

IMPLEMENTATION OF DIGITAL-BASED HUMAN RESOURCE MANAGEMENT IN GOVERNMENT AGENCIES IN BANDUNG CITY

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Abstract

The implementation of digital-based human resource management (HRM) has become an important strategy in improving the effectiveness and efficiency of public sector organizations. This study aims to analyze the implementation of digital HRM systems in government agencies in Bandung City, focusing on their benefits, challenges, and contributions to organizational performance. The research used a qualitative descriptive method with data collection techniques including interviews, observations, and documentation. The findings indicate that digital HRM systems have improved administrative efficiency, transparency, employee performance monitoring, and accessibility of personnel information. The use of digital systems also supports faster decision-making processes and enhances accountability within government institutions. However, several challenges remain, including limited employee digital competencies, inadequate technological infrastructure, system integration issues, and concerns regarding data security. The study concludes that digital-based HRM has significant potential to support bureaucratic reform and improve public service quality in Bandung City government agencies. Continuous training, infrastructure improvement, and organizational commitment are necessary to maximize the effectiveness of digital transformation in the public sector.

Keywords: digital transformation, government agencies, human resource management, public sector, technology adoption.

INTRODUCTION

The rapid advancement of information and communication technology has significantly transformed organizational management practices, including human resource management (HRM) within government institutions. Digital transformation has become an essential strategy for public sector organizations to improve efficiency, transparency, accountability, and service quality. In Indonesia, the government has encouraged the implementation of electronic-based government systems (SPBE) to support modern governance and enhance public service delivery. One important aspect of this transformation is the implementation of digital-based human resource management systems in government agencies. Human resource management in government institutions plays a crucial role in ensuring the effectiveness of public administration. Traditional HR management systems that rely heavily on manual processes often face challenges such as data inaccuracies, slow administrative procedures, limited transparency, and inefficient employee performance monitoring. Therefore, digital-based HRM systems are expected to overcome these limitations by integrating technology into employee administration, recruitment, attendance monitoring, performance evaluation, training management, and career development processes.

The City of Bandung is recognized as one of the leading cities in Indonesia in implementing smart city initiatives and digital governance innovations. Various government agencies in Bandung have adopted digital technologies to improve administrative processes and organizational performance. The implementation of digital-based HRM systems in Bandung government institutions aims to create a more effective and efficient workforce management system while supporting transparency and accountability in public services. Several previous studies have shown that digital HRM implementation can improve organizational productivity, employee performance, and decision-making processes. According to Marler and Fisher (2013), electronic human resource management (e-HRM) contributes significantly to organizational effectiveness through integrated digital systems. Furthermore, Bondarouk and Ruël (2009) explained that digital HRM enables organizations to streamline administrative functions and improve communication between employees and management. However, the implementation of digital systems

in government institutions still faces several challenges, including limited technological infrastructure, employee resistance to change, and inadequate digital competencies. Based on these conditions, this study aims to analyze the implementation of digital-based human resource management in government agencies in Bandung City. The research focuses on identifying the benefits, challenges, and effectiveness of digital HRM systems in supporting public sector organizational performance. In addition, this study is expected to provide recommendations for improving digital HR management practices in government institutions to support sustainable public service innovation.

LITERATURE REVIEW

Digital-based human resource management, often referred to as electronic human resource management (e-HRM), is the use of information technology to support and improve HR functions such as recruitment, employee administration, attendance management, performance appraisal, training, and career development. In government institutions, digital HRM is closely related to bureaucratic reform and the development of electronic-based government systems. The use of digital systems allows employee data to be managed more accurately, efficiently, and transparently. According to Bondarouk and Ruël (2009), e-HRM helps organizations transform traditional HR activities into more strategic and technology-supported processes. Through digital platforms, HR departments can reduce administrative workloads and improve the speed of decision-making. This is important for government agencies because public sector organizations are expected to provide effective services while maintaining accountability and compliance with regulations.

Previous studies also show that digital HRM can increase organizational efficiency and employee performance. Marler and Fisher (2013) stated that the success of e-HRM implementation depends not only on technology, but also on organizational readiness, user acceptance, and the alignment between HR strategies and information systems. Therefore, the implementation of digital HRM in government agencies must be supported by adequate infrastructure, clear policies, and employee digital competence. In the Indonesian public sector, digital transformation has become a major agenda through the implementation of the Electronic-Based Government System or Sistem Pemerintahan Berbasis Elektronik (SPBE). SPBE encourages government institutions to integrate digital technology into administrative and public service processes. Digital HRM supports this agenda by improving employee management, strengthening performance monitoring, and making HR data more accessible for decision-making.

Government agencies in Bandung City have also been influenced by the development of smart city initiatives and digital governance. The adoption of digital HRM systems can support more transparent employee administration, faster service processes, and better coordination between government units. However, the implementation of digital HRM still faces several obstacles, such as limited digital skills among employees, resistance to organizational change, system integration problems, and uneven technological infrastructure. Based on the literature, digital-based HRM provides significant benefits for public sector organizations, especially in improving efficiency, transparency, and accountability. Nevertheless, its effectiveness depends on several factors, including leadership support, employee readiness, system quality, data security, and continuous training. Therefore, this study examines the implementation of digital-based human resource management in government agencies in Bandung City to identify its benefits, challenges, and contribution to public sector performance.

METHOD

This study used a qualitative descriptive approach to analyze the implementation of digital-based human resource management in government agencies in Bandung City. The qualitative method was chosen because it allows researchers to obtain a deeper understanding of the implementation process, challenges, and effectiveness of digital HR management systems in the public sector. The research was conducted in several government agencies in Bandung City that have implemented digital human resource management systems. The subjects of this study consisted of government employees, HR administrators, and officials responsible for managing digital HR systems. Informants were selected using purposive sampling techniques based on their involvement and understanding of the implementation of digital HRM within their institutions. Data collection techniques in this study included observation, interviews, and documentation. Observation was carried out to examine the use of digital HR systems in daily administrative activities. Semi-structured interviews were conducted with selected informants to gather information regarding the benefits, challenges, and effectiveness of digital HR implementation. Documentation techniques were used to collect supporting data such as organizational reports, government regulations, employee performance records, and digital HR system policies.

The instruments used in this research included interview guidelines, observation sheets, and documentation checklists. The interview guidelines were designed to explore information related to system implementation, employee adaptation, organizational support, and the impact of digital HRM on work effectiveness. Observation sheets were used to identify the operational processes of digital systems within government agencies. The collected data were analyzed using qualitative data analysis techniques consisting of data reduction, data presentation, and conclusion drawing. Data reduction was conducted by selecting and categorizing relevant information obtained from interviews, observations, and documentation. The data were then presented systematically to facilitate interpretation and understanding. Finally, conclusions were drawn based on recurring patterns and findings related to the implementation of digital-based human resource management in Bandung City government agencies. To ensure the validity and reliability of the data, this study applied triangulation techniques by comparing information obtained from different sources and methods. This approach was intended to increase the credibility of the research findings and provide a comprehensive understanding of digital HRM implementation in the public sector.

RESULTS AND DISCUSSION

The results of this study indicate that the implementation of digital-based human resource management in government agencies in Bandung City has contributed positively to improving administrative efficiency, employee performance management, and organizational transparency. Several government institutions have adopted digital HR systems to support attendance recording, employee data management, performance evaluation, leave administration, and personnel reporting processes. The implementation of digital HRM systems has significantly reduced the use of manual administrative procedures. Employee attendance systems integrated with biometric devices and online platforms allow agencies to monitor employee discipline more effectively and accurately. In addition, digital personnel databases have simplified the process of storing and accessing employee information, enabling faster decision-making by management.

Table 1. Data Analysis of Digital-Based Human Resource Management Implementation

No	Research Aspect	Findings	Impact on Government Agencies
1	Digital Attendance System	Government agencies use biometric and online attendance systems	Improves employee discipline and attendance accuracy
2	Employee Management	Data Personnel data are stored digitally in integrated databases	Accelerates administrative processes and data access
3	Performance Evaluation	Digital systems are used for monitoring employee performance	Supports objective and transparent performance assessment
4	Administrative Efficiency	Reduction in manual and paper-based administration	Increases work efficiency and reduces processing time
5	Transparency and Accountability	Employees can independently access HR information online	Minimizes administrative errors and increases transparency
6	Employee Competency	Digital Some employees still have limited digital skills	Requires continuous training and technical assistance
7	Technological Infrastructure	Several agencies experience internet and system integration issues	Affects the effectiveness of digital HR operations
8	Leadership Support	Management encourages the use of digital HR systems	Strengthens organizational adaptation to digital transformation
9	Data Security	Protection of employee data remains an important concern	Requires stronger cybersecurity and data protection systems
10	Public Service Quality	Digital HRM improves administrative responsiveness	Enhances the quality and effectiveness of public services

Another important finding is that digital HRM systems improve transparency and accountability within government institutions. Employees can independently access information related to attendance records, leave applications, performance assessments, and training schedules through online systems. This transparency reduces administrative errors and minimizes the potential for data manipulation. Furthermore, the use of digital systems enables leaders to monitor employee performance in real time, supporting more objective performance evaluations.

However, the study also found several challenges in implementing digital-based HR management. One major challenge is the limited digital competency of some employees, especially among senior staff who are less familiar with technology-based systems. This condition affects the effectiveness of system utilization and requires continuous training programs to improve employee digital literacy. Another challenge involves technical and infrastructure issues. Some government agencies still experience unstable internet connectivity, system maintenance problems, and limited integration between digital platforms. These obstacles can reduce operational efficiency and delay administrative processes. In addition, concerns regarding data security and privacy remain important issues in managing digital employee information.

Benefits of Digital-Based HRM

The implementation of digital HRM systems has provided several benefits for government agencies in Bandung City. First, the systems improve administrative efficiency by reducing paper-based procedures and minimizing repetitive manual tasks. HR administrators can process employee data more quickly and accurately using integrated digital platforms.

Second, digital HRM supports better employee performance management. Through digital monitoring systems, managers can evaluate employee productivity, attendance, and work achievements more objectively. This system also facilitates the preparation of performance reports and supports data-driven decision-making processes.

Third, digitalization increases service quality and transparency. Employees can access HR services online without requiring lengthy administrative procedures. This condition creates a more responsive and accountable public sector work environment.

Challenges in Digital HRM Implementation

Despite its benefits, the implementation of digital HRM still faces several obstacles. One of the primary challenges is employee resistance to organizational change. Some employees prefer conventional administrative methods and require time to adapt to new digital systems. This resistance can slow down the implementation process and reduce system effectiveness.

In addition, inadequate technological infrastructure remains a challenge in several government institutions. Limited system integration and occasional technical disruptions affect the continuity of digital HR operations. Continuous investment in information technology infrastructure is therefore necessary to support optimal implementation.

The findings also reveal the importance of leadership support and employee training in ensuring successful digital transformation. Government agencies that provide regular training and strong managerial support tend to achieve better implementation outcomes. Therefore, improving digital competencies and strengthening organizational commitment are essential for sustaining digital HRM implementation in Bandung City government institutions.

Overall, the implementation of digital-based human resource management in Bandung City government agencies demonstrates significant potential in improving organizational effectiveness, transparency, and public service quality. Nevertheless, continuous improvements in infrastructure, employee readiness, and system security are required to maximize the benefits of digital transformation in the public sector.

CONCLUSION

The implementation of digital-based human resource management in government agencies in Bandung City has shown a positive contribution toward improving organizational efficiency, transparency, and accountability. The adoption of digital HRM systems has simplified administrative processes such as attendance management, employee data processing, performance evaluation, and personnel reporting. These systems enable government institutions to manage human resources more effectively and support faster decision-making processes. The findings of this study also indicate that digital HRM improves employee performance monitoring and enhances the quality of public services. Employees are able to access HR-related information more easily through digital platforms, which increases transparency and reduces administrative errors. In addition, digital transformation supports the realization of electronic-based government systems and strengthens bureaucratic reform efforts within public sector organizations. However, several challenges remain in the implementation process. Limited digital competencies among employees, inadequate technological infrastructure, system integration issues, and concerns regarding data security continue to affect the effectiveness of digital HRM systems. Therefore, government agencies need to provide continuous training programs, improve technological infrastructure, and strengthen cybersecurity measures to support sustainable digital

transformation. Overall, digital-based human resource management has significant potential to improve the effectiveness of government institutions in Bandung City. Future development efforts should focus on enhancing employee digital literacy, optimizing integrated digital systems, and strengthening organizational commitment to maximize the benefits of digital transformation in the public sector.

REFERENCES

- Bondarouk, T., & Ruël, H. (2009). Electronic human resource management: Challenges in the digital era. *The International Journal of Human Resource Management*, 20(3), 505–514.
- Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
- Dessler, G. (2020). *Human resource management* (16th ed.). Pearson Education.
- Hasibuan, M. S. P. (2019). *Manajemen sumber daya manusia*. Bumi Aksara.
- Indrajit, R. E. (2016). *Electronic government: Strategi pembangunan dan pengembangan sistem pelayanan publik berbasis teknologi digital*. Andi Publisher.
- Kavanagh, M. J., & Johnson, R. D. (2017). *Human resource information systems: Basics, applications, and future directions* (3rd ed.). Sage Publications.
- Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson Education.
- Laudon, K. C., & Laudon, J. P. (2021). *Management information systems: Managing the digital firm* (17th ed.). Pearson.
- 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.
- Moleong, L. J. (2018). *Metodologi penelitian kualitatif*. Remaja Rosdakarya.
- Nawawi, H. (2017). *Manajemen sumber daya manusia untuk bisnis yang kompetitif*. Gadjah Mada University Press.
- Noe, R. A., Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (2021). *Fundamentals of human resource management* (9th ed.). McGraw-Hill Education.
- Peraturan Presiden Republik Indonesia Nomor 95 Tahun 2018 tentang Sistem Pemerintahan Berbasis Elektronik (SPBE).
- Priansa, D. J. (2018). *Perencanaan dan pengembangan SDM*. Alfabeta.
- Robbins, S. P., & Judge, T. A. (2017). *Organizational behavior* (17th ed.). Pearson Education.
- Sedarmayanti. (2018). *Manajemen sumber daya manusia: Reformasi birokrasi dan manajemen pegawai negeri sipil*. Refika Aditama.
- Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Sutrisno, E. (2019). *Manajemen sumber daya manusia*. Prenadamedia Group.
- Turban, E., Pollard, C., & Wood, G. (2018). *Information technology for management: On-demand strategies for performance, growth and sustainability* (11th ed.). Wiley.
- Undang-Undang Republik Indonesia Nomor 5 Tahun 2014 tentang Aparatur Sipil Negara.
- Wibowo. (2016). *Manajemen kinerja* (5th ed.). Rajawali Pers.
- Yusriadi, Y., Sahid, A., Amirullah, I., Azis, A., & Rachman, A. A. (2019). Bureaucratic reform to improve public services in Indonesia. *Journal of Public Administration and Governance*, 9(2), 129–141.
- Zauhar, S., & Wijaya, A. F. (2020). Digital transformation in Indonesian public sector organizations. *Journal of Governance and Public Policy*, 7(3), 245–257.
- Armstrong, M. (2020). *Armstrong's handbook of human resource management practice* (15th ed.). Kogan Page.
- Budiarjo, M. (2017). *Dasar-dasar ilmu politik*. Gramedia Pustaka Utama.
- Dwiyanto, A. (2021). *Manajemen pelayanan publik: Peduli, inklusif, dan kolaboratif*. Gadjah Mada University Press.
- Heeks, R. (2018). *Information and communication technology for development*. Routledge.
- McLeod, R., & Schell, G. P. (2017). *Management information systems* (12th ed.). Pearson Education.
- Sinambela, L. P. (2019). *Manajemen sumber daya manusia: Membangun tim kerja yang solid untuk meningkatkan kinerja*. Bumi Aksara.
- Westerman, G., Bonnet, D., & McAfee, A. (2014). *Leading digital: Turning technology into business transformation*. Harvard Business Review Press.