# Technology-Driven HRM and Competencies: Insights from Indonesian Rural Banks

IDA AYU PUTU WIDANI SUGIANINGRAT[1,*], NI KADEK SURYANI[2],
MADE ERMAWAN YOGA ANTARA[3], CARLA ALEXANDRA DE JESUS DA COSTA[4]
[1]Universitas Hindu Indonesia,
INDONESIA

[2]Institut Desain dan Bisnis Bali,
INDONESIA

[3]Universitas Pendidikan Nasional,
INDONESIA

[4]Dilli Institute of Technology,
Timor-Leste,
EAST TIMOR

**Corresponding Author*

*Abstract:* - Digital transformation has brought significant changes in HRM, one of which is through the implementation of Electronic Human Resource Management (E-HRM). This investigation is conducted to evaluate the influence of technology, motivation, and employee competency on the organizational performance of Rural Banks (BPR) in Bali. Using a quantitative survey-based approach, the entire population of 131 BPRs was sampled using a saturated sampling method. A 5-points Likert scale questionnaire served as the primary instrument for data collection, and the gathered responses were examined through Structural Equation Modeling with the Partial Least Squares (SEM-PLS) technique. The results show that technology has a significant and positive impact on employee competency and organizational performance. Motivation was also proved to contribute positively and meaningfully to enhancing employee competence as well as organizational performance. Furthermore, employee competency has a significant positive effect on organizational performance. These findings confirm that E-HRM is not merely an administrative tool, but rather an important strategy in developing employee competency and driving organizational performance. Effective E-HRM implementation requires organizational support in the form of continuous training and integrated knowledge management. This study provides a practical contribution to BPRs in encountering intensifying competitive pressures in the financial industry by utilizing digital technology to create sustainable competitive advantage.

*Key-Words:* - E-HRM, employee competency, motivation, technology, modern business performance, rural banks.

Received: February 17, 2026. Revised: April 25, 2026. Accepted: June 28, 2026. Published: November 9, 2026.

## 1 Introduction

Rural Banks (BPR) hold a vital position within the Indonesian economy, particularly in facilitating financial support for Micro, Small, and Medium Enterprises (MSMEs). Digital transformation is essential for business operations, not only involving the adoption of new tools and systems but also influencing existing organizational culture and practices. As technology usage increases, it is crucial for BPRs to have competent and motivated human resources to maximize the potential of technology to improve organizational performance, [1], [2].

Technology has become a key driver in various aspects of life, including HRM. Among the most notable innovations is the integration of technology in the implementation of Electronic Human Resource Management (E-HRM) systems, which enable high-performance organizations to manage HR processes more efficiently and effectively. E-HRM not only facilitates the automation of

administrative tasks but also enhances interaction between employees and management and supports employee competency development through technology-based training and development. Thus, the use of E-HRM possesses the capability to enhance employee competency and, in turn, impact overall organizational performance.

Progress in the realm of communication technology and information has significantly transformed the workplace landscape in recent decades. Modern enterprises struggle to ensure that their employees possess the ability to respond and adapt to technological shifts effectively but also leverage them to increase productivity and innovation. E-HRM offers solutions to address this challenge through various technology-based information systems. One of the most tangible impacts of this digital revolution is the transformation of E-HRM implementation. E-HRM is a strategic approach to managing human resources that utilizes information technology and web-based systems. In the context of modern organizations, E-HRM has become an integral tool for improving company efficiency, effectiveness, and competitiveness.

As a strategic instrument, E-HRM enables organizations to make informed, data-driven decisions. The application of data analytics allows them to pinpoint specific training requirements, monitor performance, and plan employee career development more effectively, [3]. This demonstrates that E-HRM focuses not only on administrative management but also on the continuous development of employee competencies to improve organizational efficiency.

The development of information and communication technology has transformed the way organizations operate, including in HR management practices. E-HRM, as a form of digitalization in HR management, offers various benefits, such as reduced operational costs, increased data accuracy, and better information accessibility. According to [4], information-based technology plays an essential role in HR management, especially in the context of digitalization, where many organizations must adapt rapidly to technological changes. Furthermore, research by [5] shows that use of algorithms in HRM practices is increasing, leading to more data-driven decision-making. This creates new challenges and opportunities in HR management, where employee competency development must be aligned with evolving technological demands. [6] asserts that human-machine interaction in the context of E-HRM can dynamically enhance the value of HR management, demonstrating the importance of adapting employee competencies in the digital era. Furthermore, [7] emphasizes that E-HRM can help organizations create sustainable value through innovation and organizational agility. By utilizing e-HRM, organizations can motivate employees to participate in sustainability practices, which are increasingly important in today's business context. Research by [8] also shows how organizations adopt and incorporate e-HRM solutions into their human resource operations is influenced by factors such as employee trust and satisfaction, which contribute to overall organizational performance.

Although research in recent years has demonstrated that information technology despite the strong impact of E-HRM on the processes and practices of HR management, few empirical investigations have analyzed the extent to which technology-enabled systems support organizational success through HR competencies, [9]. Empirical research is also limited, linking these three elements and their impact on overall organizational performance. [10] examined influence of motivation on employee performance. [11] and [12] focused on employee motivation. However, these studies did not explore how e-HRM can facilitate employee motivation in the context of evolving technology that impacts organizational performance.

On the one hand, many businesses still struggle to fully adopt technology, including the banking sector, particularly Rural Credit Banks (BPR) in Indonesia. BPRs, as institutions serving the financing needs of communities in rural areas, still largely use manual systems for their daily operations, leading to inefficiencies and difficulties in data processing and customer service. In their research, [13] demonstrated that integration of information technology with technologically enhanced accounting solutions in BPRs can improve employee performance.

Through digital and integrated systems, BPRs can provide faster and more accurate services, helping to increase customer satisfaction and strengthen customer loyalty, [14], [15]. This requires employee competence and motivation to operate a technology-based business. [16] stated that technological advancements require greater user competence to achieve effective information systems. This presents another challenge for BPRs facing competition with other financial institutions, including fintech companies that offer fast and accessible solutions. The emergence of technology-based financial services has transformed the banking industry landscape, requiring rural banks (BPRs) to innovate and improve their services [17], making

HR competency a crucial challenge. The ever-evolving technological landscape requires employees to possess adequate skills in using e-HRM software and other information technologies. However, many employees do not receive adequate training to prepare them to adapt to these changes.

Based on research limitations and the challenges faced by rural banks (BPRs) in the field, additional studies are required to explore the mechanisms through which E-HRM can serve as a bridge between technology and business performance, given the importance of technology adaptation for current business performance, [18]. Therefore, this study examines how technological tools, specifically e-HRM and employee motivation, on employee competency in improving the performance of modern organizations. By investigating technological applications, the research aims to reveal insights into their potential for developing workforce competencies and driving organizational performance in a digital environment.

## 2 Literature Review and Hypotheses

Today, every business must understand how technology, particularly e-HRM, impacts employee competency and organizational performance in the digital age. As technology adoption in the workplace increases, demands on employee skills and knowledge are also changing. E-HRM technology, applied in Human Resource Information Systems (HRIS), has become an integral part of HRM in modern organizations. E-HRM can be defined as the strategic use of IT tools to manage HR processes efficiently while ensuring effective outcomes. According to [19], the implementation of e-HRM enables organizations to automate HR processes, increase information accessibility, and facilitate better communication between management and employees. This digital transformation not only improves operational efficiency but also has potential enhance employee engagement and overall organizational performance.

One of the key advantages of E-HRM lies in its ability to improve workforce planning efficiency and effectiveness, facilitated by HRIS functions such as Workforce Needs, Supply Analysis, Skills Inventory, Succession Planning, and Training Needs Analysis [19], In addition, it handles information on employee training, misconduct, payroll, business acquisitions, and performance evaluations, which can be leveraged for informed decision-making and the development of innovative HR practices, [20].

According to [21] HR assumes a critical position in organizational success amid the fast-paced digital transformation era, especially regarding Business Information Systems. Organizations are required to integrate and capitalize on advanced information technologies to sustain their competitive edge. Effective management of these changes relies on strategic HRD, which entails planning, cultivating, and executing strategies to develop HR competencies suitable for navigating digital transformation.

Employee competency is defined as the combination of, skills, knowledge and attitudes required to carry out job duties and responsibilities, [22]. This competency is crucial for improving individual and organizational performance. Research by [23] shows that high competency contributes to increased productivity and organizational effectiveness. In the context of e-HRM, technology can be used to identify and develop the competencies needed by employees, enabling them to respond effectively to the dynamic and rapidly evolving business landscape. Furthermore, research by [24] shows that competency can be influenced by the training provided by the organization. By utilizing e-HRM, organizations can design more targeted training programs tailored to employee competency needs, thereby increasing the effectiveness of training and development.

Motivation is a psychological process that inspires individuals to act or behave toward achieving specific goals. In an organizational context, employee motivation plays a essential role in improving performance and productivity. According to Maslow's theory of needs, individuals are motivated to fulfill their basic needs before striving to fulfill higher-level needs, such as esteem and self-actualization. This suggests a close relationship between motivation levels and individual performance within an organization. Technology integration in HRM functions can facilitate employee competency development through online training and easier access to information to motivate them. The application of technology in customer service has been shown to motivate employees and increase customer loyalty, indicating better performance quality, [25].

Modern business performance is heavily influenced by an organization's ability to adapt to technological changes and market demands. The strategic use of E-HRM plays an essential role in boosting organizational performance outcomes by providing the resources and tools necessary to manage employees more effectively. According to [26], implementing e-HRM can improve employee effectiveness, which in turn contributes to the

organization's overall performance. Furthermore, research by [27] shows that organizational performance benefits significantly from the effective implementation of E-HRM practices, with organizational agility acting as a mediator in this relationship. This suggests that organizations that adopt e-HRM not only improve operational efficiency but are also able to adapt quickly to developments and modifications in organizational and market settings.

The relationship between technology, competencies, and business performance can be understood through the lens of e-HRM. E-HRM not only improves efficiency in HR management but also contributes to the development of employee competencies necessary for optimal business performance. Research [3] emphasizes HRM technology has been shown to optimize the efficiency and effectiveness of HR operations, thereby contributing positively to organizational performance. Technology integration in e-HRM serves as an enabler that supports employee competency development and improves business performance. Organizations that effectively utilize e-HRM will have a competitive advantage in addressing the complexities and possibilities inherent in today's dynamic market.

## The Influence of Technology on Employee Competencies

The relationship between technology and improving employee competencies has been widely found to be significant, [28]. For businesses undergoing digital transformation, the HR development strategy is a critical and irreplaceable factor. Organizations are advised to implement HR programs that target digital innovation while promoting a culture supportive of competency changes, [29]. Although technology integration in HR processes boosts efficiency and productivity, it also creates challenges in safeguarding employee privacy, protecting data, and adapting to new work dynamics, [30]. This digital transformation not only improves operational efficiency but also significantly increases employee engagement and overall organizational performance, [31].

H1: Technology has a positive and significant effect on competencies.

## The Influence of Technology on Business Performance

[32] and [33] in their research found a significantlu influence of technology on organizational performance by increasing the efficiency and effectiveness of talent management processes. Utilizing technology to streamline recruitment and selection procedures, develop employee competencies, enhance engagement, and manage workforce data provides numerous benefits for organizational efficiency and performance. [27] also demonstrated that the implementation of e-HRM contributes significantly to organizational performance outcomes. [34] in their research noted that analyzing and calculating the underlying conditions behind each MSME and start-up's development and utilization of technology impacts business opportunities and business development. The study results of [35] offer proof that mastery of information technology among employees yields substantial benefits for organizations focused on profitability. Moreover, the present business environment is characterized by rapid technological disruption and increasing dynamism.

H2: Technology has a positive and significant impact on business performance

## The Influence of Motivation on Employee Competencies

[36] in their research found a significant influence between competence and motivation on employee performance. Similar findings also found that motivation plays a significantly role in influencing performance of government employees in Indonesia. These findings emphasize that strong motivation can improve employee competence and performance, [37]. Research by [38], researchers at the Pematang Siantar Tax Office (KPP Pratama) analyzed the combined influence of e-learning implementation, motivational factors, and work discipline on employees' competency development, found that motivation contributed significantly to improving employee competence, having the highest influence of the three variables studied. Findings by [10] indicate that high motivation is positively related to employee competence, which in turn improves their performance. [39] also supports the argument that motivation is a key factor in developing employee competence; high motivation can strengthen the relationship between compensation and performance.

H3: Motivation has a positive and significant effect on employee competencies

### The Influence of Motivation on Business Performance

Research by [40] shows that work motivation plays a crucial role in improving employee performance, which directly impacts the company's business performance. [41] who conducted research in different hospital sectors, produced similar results: motivation improves employee performance, significantly contributing to overall hospital business performance. [2] found that leadership style, organizational culture, and work motivation have a direct effect on employee job satisfaction and performance. This research demonstrates that high work motivation can improve employee performance, which contributes to organizational performance. [42], who conducted research at community health centers, demonstrated that motivation influences employee performance, which in turn impacts the performance of community health services.

H4: Motivation has a positive and significant effect on business performance

### Employee Competencies' Effect on Business Performance

A study by [43] found that employee competency has a positive impact on employee performance at an electronics company in the Bekasi industrial area. This study confirms that higher employee competency leads to better work results, which positively impacts the company's overall business performance. [44] found that high employee engagement, influenced by employee competency, has a positive impact on business performance in the education sector. [45] found in their study that employee competency impacts business performance through competitive advantage. This study's outcomes demonstrate increasing employee competency significantly improves business performance by creating competitive advantage. [46], [47], [48] found in their studies that high employee competency can improve overall business performance.

H5: Competencies have a positive and significant effect on business performance.

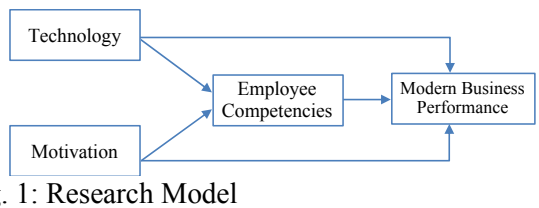



Fig. 1: Research Model
*Source: created by the authors*

As shown in Figure 1, the conceptual framework of this research illustrates that technology and motivation influence modern business performance, where competence acts as an intermediary.

## 3 Research Methods

This research is a quantitative study using a survey approach. It aims to analyze the influence of technology utilization, employee competency, and motivation on organizational performance at rural banks (BPR) in Bali. This method was chosen to understand the relationships between variables more deeply and to explore the factors contributing to BPR performance.

The research location was all Rural Banks (BPR) operating in Bali. The population was 131 BPRs (Financial Services Authority/OJK data, 2024). Sampling was conducted using saturation sampling, with the entire population being sampled. This technique involves collecting data from all members of the population, ensuring full population coverage, [49]. Respondents were the leaders and president directors of BPRs in Bali. These leaders were chosen because they are decision-makers with a deeper understanding of policy direction, organizational performance, technology utilization, and employee competency in their respective units.

This research instrument is designed as a questionnaire that measures four main variables: technology, motivation, competence, and business performance. It comprises 13 items adapted from previous studies, including, [50], [51], [52], and [53], which have been adapted to the BPR context. A structured questionnaire utilizing a five-point Likert scale was used to obtain the research data. The questionnaire items shown in Table 1 in Appendix. The questionnaire was distributed online using a survey platform to ensure accessibility and efficiency in data collection. Structural Equation Modeling (SEM) using Partial Least Squares (PLS) was utilized to examine the data. This method was chosen because of its ability to analyze complex relationships between variables and identify direct and indirect influences between variables in the research model, [54].

This study uses the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with an estimation procedure that includes two main stages, namely the evaluation of the measurement model (outer model) through convergent validity, discriminant validity, and construct reliability tests, and the evaluation of the structural model (inner model) through testing the coefficient of

determination $R^2$, predictive relevance $Q^2$, Goodness of Fit (GoF), and path coefficients, the significance of which is tested using bootstrapping techniques. PLS-SEM was chosen because it has more flexible assumptions than covariance-based SEM, such as not requiring multivariate normal data distribution, can be used on relatively small sample sizes, and is more suitable for predictive and exploratory research, thus in accordance with the objectives of this study in examining the relationship between variables and their influence on modern business performance.

# 4 Results and Discussion

## 4.1 Outer Model Evaluation

All indicators in this study were found to meet the validity criteria based on the convergent validity evaluation, as seen from the outer loading values > 0.7 [50], t-statistic values > t-table 1.96 and p-values < 0.05 (Table 2 in Appendix). The discriminant validity test resulted in all variables being declared valid because the square root of the AVE value > correlation between latent constructs, this criterion is called the Fornell-Larcker criterion (Table 3 in Appendix). The AVE value of all variables has also met the validity requirements, namely >0.5 (Table 4 in Appendix). Meanwhile, since both the composite reliability and Cronbach's Alpha > 0.7, it can be inferred that every variable in this study demonstrates a strong level of reliability (Table 4 in Appendix).

## 4.2 Inner Model Evaluation

The research model was examined through three criteria: $R^2$ to measure explanatory power, $Q^2$ to evaluate predictive relevance, and GoF for overall model adequacy. Based on Table 5 in Appendix, the competencies determination coefficient is 0.493, meaning 49.3% of the competencies variable is influenced by technology and motivation, leaving 50.7% of the variance explained by variables beyond the scope of the model. Similarly, the business performance determination coefficient $R^2$ of 0.386 (38.6%) is influenced by technology, motivation, and competencies, the other 61.4% is influenced by factors beyond the scope of the current model.

The $Q^2$ calculation results show a value of 0.728, indicating the research model has a high predictive level as the value is getting closer to one. The GoF calculation results show a value of 0.530, indicating that the research model is robust as the value is getting closer to one. The $Q^2$ results indicating that the research model has a high predictive relevance, as values closer to one reflect stronger predictive capability; this also suggests that the model is able to explain and predict the observed data well. Furthermore, the GoF result indicates that the model has a strong overall fit, as values above 0.36 are generally considered large, implying that the combination of measurement and structural models demonstrates good explanatory power and model adequacy. Since the outer and inner model tests have met the requirements, we can proceed to hypothesis testing stage.

Equation (1) shows the calculation of the $Q^2$ (predictive relevance) value used to evaluate the predictive ability of this research model by measuring the $R^2$ value of each endogenous variable. Equation (2) shows the calculation of Goodness of Fit (GoF) used to assess the suitability of the model based on the average $R^2$ value and the average value of Average Variance Extracted.

$$Q^2=1-\left(1-R2_1\right)\left(1-R2_2\right) \quad (1)$$

$$GoF=\sqrt{\text{average } R^2 \times \text{average AVE}} \quad (2)$$

## 4.3 Hypothesis Testing

As shown in Figure 2 in the Appendix, the results of the SEM-PLS analysis (both algorithm and bootstrap) show the strength of the relationship between variables and the significance of their influence in the research model. Results displayed in Figure 2 and Table 6 in Appendix confirm that Technology contributes positive and significantly to the development of employee competencies (coefficient 0.296, t-statistic 4.750>t-table 1.96, p-value 0.000<0.05) and business performance (coefficient 0.306, t-statistic 3.659>t-table 1.96, p-value 0.000<0.05), which means H1 and H2 are accepted. Motivation contributes positively and significantly on employee competencies (coefficient 0.516, t-statistic 6.750>t-table 1.96, p-value 0.000<0.05) and business performance (coefficient 0.277, t-statistic 3.764>t-table 1.96, p-value 0.000<0.05), which means H3 & H4 are accepted. And lastly, employee competency has a positive and significant impact on business performance (coefficient 0.162, t-statistic 2.376>t-table 1.96, p-value 0.018<0.05), which means H5 is accepted.

## 4.4 Discussion

The research results show that technology has a positive and significant impact on employee

competency. This finding by [24] and [55], which confirmed that the use of e-HRM can improve competency through technology-based training. The use of digital systems facilitates employee acquisition of new skills, accelerates the learning process, and enhances their ability to perform their duties. Thus, technology serves not only as an administrative tool but also as a learning medium that directly contributes to competency improvement.

In the context of rural banks (BPR), the implementation of e-HRM enables more systematic, transparent, and efficient human resource management. This impacts employee competency, particularly in the face of developments in digital financial technology, [56]. Employees can access information and training more quickly, ensuring their skills remain relevant to the needs of the banking industry. This means that technology plays a crucial role as a catalyst in improving the competency of BPR HR in the digital era.

This study also found that technology has a significant and positive impact on business performance. These results align with [57] and [58], which emphasized that the application of information technology boosts work effectiveness and demands improved digital skills. In rural banks (BPR), the use of e-HRM has been proven to increase operational efficiency, improve service quality, and accelerate data-driven decision-making. Thus, technology makes a significant contribution to improving business performance, [11].

Furthermore, the use of e-HRM enables BPRs to respond more quickly to market needs, maintain customer satisfaction, and strengthen competitiveness amidst the rapid development of fintech, [59]. The application of technology in HRM also results in reduced operational costs and increased productivity. Therefore, the results of this study confirm that e-HRM functions not only as an administrative support system but also as a strategic factor in improving BPR business performance, [60].

Analysis reveals that employee motivation positively and significantly affects competence, which corroborates previous studies conducted by [10] and [38], which shows that high work motivation can drive improvements in employee skills and knowledge. Motivation is a key driving factor that encourages employees to adapt to change, participate in training, and develop competencies relevant to organizational demands.

BPR employee motivation can grow from career development opportunities, rewards, and a supportive work environment. High motivation encourages employees to utilize technology, improve their skills, and deliver their best performance, [61]. This means that motivation not only strengthens individual competencies but also serves as a crucial foundation for creating high-quality human resources that are adaptive to digital developments, [62].

Research findings also demonstrate that motivation has a positive and significant impact on business performance. These results support research by [2] and [37], which confirm that high motivation can improve individual performance, directly affecting organizational performance, motivated employees are more likely to be productive, creative, and fully committed to meeting the organization's objectives, [63].

Motivation is a crucial asset for facing the challenges of competition with technology-based financial institutions such as fintech, [64]. Strong motivation drives employees to provide quality service, strengthen customer loyalty, and increase organizational competitiveness, [65]. Thus, motivation not only impacts beyond affecting employees individually, it serves as a key driver for improving rural banks' overall performance, [66].

This study also found that employee competence has a significant and positive impact on business performance. These results align with research by [44] and [45], which confirm that high competence can create competitive advantage and improve organizational performance, [67]. Employees with strong competence are able to carry out their duties effectively, provide appropriate solutions, and increase customer satisfaction.

In the context of BPR, employee competency plays a crucial role in maintaining service quality, operational effectiveness, and business sustainability. High competency makes employees more adaptable to developments in financial technology, thereby providing added value to the organization, [68]. Therefore, this study emphasizes the importance of competency development as a key strategy for improving BPR business performance, [69].

This study offers an original contribution by integrating technology (e-HRM), motivation, and employee competency within a single empirical model to explain business performance in the context of rural banks (BPR), which remains relatively underexplored in the existing literature. Furthermore, this research enriches the human resource management and digital transformation discourse by providing empirical evidence from the BPR sector in Indonesia, particularly in rapid fintech development.

In addition, this study presents a novel empirical perspective by positioning employee competency as a mediating mechanism linking technology and motivation to business performance, thereby extending prior studies that have mostly examined these relationships in isolation. It is also important to emphasize that the analysis and findings presented in this paper have not been published previously and are not under consideration for publication elsewhere, ensuring the authenticity and originality of this work.

## 5 Conclusion

This study demonstrates that technology and motivation have a significant and positive impact on employee competency and the business performance of rural banks (BPRs). Furthermore, employee competency has also been shown to positively contribute to improved business performance. These findings emphasize that the implementation of e-HRM is not merely an administrative system, but rather an HR development strategy capable of increasing motivation, strengthening competency, and ultimately driving organizational performance. Therefore, the success of rural banks in facing digital challenges depends heavily on technology integration, motivation management, and employee competency development.

Rural banks need to strengthen their comprehensive e-HRM implementation by optimizing digital training features, performance monitoring, and reward systems to enhance employee motivation and competency. Furthermore, a management strategy focused on HR development through continuous training, increasing digital literacy, and creating a work culture that adapts to technological change is needed.

The limitation of this study lies in the fact that respondents were exclusively from rural banks, so the results cannot necessarily be generalized to all types of financial institutions. The variables in this study are still limited to technology, motivation, and competency. Therefore, future research could include other variables such as organizational culture, leadership style, and organizational support to provide a more comprehensive understanding of the factors influencing organizational performance.

The results of this study support modern human resource management theory, which emphasizes the importance of technology and motivation as drivers of increased competence and organizational performance. For BPR management, this study illustrates that investment in e-HRM and employee motivation strategies can be strategic factors for increasing competitiveness. E-HRM should not only be used for administrative purposes, but also as a strategic tool in developing employee competence and improving business performance.

*Acknowledgement:*
The authors would like to express sincere gratitude to all parties who have provided support, assistance, and valuable contributions to the completion of this research.

**Declaration of Generative AI and AI-assisted Technologies in the Writing Process**

During the preparation of this work, the author(s) utilized artificial intelligence (AI) technologies solely for the purpose of linguistic refinement and grammatical correction. Following the application of these tools, the author(s) comprehensively reviewed, verified, and edited the resulting text. The author(s) maintain full accountability and responsibility for the accuracy, integrity, and final content of the publication.

*References:*

[1] B. S. Nugroho, A. S. Arief, F. Y. Dharta, K. Suryani, and S. Utomo, "Model corporate social responsibility dalam penanganan komunikasi krisis selama pandemi covid-19 di Indonesia," *Jurnal Komunikasi Profesional*, vol. 6, no. 2, pp. 129–138, 2022.

[2] Nurlina, N., Situmorang, J., Akob, M., Quilim, C. A., & Arfah, A. (2020). Influence of e-HRM and human resources service quality on employee performance. *The Journal of Asian Finance, Economics and Business*, 7(10), 391-399. https://doi.org/10.13106/jafeb.2020.vol7.no10.391.

[3] Kisahwan, D., Priatna, D. K., Roswinna, W., Winarno, A., & Hermana, D. (2025). E-HRM framework for sustainable performance in higher education. *Sustainable Futures*, 10, 101347. https://doi.org/10.1016/j.sftr.2025.101347.

[4] S. Vahdat, "The role of IT-based technologies on the management of human resources in the COVID-19 era," *Kybernetes*, vol. 51, no. 6, pp. 2065–2088, 2022.

[5] C. E. Connelly, C. Fieseler, M. Černe, S. R. Giessner, and S. I. Wong, "Working in the digitized economy: HRM theory & practice," *Human Resource Management Review*, vol. 31, no. 1, p. 100762, 2021.

[6] Y. Zhao, G. He, D. Wei, and S. Zhao, "When digitalization meets HRM: developing a HRM value chain model in China," *Chinese Management Studies*, vol. 18, no. 6, pp. 1775–1799, 2024.

[7] K. Alqarni, M. F. Agina, H. A. Khairy, B. S. Al-Romeedy, D. A. Farrag, and R. M. Abdallah, "The effect of electronic human resource management systems on sustainable competitive advantages: The roles of sustainable innovation and organizational agility," *Sustainability*, vol. 15, no. 23, p. 16382, 2023.

[8] N. Nasar and S. Ray, "A user acceptance model for e-HRM system implemented in IT and Non-IT business organizations," *Human Systems Management*, vol. 43, no. 1, pp. 99–123, 2024.

[9] D. L. Stone, D. L. Deadrick, K. M. Lukaszewski, and R. Johnson, "The influence of technology on the future of human resource management," *Human resource management review*, vol. 25, no. 2, pp. 216–231, 2015.

[10] M. Syarif, M. Nasir, and R. Rina, "How Competence, Motivation, and Job Satisfaction Drive Employee Performance," *International Journal of Business, Law, and Education*, vol. 5, no. 2, pp. 1948–1956, 2024.

[11] Antara, M. E. Y., & Martini, I. A. O. (2025). Unlocking Innovation through Leadership: The Interplay of Work-Life Balance and Flexibility. *Jurnal Ekonomi dan Bisnis Jagaditha*, 12(2), 210-218.

[12] Forson, J. A., Ofosu-Dwamena, E., Opoku, R. A., & Adjavon, S. E. (2021). Employee motivation and job performance: a study of basic school teachers in Ghana. *Future Business Journal*, 7(1), 30. https://doi.org/10.1186/s43093-021-00077-6.

[13] Chege, S. M., Wang, D., & Suntu, S. L. (2020). Impact of information technology innovation on firm performance in Kenya. *Information Technology for Development*, 26(2), 316-345. https://doi.org/10.1080/02681102.2019.1573717.

[14] N. K. Suryani, L. K. C. Dewi, and J. E. H. J. Foeh, "Business creation through creativity and innovation among students," *Jurnal Minds: Manajemen Ide dan Inspirasi*, vol. 8, no. 2, pp. 225–236, 2021.

[15] Zhang, X., Qian, W., & Chen, C. (2024, December). The effect of digital technology usage on higher vocational student satisfaction: the mediating role of learning experience and learning engagement. In *Frontiers in Education* (Vol. 9, p. 1508119). Frontiers Media SA. https://doi.org/10.3389/feduc.2024.1508119

[16] Antara, M. E. Y. (2025). Accelerating Sustainable Performance of Balinese Woven MSMEs Through Digital Innovation and Green Entrepreneurship. *BIMA Journal (Business, Management, & Accounting Journal)*, 6(2), 1415-1422.

[17] Nyathi, M., & Kekwaletswe, R. (2024). Electronic human resource management (e-HRM) configuration for organizational success: inclusion of employee outcomes as contextual variables. *Journal of Organizational Effectiveness: People and Performance*, 11(1), 196-212. https://doi.org/10.1108/JOEPP-08-2022-0237.

[18] Bag, S., Dhamija, P., Pretorius, J. H. C., Chowdhury, A. H., & Giannakis, M. (2022). Sustainable electronic human resource management systems and firm performance: an empirical study. *International Journal of Manpower*, 43(1), 32-51. https://doi.org/10.1108/IJM-02-2021-0099.

[19] A. Nagendra and M. Deshpande, "Human Resource Information Systems (HRIS) in HR planning and development in mid to large sized organizations," *Procedia-Social and Behavioral Sciences*, vol. 133, pp. 61–67, 2014.

[20] Alshibly, H. H., & Alzubi, K. N. (2022). Unlock the black box of remote e-working effectiveness and e-HRM practices effect on organizational commitment. *Cogent business & management*, 9(1), 2153546. https://doi.org/10.1080/23311975.2022.2153546.

[21] I. D. G. S. A. Yadnya, F. D. L. Izaak, and A. M. A. Ausat, "Strategic Engineering of Human Resources Development (HRD) to Respond to the Digital Transformation Era in the Context of Business Information Systems," *Jurnal Minfo Polgan*, vol. 12, no. 2, pp. 2584–2591, 2023.

[22] Salman, M., Ganie, S. A., & Saleem, I. (2020). Employee competencies as predictors of organizational performance: a study of public and private sector banks.

*Management and Labour Studies*, 45(4), 416-432. https://doi.org/10.1177/0258042X20939014

[23] Pacheco, P. O., & Coello-Montecel, D. (2023). Does psychological empowerment mediate the relationship between digital competencies and job performance?. *Computers in Human Behavior*, 140, 107575. https://doi.org/10.1016/j.chb.2022.107575.

[24] Fregnan, E., Ivaldi, S., & Scaratti, G. (2020). HRM 4.0 and new managerial competences profile: The COMAU case. *Frontiers in psychology*, 11, 578251. https://doi.org/10.3389/fpsyg.2020.578251.

[25] Zhou, Y., Cheng, Y., Zou, Y., & Liu, G. (2022). e-HRM: A meta-analysis of the antecedents, consequences, and cross-national moderators. *Human resource management review*, 32(4), 100862. https://doi.org/10.1016/j.hrmr.2021.100862.

[26] Awadh Aljuaid, A. (2025). Achieving logistics firm performance through high-performance work system (HPWS) and e-HRM capabilities: The moderating role of digital talent acquisition. *SAGE Open*, 15(1), 21582440241310306. https://doi.org/10.1177/21582440241310306.

[27] A .D .S .Thathsara, & Jayaranjani Sutha. (2021). Investigating the Influence of E-HRM Practices on Organizational Performance: The Mediating Role of Organizational Agility (With Special Reference to Financial Institution). *International Journal of Engineering and Management Research*, 11(1), 1–8, [Online]. https://ijemr.vandanapublications.com/index.php/j/article/view/128/128 (Accessed Date: March 10, 2026).

[28] M. E. Y. Antara, I. A. O. Martini, and I. A. P. W. Sugianingrat, "Innovation Ambidexterity and Digital Capability as Drivers of SMEs' Sustainability," *IEEE Access*, 2024. https://doi.org/10.1109/ACCESS.2024.3470029.

[29] I. Sugiarto, "Human Resource Development Strategies to Achieve Digital Transformation in Businesses," *Journal of Contemporary Administration and Management (ADMAN)*, vol. 1, no. 3, pp. 156–162, 2023.

[30] Y. Y. Purba, "Implications of Technological Evolution on Human Resource Management Strategies and Legal Compliance," *Jurnal Minfo Polgan*, vol. 12, no. 2, pp. 2686–2692, 2023.

[31] A. Karuppannan, M. Maheswari, R. Hemamalini, M. Ramakrishnan, and K. S. Rangasamy, "E-HRM-Transforming Human Resource Management in the Digital Age: A Conceptual Study," *Trends in Finance and Economics*, vol. 2, no. 2, pp. 14–19, 2024.

[32] D. Touriano, S. Sutrisno, A. D. Kuraesin, S. Santosa, and A. M. A. Ausat, "The role of information technology in improving the efficiency and effectiveness of talent management processes," *Jurnal Minfo Polgan*, vol. 12, no. 1, pp. 539–548, 2023.

[33] M. E. Y. Antara, I. Sugianingrat, and I. A. O. Martini, "Leadership strategy as the driver of achieving sustainable business: A case of endek weaving SMEs in Indonesia," *Problems and Perspectives in Management*, vol. 22, no. 4, pp. 288–298, 2024.

[34] L'Écuyer, F., & Raymond, L. (2023). Enabling the HR function of industrial SMEs through the strategic alignment of e-HRM: a configurational analysis. *Journal of Small Business & Entrepreneurship*, 35(3), 450-482. https://doi.org/10.1080/08276331.2020.1802095.

[35] S. Sutrisno, A. M. A. Ausat, B. Permana, and M. A. K. Harahap, "Do Information Technology and Human Resources Create Business Performance: A Review," *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, vol. 8, no. 8, p. 14, 2023.

[36] T. Heriyanto, J. A. Naser, and K. A. Setia, "The effect of competence and discipline on work motivation and impact on employee performance of Pratama tax office in Malang Utara," *MEC-J (Management and Economics Journal)*, vol. 2, no. 3, pp. 269–278, 2018.

[37] S. Ma'mun, M. Muallim, M. Yahya, M. Sulfaidah, and M. Fahreza, "The Effect of Recruitment, Competence, Motivation and Organization Culture On Job Satisfaction and Performance of Government Employees In Indonesia," in *2nd International Conference on Education, Science, and Technology (ICEST 2017)*, Atlantis Press, 2017, pp. 94–96.

[38] I. G. Simorangkir, S. Sahyar, and P. Daulay, "The Impact of E-Learning-Based Training, Work Motivation, and Discipline on Employee Competence at KPP Pratama Pematang Siantar," *Sketsa Bisnis*, vol. 10, no. 1, pp. 45–64, 2023.

[39] Yafi, E., Tehseen, S., & Haider, S. A. (2021). Impact of green training on environmental performance through mediating role of competencies and motivation. *Sustainability*, 13(10), 5624. https://doi.org/10.3390/su13105624.

[40] G. C. L. Chien, I. Mao, E. Nergui, and W. Chang, "The effect of work motivation on employee performance: Empirical evidence from 4-star hotels in Mongolia," *Journal of Human Resources in Hospitality & Tourism*, vol. 19, no. 4, pp. 473–495, 2020.

[41] Chien, G. C., Mao, I., Nergui, E., & Chang, W. (2020). The effect of work motivation on employee performance: Empirical evidence from 4-star hotels in Mongolia. *Journal of Human Resources in Hospitality & Tourism*, 19(4), 473-495. https://doi.org/10.1080/15332845.2020.1763766.

[42] Kitsios, F., & Kamariotou, M. (2021). Job satisfaction behind motivation: An empirical study in public health workers. *Heliyon*, 7(4). https://doi.org/10.1016/j.heliyon.2021.e06857.

[43] S. Sabil, S. Suhartono, S. H. Winarno, O. P. Putra, and D. P. Widodo, "The effect of work environment, competence, and motivation on employee's performance in electronic companies in the industrial district of bekasi regency," *Jurnal Perspektif*, vol. 19, no. 1, pp. 1–4, 2021.

[44] A. F. Rohman, D. Indiyati, and A. Ghina, "The influence of organizational culture and employee engagement on employees performance at Telkom University, Indonesia," *International Journal of Science and Society*, vol. 3, no. 1, pp. 75–88, 2021.

[45] C. Fazira, S. A. Indah, and S. A. Ayu, "Business Sphere terhadap Business Performance melalui Competitive Advantage pada Kedai Kopi di Kota Medan," *BISMA Cendekia*, vol. 2, no. 3, pp. 122–129, 2022.

[46] Ng, H. S., Kee, D. M. H., & Ramayah, T. (2020). Examining the mediating role of innovativeness in the link between core competencies and SME performance. *Journal of Small Business and Enterprise Development*, 27(1), 103-129. https://doi.org/10.1108/JSBED-12-2018-0379.

[47] Aftab, J., Veneziani, M., Sarwar, H., & Ishaq, M. I. (2024). Entrepreneurial orientation and firm performance in SMEs: the mediating role of entrepreneurial competencies and moderating role of environmental dynamism. *International Journal of Emerging Markets*, 19(10), 3329-3352. https://doi.org/10.1108/IJOEM-07-2021-1151.

[48] Esubalew, A. A., & Raghurama, A. (2020). The mediating effect of entrepreneurs' competency on the relationship between Bank finance and performance of micro, small, and medium enterprises (MSMEs). *European Research on Management and Business Economics*, 26(2), 87-95. https://doi.org/10.1016/j.iedeen.2020.03.001.

[49] E. Bell, B. Harley, and A. Bryman, *Business research methods*. Oxford university press, 2022.

[50] Al Haziazi, M., Muthuraman, S., Al Yahyaei, N., & Al Balushi, A. (2021). Framework for e-HRM implementation & employee satisfaction in Sultanate of Oman. *exploring sustainable paths*, 127.

[51] G. C. L. Chien, I. Mao, E. Nergui, and W. Chang, "The effect of work motivation on employee performance: Empirical evidence from 4-star hotels in Mongolia," *Journal of Human Resources in Hospitality and Tourism*, vol. 19, no. 4, pp. 473–495, Oct. 2020, doi: 10.1080/15332845.2020.1763766.

[52] N.-M. T. Nong, N. Q. Phuong, and H. Duc-Son, "The effect of employee competence and competence – job – fit on business performance through moderating role of social exchange: A study in logistics firms," *Asian Journal of Shipping and Logistics*, vol. 40, no. 4, pp. 187–197, Dec. 2024. doi: 10.1016/j.ajsl.2024.10.001

[53] M. E. Y. Antara, I. P. D. Pradhana, and I. A. O. Martini, "Mindsets Matter: Unraveling The Path to Entrepreneurial Resilience and Sustainability," *WSEAS Transactions on Systems*, vol. 25, no. 1, pp. 380–392, 2026. https://doi.org/10.37394/23202.2026.25.30.

[54] J. F. Hair Jr, G. T. M. Hult, C. M. Ringle, M. Sarstedt, N. P. Danks, and S. Ray, *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer Nature, 2021.

[55] Naqvi, S. R., Sareen, P., & Sharma, T. (2022). Impact of e-HRM systems on quality of competency assessment in Indian public sector organisations. *International Journal of Public Sector Performance Management*, 10(4), 592-610. https://doi.org/10.1504/IJPSPM.2022.126410.

[56] Dede, N. P. (2022). The role of E-HRM practices on digital era. *In Research Anthology on Human Resource Practices for the Modern Workforce* (pp. 180-199). IGI Global Scientific Publishing. https://doi.org/10.4018/978-1-6684-3873-2.ch011.

[57] De Alwis, A. C., Andrlić, B., & Šostar, M. (2022). The Influence of E-HRM on modernizing the role of HRM context. *Economies*, 10(8), 181. https://doi.org/10.3390/economies10080181.

[58] William, A. A., & Singh, K. (2023). The assessment of e- HRM tools and its impact on HRM system effectiveness and organizational effectiveness: An empirical study of selected multinational companies in Ghana. *The Electronic Journal of Information Systems in Developing Countries*, 89(5), e12267. https://doi.org/10.1002/isd2.12267.

[59] Talukdar, A., & Ganguly, A. (2022). A dark side of e-HRM: mediating role of HR service delivery and HR socialization on HR effectiveness. *International Journal of Manpower*, 43(1), 116-147. https://doi.org/10.1108/IJM-01-2021-0038.

[60] Stachová, K., Stacho, Z., Šamalík, P., & Sekan, F. (2024). The impact of E-HRM tools on employee engagement. *Administrative Sciences*, 14(11), 303. https://doi.org/10.3390/admsci14110303.

[61] Manzoor, F., Wei, L., & Asif, M. (2021). Intrinsic rewards and employee's performance with the mediating mechanism of employee's motivation. *Frontiers in psychology*, 12, 563070. https://doi.org/10.3389/fpsyg.2021.563070.

[62] Tumi, N. S., Hasan, A. N., & Khalid, J. (2022). Impact of compensation, job enrichment and enlargement, and training on employee motivation. *Business Perspectives and Research*, 10(1), 121-139. https://doi.org/10.1177/2278533721995353

[63] Antara, M. E. Y., Sitiari, N. W., & Sarmawa, W. G. (2021). The Effect of Time Management and Communication on Employee Performance with Mediation of Work Motivation in The Kepeng Money Crafts Industry, Kamasan Village, Klungkung District. *Jurnal Ekonomi dan Bisnis Jagaditha*, 8(2), 117-126. https://doi.org/10.22225/jj.8.2.2021.117-126.

[64] Zajda, J. (2023). The impact of motivation on students' engagement and performance. In *Globalisation And Dominant Models of Motivation Theories in Education* (pp. 127-138). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-42895-1_9.

[65] Giamos, D., Doucet, O., & Léger, P. M. (2024). Continuous performance feedback: Investigating the effects of feedback content and feedback sources on performance, motivation to improve performance and task engagement. *Journal of Organizational Behavior Management*, 44(3), 194-213. https://doi.org/10.1080/01608061.2023.2238029.

[66] Dorta-Afonso, D., González-de-la-Rosa, M., Garcia-Rodriguez, F. J., & Romero-Domínguez, L. (2021). Effects of high-performance work systems (HPWS) on hospitality employees' outcomes through their organizational commitment, motivation, and job satisfaction. *Sustainability*, 13(6), 3226. https://doi.org/10.3390/su13063226.

[67] M. E. Y. Antara, I. G. Riana, I. M. A. Wibawa, and M. S. Putra, "Serial mediation of knowledge and commitment to strengthen leadership and green behavior," *Decision Science Letters*, vol. 14, no. 4, pp. 969–980, 2025, [Online]. https://www.growingscience.com/dsl/Vol14/dsl_2025_42.pdf (Accessed Date: January 15, 2026).

[68] Pulka, B. M., Ramli, A., & Mohamad, A. (2021). Entrepreneurial competencies, entrepreneurial orientation, entrepreneurial network, government business support and SMEs performance. The moderating role of the external environment. *Journal of Small Business and Enterprise Development*,

28(4), 586-618. https://doi.org/10.1108/JSBED-12-2018-0390.

[69] Mokbel Al Koliby, I. S., Abdullah, H. H., & Mohd Suki, N. (2024). Linking entrepreneurial competencies, innovation and sustainable performance of manufacturing SMEs. *Asia-Pacific Journal of Business Administration*, 16(1), 21-40. https://doi.org/10.1108/APJBA-09-2021-0480.

**Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)**

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

**Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself**

No funding was received for conducting this study.

**Conflict of Interest**

The authors have no conflicts of interest to declare that are relevant to the content of this article.

**Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)**

This article is published under the terms of the Creative Commons Attribution License 4.0
https://creativecommons.org/licenses/by/4.0/deed.en_US

# APPENDIX

Table 1. Questionnaire items

| Variable | Items | Source |
|---|---|---|
| Technology | 1. The use of Human Resources technology at the rural bank I lead can improve employee competency.<br>2. The use of Human Resources technology at the rural bank I lead facilitates access to employee-related information.<br>3. I believe that the use of Human Resources technology can improve operational efficiency at the rural bank I lead. | [50] |
| Motivation | 1. Employees feel motivated to achieve work goals at the BPR I lead.<br>2. Employees have equal opportunities to develop their skills and knowledge at the BPR I lead.<br>3. Employees feel that their work has meaning and a clear purpose at the BPR I lead. | [51] |
| Employee Competencies | 1. The current competencies of employees are sufficient to meet the job demands at the BPR I lead.<br>2. Employees feel they possess the necessary skills to perform their duties effectively at the BPR I lead.<br>3. The competencies of employees contribute to the overall performance of the team and the organization at the BPR I lead. | [52] |
| Business Performance | 1. The business performance of the rural bank I lead has improved compared to previous years.<br>2. The rural bank I lead has achieved its established performance targets.<br>3. The rural bank I lead has been able to adapt to market changes and customer needs.<br>4. I believe the rural bank I lead has an effective strategy to achieve its long-term goals. | [53] |

*Source: [50]; [51]; [52]; [53].*

Table 2. Convergent Validity Test

| Indicator | Outer Loading | T Statistics | P Values | Note |
|---|---|---|---|---|
| X1.1 <- Technology | 0.860 | 44.327 | 0.000 | Valid |
| X1.2 <- Technology | 0.790 | 30.342 | 0.000 | Valid |
| X1.3 <- Technology | 0.765 | 22.277 | 0.000 | Valid |
| X2.1 <- Motivation | 0.901 | 44.566 | 0.000 | Valid |
| X2.2 <- Motivation | 0.933 | 85.129 | 0.000 | Valid |
| X2.3 <- Motivation | 0.695 | 10.886 | 0.000 | Valid |
| Y.1 <- Business_Performance | 0.918 | 62.607 | 0.000 | Valid |
| Y.2 <- Business_Performance | 0.828 | 21.943 | 0.000 | Valid |
| Y.3 <- Business_Performance | 0.802 | 17.901 | 0.000 | Valid |
| Y.4 <- Business_Performance | 0.782 | 26.312 | 0.000 | Valid |
| Z.1 <- Competencies | 0.833 | 22.578 | 0.000 | Valid |
| Z.2 <- Competencies | 0.945 | 66.992 | 0.000 | Valid |
| Z.3 <- Competencies | 0.945 | 64.755 | 0.000 | Valid |

*Source: data processed*

Table 3. Discriminant Validity Test

| Variable | Business Performance | Competencies | Motivation | Technology |
|---|---|---|---|---|
| BusinessPerformance | 0.834 | | | |
| Competencies | 0.506 | 0.909 | | |
| Motivation | 0.523 | 0.651 | 0.850 | |
| Technology | 0.519 | 0.531 | 0.457 | 0.806 |

*Source: data processed*

Table 4. AVE and Reliability Test

| Variabel | AVE | Cronbach's Alpha | rho_A | Composite Reliability | Note |
|---|---|---|---|---|---|
| Business_Performance | 0.696 | 0.856 | 0.885 | 0.901 | Reliable |
| Competencies | 0.826 | 0.893 | 0.893 | 0.934 | Reliable |
| Motivation | 0.722 | 0.801 | 0.840 | 0.885 | Reliable |
| Technology | 0.650 | 0.729 | 0.736 | 0.847 | Reliable |

*Source: data processed*

Table 5. R-Square

| Variabel | R Square | R Square Adjusted |
|---|---|---|
| Business_Performance | 0.386 | 0.375 |
| Competencies | 0.493 | 0.487 |

*Source: data processed*

Table 6. Hypothesis Testing

| Path Analysis | Path Coefficient | T Statistics | P Values | Note |
|---|---|---|---|---|
| Technology -> Competencies | 0.296 | 4.750 | 0.000 | H1 accepted |
| Technology -> Business_Performance | 0.306 | 3.659 | 0.000 | H2 accepted |
| Motivation -> Competencies | 0.516 | 6.750 | 0.000 | H3 accepted |
| Motivation -> Business_Performance | 0.277 | 3.764 | 0.000 | H4 accepted |
| Competencies -> Business_Performance | 0.162 | 2.376 | 0.018 | H5 accepted |

*Source: data processed*

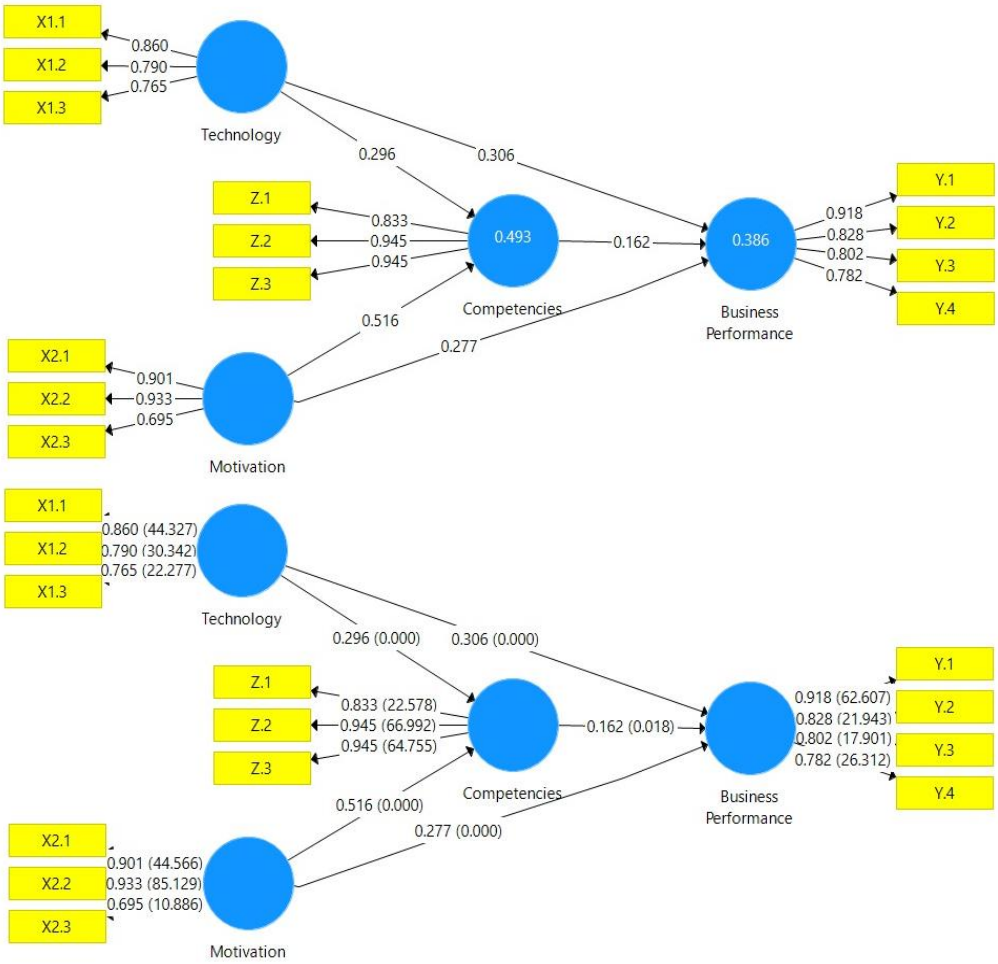



Fig. 2: PLS Output (Algorithm and Bootstrap)
*Source: data processed*