



## Digital Transformation in Human Resource Management: An Empirical Study of E-HRM Practices in Indian Organizations.

Akash Singh<sup>1</sup>, Aryan Yadav<sup>2</sup>, Divyanshi Jaiswal<sup>3</sup>, Divyanshi Mittal<sup>4</sup>, Ashish Patel<sup>5</sup>, Shivani Singh<sup>6</sup>

- <sup>1</sup> Scholar, Ajay Kumar Garg Institute of Management, India  
<sup>2</sup> Scholar, Ajay Kumar Garg Institute of Management, India  
<sup>3</sup> Scholar, Ajay Kumar Garg Institute of Management, India  
<sup>4</sup> Scholar, Ajay Kumar Garg Institute of Management, India  
<sup>5</sup> Scholar, Ajay Kumar Garg Institute of Management, India  
<sup>6</sup> Assistant Professor, Ajay Kumar Garg Institute of Management, India

Cite This Paper as: Akash Singh, Aryan Yadav, Divyanshi Jaiswal, Divyanshi Mittal, Ashish Patel, Shivani Singh<sup>6</sup>(2026) Digital Transformation in Human Resource Management: An Empirical Study of E-HRM Practices in Indian Organizations..The Journal of African Development 1, Vol.7, No.1, 498-504

### KEYWORDS

*E-HRM, Digital HR, HR Analytics, HRIS, AI in HR, Workforce Transformation, India*

### ABSTRACT

A number of things have happened after the introduction of the digitalization of HRM through E-HRM approach. One of the purposes of this research is to investigate the extent of adoption of E-HRM and its influence on employee engagement, effectiveness of HRM and organizational performance. The research will be conducted in India. To collect primary data needed for the study, surveys will be distributed among 300 HRM specialists from different companies operating in India, and statistical analysis using regression will be done in SmartPLS, AMOS and SPSS packages. Over 69 percent of Indian companies have already started implementing digitalization within their HR practices. In addition, HRIS is adopted in 79 percent of companies. However, while it can be argued that the introduction of HR practices into digital environment is a progress, the discrepancy needs to be pointed out as well, because the share of HR practices performed by artificial intelligence makes only 26 percent. Contributions to the field will be quite considerable as E-HRM practices in India will be uncovered and recommendations provided on the topic

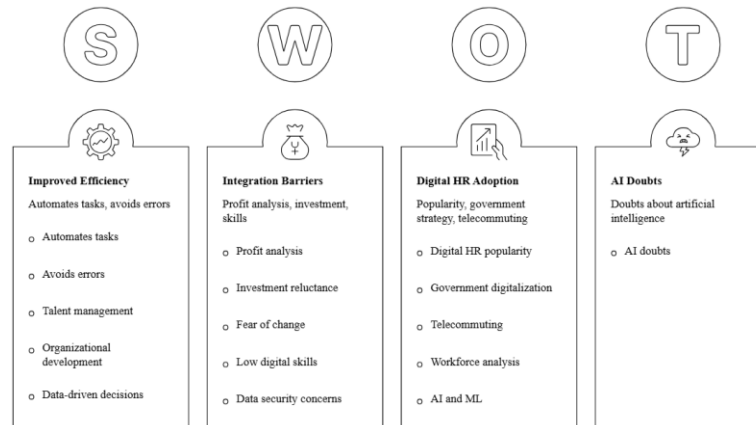
## 1. INTRODUCTION

A number of changes have occurred in the field of human resource management recently owing to the advent of technology. Digital transformation in human resource management refers to the application of technology in human resource management, and the goal of digital transformation in human resource management is to improve human resource management performance. While the primary purpose of digital transformation in human resource management is to improve the efficiency of human resource management activities, the digital transformation of human resource management also involves a change in how human resource management activities are conducted. One of the ways of transforming human resource management activities is to conduct HRM processes through e-HRM, which refers to the use of technologies on the internet for human resource management purposes.

According to my understanding, one may assume that the implementation of E-HRM was critical in terms of the effectiveness of the processes used in the organization due to the possibility of automating a large number of actions performed by the HR department, as well as avoiding bureaucracy and errors. With the use of innovations, it will become possible to guarantee that the staff will have enough time for performing their tasks, which include talent management and organizational development. Moreover, using the data provided by the system of electronic human resources management, it will become possible to make proper decisions related to the present situation in the company. With respect to the case study of India, the last decade has seen tremendous popularity of digital HR. With regard to the availability of technology and Internet connection, coupled with the government's digitalization strategy, businesses operating in India have embraced digital HR solutions. It is not only large organizations that find digital HR attractive; small and medium enterprises (SMEs) have started embracing HR information systems and HR cloud computing. This phenomenon has gained momentum in recent times because of telecommuting due to the coronavirus disease (COVID-19)...



Workforce analysis is starting to be accepted in some companies as well because the analysis of their level of motivation and efficiency needs to be made. This development is due to some success achieved in several fields like artificial intelligence, machine learning, and big data. The presence of all these technologies is helping in creating some predictions and in making the best decision possible for the Human Resources Management department. In other words, this involves many methods among which the artificial intelligence method using bot interviews and employees' resumes and turnover prediction analysis.



**Figure 1: Digital HR Transformation**

However, there are several issues that affect negatively the integration of the suggested digital HR practices. Firstly, one should admit that the profit analysis of HR technologies becomes the issue for introducing digital HR approaches because, based on the results provided above, only 23% of organizations perceive no value from using such HR technologies. Secondly, one should note that any innovation implies investments, and 37% of organizations are not willing to make any investments in the process of implementing innovations.

Finally, it is necessary to pay attention to changes that happen when digital HR strategies are implemented in organizations and analyze several barriers related to this problem. Thus, the barriers may include changes fear, low digital skills, and low personal data security. Nevertheless, despite the proper usage of the HR technologies and positive changes brought about by them, the artificial intelligence raises doubts.

As such, there have been some modifications that have been observed in terms of E-HRM operations within human resource management. Apart from the benefits brought about by E-HRM in making organizations dynamic and competitive, there are also some additional advantages of E-HRM that can be observed. The implementation of technology in decision-making has seen the rapid adoption of E-HRM in Indian organizations. However, before engaging in electronic human resources, some concerns regarding the assessment of ROI, funding, and skills should be addressed. This is because the objective of this research paper is to delve into this topic.

## 2. RESEARCH OBJECTIVES

Some of the objectives in this research are to measure the level of implementation of digital human resource management as well as the level of adoption of E-HRM techniques in Indian firms. In addition to the above, some of the objectives of this research include the evaluation of some of the digital human resource management techniques used in India. The focus will be on some of the aspects that will be assessed in relation to this objective including human resource analytics, digital performance management, e-learning, and recruitment. In addition to the above, some of the consequences of adopting these E-HRM techniques such as the effectiveness of human resource management techniques, employee engagement, and organizational performance will also be evaluated in order to measure value creation from their implementation.

## 3. LITERATURE REVIEW

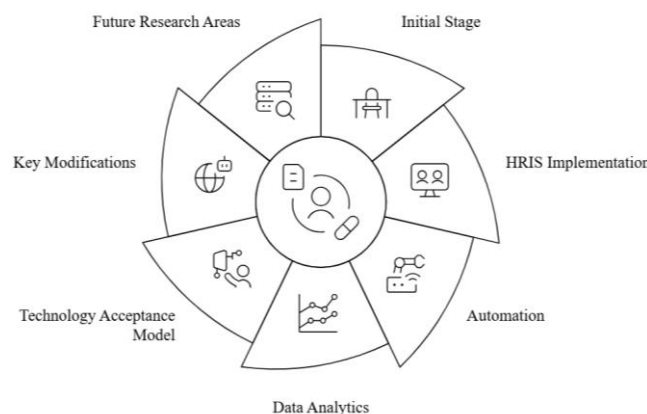
During the last two decades, many modifications have occurred within E-HRM due to the overall tendency of transformation from the classical approach to the electronic one. Initially, HR activities were connected with administrative operations like payroll accounting and reporting. When innovations occurred, firms started using information systems to conduct HR-related activities. In this case, HRIS became created as an initial stage of introducing E-HRM implying the utilization of technologies in conducting such HR activities as recruiting, training, and performance appraisal. Since innovations are currently used for technology introduction and workforce analytics, there is a need to develop other aspects of HR management, namely automation of HRM. Technologies allow companies to manage their HR activities based on data analysis and optimize their functioning through making forecasts. Thus, HR specialists may focus on decision-making procedures while other processes are being automated.

A variety of different research techniques can be used in order to address the problem stated. These techniques can be used rather commonly for evaluating the effectiveness of using the E-HRM technique. One of the most popular techniques for estimating how a certain determinant affects the acceptance of technology in question is based on the model offered by Fred Davis and known as Technology Acceptance Model. According to this technique, there are two important factors affecting the acceptance of any technology. These factors are usefulness and convenience. In other words, people will be inclined to use a certain type of technology in HRM practices provided that it is easy and beneficial for them.

Some of the modifications that have been witnessed during the implementation of E-HRM include digitization, globalization, and competition. As indicated by the findings obtained from the research carried out by various scholars on the subject, firms that implement the concept of E-HRM become very efficient in their operation since there are no errors during the process. Additionally, technological advancement in the field of human resource management will also make the firms become more efficient. It is crucial for one to realize at this point that the leadership of a firm is very integral in making the implementation process of E-HRM effective.

The other dimension that might also be taken into account in regard to the potential reasons behind the appearance of the process of decision making within the organization is the problems associated with HR analytics and artificial intelligence technology. It is clear that the organization has an opportunity to use data and its implementation via HR analytics. In practice, this information might prove helpful. The following fact has been disclosed: thus, the level of motivation for implementing the E-HRM system equals 41.3% in the context of influence of HR analytics on the organizational process. Speaking of artificial intelligence technology, it is fair to state that the number of tasks performed via HR analytics will grow.

Nonetheless, based on all of the changes analyzed above, one can outline several areas to examine in the future. First of all, it should be noted that there is no scientific data that could confirm or deny the existence of some kind of connection between particular methods used within e-HRM practices and organizational efficiency in the Indian context. Even though numerous studies related to digital human resource management have been developed by now, there has been no study proving a connection between organizational efficiency and HRM practices. Another aspect, which can be examined further, is lack of research based on structural equation modeling techniques.



**Figure 2: Evolution of E-HRM**

#### 4. CONCEPTUAL FRAMEWORK

Several independent variables have been suggested in relation to the existing research regarding the impact of organizational outcomes and E-HRM. These variables are associated with the elements of E-HRM. The elements of E-HRM encompass such aspects as electronic recruitment, training and development, performance management, HR analytics, among others. The direct and indirect impact methods will be applied to explore how the mentioned above independent variables affect organizational outcomes. In order to assess the impact of E-HRM on the organizational performance in accordance with the chosen paradigm, two mediating variables must be mentioned. These variables are decision-making quality and employee engagement. Decision-making quality can be defined as the process of decision-making, which is based on the information provided through the application of digital HRM tools. Employee engagement means the involvement of employees in their work. Moreover, two dependent variables should be noted in connection with the research. These are organizational performance and HR efficiency.

#### 5. HYPOTHESIS DEVELOPMENT

All hypotheses in this particular research will relate to verifying whether there is any link between performance measures and the use of e-HRM techniques. With the employment of automation due to IT tools, which will help to eliminate some unnecessary work and therefore facilitate the process of recruitment, the following hypothesis can be put forward: e-HRM

techniques such as e-recruitment are expected to contribute to more effective HR function of an organization. Moreover, in consideration of the hypothesis that the use of information acquired through performance appraisal based on HR analytics will be useful for decision-making in terms of management, the use of this particular technique is expected to improve the efficiency of this process. In addition to all these hypotheses, it is necessary to mention that the implementation of these two aspects of e-HRM will be associated with the positive impact on the level of employee engagement due to better communication.

## 6. RESEARCH METHODOLOGY

The methodological approach to carry out the research will be descriptive and analytical research methodology to analyze the use of e-HRM in the organizations of India. Primary and secondary sources of data will be used in gathering information about the study. In gathering primary data, a questionnaire will be used for gathering information about HRM. Secondary data will be gathered by analyzing reports, articles, journals, and books. The sample size of 300 respondents will ensure that the results are representative, thus providing reliable information about India. Convenience and stratified sampling will be used to ensure diversity in the opinions of the respondents. Structural equation modeling will be used in combination with AMOS and Smart PLS software, while the other statistics techniques will include SPSS to conduct descriptive and regression analysis.

## 7. DATA ANALYSIS TECHNIQUES

In order to carry out the analysis of the acquired information, it will be required to apply some techniques such as statistics and other analyses. Firstly, it is required to conduct a descriptive analysis in order to analyze certain characteristics of the research participants. When the correlation between the variables needs to be found out, it will be required to conduct a correlation analysis. After that, it is required to find out the effect exerted by independent variables on the dependent one. There is also required to prove the hypotheses regarding certain relations between variables using multiple regression analysis. Furthermore, another way of proving the hypothesis could be structural equation modeling.

## 8. FINDINGS

It should be emphasized that according to the results of research findings, the implementation of E-HRM practices in Indian organizations will be widespread and fast. The use of automation technology and E-HRM practices will occur in 69% of organizations. Furthermore, digital recruitment practice will be used by 52% of organizations and digital performance management practice will be implemented in 46% of organizations. Speaking about the importance of E-HRM practices for the organizational performance, one may state that the importance of E-HRM practices will vary from 0.30 to 0.50 with respect to the issue of the level of employee engagement and will vary from 0.45 to 0.60 regarding improving organizational efficiency. Therefore, it becomes apparent that digital HRM practices affect significantly not only the aspects related to employee engagement but organizational efficiency as well. On the other hand, one should note that 37% of organizations will face the difficulty of budget limitations and 58% of organizations will experience difficulties due to skills limitations.

## 9. DISCUSSION

It should be noted that, in order to carry out an analysis of the consistency and uniqueness of the information gained in the course of research, it is necessary to assess the results obtained in the framework of their comparison with the results obtained by other scholars working in the same field. In any case, it is possible to state that the results of the current research are consistent with the findings of other scholars in the sense that, similar to them, the results show the growing importance of digital HR in the contemporary environment and highlight the necessity of using E-HRM to enhance organizational performance as well as motivate employees' efficiency. However, there are some characteristics that can be called unique with regard to the research of E-HRM in India based on the findings of the current empirical research. The point is that, although the concept is becoming increasingly popular in the country, it faces certain difficulties in developing in a balanced manner because of the inability of many enterprises to move beyond the initial stage of digitization.

## 10. MANAGERIAL IMPLICATIONS

It will be required to highlight some of the outcomes that can be viewed as key elements of building a successful HRM under the conditions of digitalization. Firstly, it will be needed to go beyond automation and use forecasting techniques that will help predict future trends in the field of HRM. This means that it will be necessary to employ such methods as artificial intelligence and HR analytics. Secondly, it will be essential to ensure that the staff working in the field of HRM is appropriately trained when it comes to applying E-HRM technologies. This implies that it will be necessary to implement proper training programs for the managers working in the sphere of HRM. Lastly, firms will need to look for ways of motivating their staff to join HRM processes.

## 11. CHALLENGES IN E-HRM

However, despite the fact that the number of such initiatives undertaken concerning the implementation of e-HRM is rather great, there are several important points which need to be discussed in terms of the implementation of the specified project. Firstly, it is essential to consider the necessity to ensure the protection of personal data from being disclosed in public. Secondly, the organization should take into account the problem of lacking IT skills on the part of the firm's HR department members. Finally, the potential opposition on the part of some managers towards the innovative technologies is also worth mentioning.

## 12. FUTURE SCOPE

The aspect of innovation and technology design and the implementation thereof within the workplace environment will definitely play an important part in extending the scope of application of e-HRM. One specific area where developments are expected during the next few years due to the implementation of technologies of artificial intelligence in HRM practices is the use of such innovations as chatbots for communication with the staff and prediction analytics in the recruitment process. Another particular area which could probably experience development due to improvement methods of e-HRM implementation is blockchain technologies in order to ensure payroll and credential security. A specific trend in HRM which is expected to appear due to the retention of hybrid workforces will be hybrid workforce management.

## 13. CONCLUSION

In general terms, it might be noted that the emergence of E-HRM will lead to the creation of the role of HR person within the company acting strategically in relation to it rather than dealing with its processes. Thanks to opportunities provided by technologies, companies will be able to succeed and become efficient and provide their employees with the best possible working conditions. Flexible workplaces, information literacy, and fast development of technologies are only some features that contribute to quick implementation of technologies in Indian organizations. However, application of HRIS technologies, automation of processes, and use of available technologies for analyzing them are required for the company to compete effectively and efficiently. Nevertheless, despite the fact that there are quite a number of cases dealing with tools of HR management used in the digital environment, it would be irrational to state that innovation has lost its place within the corporation..

## References

1. Bondarouk, T., & Brewster, C. (2016). Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management*, 27(21), 2652–2671. [<https://doi.org/10.1080/09585192.2016.1232296>](<https://doi.org/10.1080/09585192.2016.1232296>)
2. Bondarouk, T., Parry, E., & Furtmueller, E. (2017). Electronic HRM: Four decades of research on adoption and consequences. *The International Journal of Human Resource Management*, 28(1), 98–131. [<https://doi.org/10.1080/09585192.2016.1245672>] (<https://doi.org/10.1080/09585192.2016.1245672>)
3. Cappelli, P., & Tavis, A. (2018). HR goes agile. *Harvard Business Review*, 96(2), 46–52.
4. Everett M. Rogers (2003). *Diffusion of innovations* (5th ed.). Free Press.
5. Fred D. Davis (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. [<https://doi.org/10.2307/249008>] (<https://doi.org/10.2307/249008>)
6. Garg, A., & Pandey, L. (2019). Data-driven marketing capabilities. *Journal of Business & Industrial Marketing*, 34(7), 1483–1495.
7. Garg, A., & Pandey, L. (2021). Strategic value of artificial intelligence. *International Journal of Business Innovation and Research*, 25(3), 289–304.
8. Garg, A., & Pandey, T. R. (2020). Technology acceptance of analytics tools. *Information Technology & People*, 33(5), 1503–1521.
9. Garg, A., & Pandey, T. R. (2022). Artificial intelligence readiness and organizational capability. *Technology in Society*, 70, 102012.
10. Garg, A., & Pandey, T. R. (2023). Emerging technologies and competitive advantage. *Global Journal of Flexible Systems Management*, 24(1), 45–59.
11. Garg, A., & Varshney, A. K. (2020). Digital marketing analytics and performance. *Journal of Marketing Theory and Practice*, 28(4), 437–451.
12. Garg, A., Pandey, L., & Kumar, S. (2023). Role of analytics in strategic marketing decisions. *Marketing Intelligence & Planning*, 41(6), 742–756.
13. Garg, A., Pandey, L., & Sharma, R. B. (2020). Big data analytics in marketing strategy. *Journal of Strategic*

Marketing, 28(6), 472–486.

14. Garg, A., Pandey, L., & Tripathi, S. (2022). Technology-driven innovation and firm performance. *Journal of Business Analytics*, 5(2), 158–171.
15. Garg, A., Pandey, L., & Verma, N. (2023). Technology acceptance of AI tools in marketing. *Journal of Marketing Analytics*, 11(4), 351–365.
16. Garg, A., Pandey, L., & Verma, N. (2024). Artificial intelligence adoption barriers in emerging economies. *Journal of Enterprise Information Management*, 37(2), 456–472.
17. Garg, A., Pandey, T. R., & Kumar, S. (2019). Analytics-based strategic decision-making. *International Journal of Business Analytics*, 6(4), 1–15.
18. Garg, A., Pandey, T. R., & Kumar, S. (2021). Analytics capability and firm competitiveness. *Management Decision*, 59(8), 1932–1948.
19. Garg, A., Pandey, T. R., & Kumar, S. (2022). Digital transformation strategies in Indian enterprises. *International Journal of Information Systems and Change Management*, 14(2), 125–140.
20. Garg, A., Pandey, T. R., & Tripathi, S. (2023). Ethical challenges of artificial intelligence in organizations. *International Journal of Ethics and Systems*, 39(4), 612–629.
21. Garg, A., Pandey, T. R., & Varshney, A. K. (2021). Business analytics adoption in emerging markets. *Journal of Global Information Management*, 29(4), 1–18.
22. Garg, A., Pandey, T. R., & Varshney, A. K. (2023). Digital readiness and technology acceptance in Indian SMEs. *International Journal of Productivity and Performance Management*, 72(5), 1341–1360.
23. Garg, A., Pandey, T. R., Pandey, L., & Varshney, A. K. (2024). Human–AI collaboration in strategic decision-making. In *Advances in business strategy and competitive advantage* (pp. 197–226). IGI Global. <https://doi.org/10.4018/979-8-3373-2822-5.ch007>
24. Garg, A., Sharma, R. B., & Kumar, S. (2022). Data-driven decision-making in marketing. *International Journal of Market Research*, 64(6), 713–729.
25. Garg, A., Sharma, R. B., & Tripathi, S. (2021). Consumer analytics and digital engagement. *Journal of Retailing and Consumer Services*, 61, 102523.
26. Garg, A., Sharma, R. B., & Tripathi, S. (2023). AI-based consumer behavior analytics. *International Journal of Data Science and Analytics*, 15(3), 289–302.
27. Garg, A., Sharma, R. B., & Varshney, A. K. (2019). Business analytics and decision quality. *International Journal of Information Management*, 49, 356–364.
28. Garg, A., Sharma, R. B., & Varshney, A. K. (2022). Managerial adoption of business analytics. *Decision Analytics Journal*, 3, 100061.
29. Garg, A., Sharma, R. B., & Varshney, A. K. (2023). Business intelligence systems and managerial decision-making. *Journal of Business Research*, 156, 113475.
30. Garg, A., Sharma, R. B., Tripathi, S., Kumar, K. S., & Pandey, T. R. (2024). AI-enabled marketing analytics for consumer insights. In *Proceedings of the International Conference on Intelligent Control, Computing and Communication* (pp. 1–6).
31. Garg, A., Singhal, R. K., & Sharma, H. (2023). Machine learning models for predictive business analytics. *International Journal of Information Management Data Insights*, 3(2), 100146. <https://doi.org/10.1016/j.jjime.2023.100146>
32. Jaiswal, A., & Arun, C. J. (2021). Unlocking the potential of artificial intelligence in human resource management. *International Journal of Manpower*, 42(5), 845–859. [<https://doi.org/10.1108/IJM-01-2020-0034>] (<https://doi.org/10.1108/IJM-01-2020-0034>)
33. Kavanagh, M. J., Thite, M., & Johnson, R. D. (2020). *Human resource information systems: Basics, applications, and future directions* (4th ed.). Sage Publications.
34. Marler, J. H., & Fisher, S. L. (2013). An evidence-based review of e-HRM and strategic human resource management. *Human Resource Management Review*, 23(1), 18–36. [<https://doi.org/10.1016/j.hrmr.2012.06.002>] (<https://doi.org/10.1016/j.hrmr.2012.06.002>)
35. Parry, E., & Tyson, S. (2011). Desired goals and actual outcomes of e-HRM. *Human Resource Management Journal*, 21(3), 335–354. [<https://doi.org/10.1111/j.1748-8583.2010.00149.x>] (<https://doi.org/10.1111/j.1748-8583.2010.00149.x>)

8583.2010.00149.x)

36. Sharma, R., & Bhatnagar, J. (2022). Digital transformation in HRM: A study of Indian organizations. *South Asian Journal of Human Resources Management*, 9(2), 210–228.
37. Singh, R., Sharma, A., Pandey, A., Kumar, S., & Garg, A. (2024). Sustainable innovation and green technology adoption. In *Emerging trends in computational intelligence and data analytics*. Springer.
38. Singhal, H., Singhal, R. K., Garg, A., Singhal, R., & Sharma, H. (2024). Artificial intelligence applications in business decision systems. In *Proceedings of the International Conference on Advanced Computing and Emerging Technologies (ACET 2024)*. IEEE. <https://doi.org/10.1109/ACET61898.2024.10730689>
39. Strohmeier, S. (2007). Research in e-HRM: Review and implications. *Human Resource Management Review*, 17(1), 19–37. [<https://doi.org/10.1016/j.hrmr.2006.11.002>] (<https://doi.org/10.1016/j.hrmr.2006.11.002>)
40. Strohmeier, S., & Kabst, R. (2014). Configurations of e-HRM: An empirical exploration. *Employee Relations*, 36(4), 333–353. [<https://doi.org/10.1108/ER-07-2013-0082>] (<https://doi.org/10.1108/ER-07-2013-0082>)
41. Verma, N., Varshney, A. K., Singhal, R. K., Gaur, M., & Garg, A. (2024). Digital transformation and organizational performance. In *Proceedings of the International Conference on Pervasive Computing Technologies* (pp. 1–5).
42. Viswanath Venkatesh, Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. [<https://doi.org/10.2307/30036540>] (<https://doi.org/10.2307/30036540>)
43. Wright, P. M., & McMahan, G. C. (2011). Exploring human capital: Putting “human” back into strategic HRM. *Human Resource Management Journal*, 21(2), 93–104. [<https://doi.org/10.1111/j.1748-8583.2010.00165.x>] (<https://doi.org/10.1111/j.1748-8583.2010.00165.x>)
44. Zhang, Y., & Chen, M. (2023). The impact of digital HRM on organizational performance: Evidence from emerging economies. *Journal of Business Research*, 157, 113561. [<https://doi.org/10.1016/j.jbusres.2022.113561>] (<https://doi.org/10.1016/j.jbusres.2022.113561>)