addressing the challenges and opportunities presented by a progressively interconnected business environment, by implementing a people-centric strategy and utilizing information technology prudently.

ACKNOWLEDGMENTS

We would like to thank the team for supporting each other and working together for the completion of this scientific journal.

REFERENCES


Work Behavior and Organizational Commitment
Create Business Performance: A Literature Review,”
Community Development Journal: Jurnal Pengabdian
Masyarakat, vol. 4, no. 1, pp. 713–717, 2023, doi:
10.31004/cdj.v4i1.12479.

Ausat, and S. Suherlan, “Islamic Rural Bank Employee
Performance: Role of Motivation, Compensation, and
Work Environment,” EkBis: Jurnal Ekonomi dan
Bisnis, vol. 6, no. 1, pp. 44–58, Jun. 2022, doi:
10.14421/EkBis.2022.6.1.1551.

Information Systems in Human Resource
Management,” in Management of Information Systems,

Liang, “It’s mine! Psychological ownership of one’s
job explains positive and negative workplace outcomes
of job engagement.,” Journal of Applied Psychology,
vol. 104, no. 2, pp. 229–246, Feb. 2019, doi:
10.1002/apj.30000337.

Capital of Creative Economy: The Role of Intellectual,
Social, Cultural, and Institutional Capital,” Apollo:

on Corporate Financial Performance,” ADMAN:
Journal of Contemporary Administration and
Management, vol. 1, no. 1, pp. 9–12, 2023,

[24] B. E. E. Barera, “Factors Affecting the Achievement of
Company Goals by Maximising Company Profits
through Internal and External Factors,” ADMAN:
Journal of Contemporary Administration and
Management, vol. 1, no. 1, pp. 17–21, 2023,

and H. K. Azzaakiyyah, “Understanding the Meaning
of Well-Being in the Perspective of Psychological
Science: A Literature Review,” Community
Development Journal: Jurnal Pengabdian Masyarakat,
vol. 4, no. 1, pp. 702–707, 2023, doi:
10.31004/cdj.v4i1.12455.

and S. Suherlan, “Improving Customer Service Quality
in MSMEs through the Use of ChatGPT,” Jurnal Minjo
Polgan, vol. 12, no. 2, pp. 622–632, 2023, doi:
10.31004/cdj.v4i1.12479.

[27] P. C. Verhoef et al., “Digital transformation: A
multidisciplinary reflection and research agenda,” J

[28] A. M. A. Ausat, A. Risdiwiyanto, Muh. Arfah, and J.
Jemadi, “Conflict Management Strategies in Work
Teams in the Creative Industry,” Kendali:

[29] R. Kazlaukaite and I. Buciuniene, “The Role of
Human Resources and Their Management in the
Establishment of Sustainable Competitive Advantage,”
Engineering Economics, vol. 5, no. 6078–85, pp. 78–
85, 2008.

[30] L. F. Muhamad, R. Buki, M. T. Febriyantoro,
Kraugsteeliana, and A. M. A. Ausat, “Do Innovative


