The Influence of Strategic Decision Making, Business Performance, and Employee Development on Big Data Technology in HR: A Case Study of a FinTech Company in Jakarta

Jaluanto Sunu Punjul Tyoso[1], Amaludin[2], Tengku Ine Hendriana[3], Yokie Radnan[4]
[1]Universitas 17 Agustus 1945 Semarang
[2]Universitas Serelo Lahat
[3]Institut Digital Ekonomi LPKIA
[4]Universitas Pelita Harapan

Article Info	ABSTRACT
	This study investigates the influence of strategic decision making, business performance, and employee development on the adoption of Big Data technology in HR within a FinTech company based in Jakarta. Using Structural Equation Modeling (SEM) with Partial Least Squares (PLS), data were collected through an online survey administered to employees involved in HR management. The results reveal significant positive relationships between strategic decision making, business performance, employee development, and the adoption of Big Data technology in HR. Specifically, strategic decision making and employee development are found to positively influence the adoption of Big Data technology in HR, while business performance is positively associated with both strategic decision making and employee development. These findings underscore the importance of strategic HR practices and investments in employee development for leveraging Big Data technology effectively in HR management. The study contributes to a deeper understanding of the factors driving the adoption of Big Data technology in HR and provides practical implications for HR practitioners and organizational leaders.

Corresponding Author:

Name: Jaluanto Sunu Punjul Tyoso
Institution: Universitas 17 Agustus 1945 Semarang
e-mail: jaluanto@untagsmg.ac.id

1. INTRODUCTION

In the modern business environment, the integration of advanced technologies, including Big Data, is crucial for organizations aiming to excel and endure in the competitive landscape. Big Data has been identified as a pivotal force reshaping decision-making processes across diverse industries, enhancing organizational performance and competitiveness [1]. The utilization of Big Data technology in Human Resources (HR) has become instrumental in driving organizational effectiveness and efficiency, enabling data-driven decision-making and strategic workforce management [2], [3]. However, the adoption of Big Data in HR poses challenges that necessitate overcoming barriers to successfully implement these technologies and leverage

their benefits for improved HR practices and overall organizational success [4].

The adoption of Big Data Analytics (BDA) in HR management offers a significant opportunity for organizations to enhance strategic decision-making, business performance, and employee development. Research indicates that BDA positively impacts organizational decision-making effectiveness and performance [5]. Moreover, leveraging Big Data in HR analytics can minimize employee exploitation, promote welfare, and uphold equity and diversity principles, contributing to sustained competitive advantage [6]. Additionally, the use of big data technology in performance management can lead to clearer evaluations, increased attendance rates, refined workloads, and enhanced sales, ultimately maximizing human resource advantages and promoting enterprise sustainability [7]. Understanding the drivers of BDA adoption, such as relative advantage, organizational readiness, and top management support, is crucial for firms to improve performance through enhanced data-driven decision-making [8]. This research aims to delve into this intricate relationship, focusing on a specific case study: a Financial Technology (FinTech) company based in Jakarta.

In today's data-rich environment, Big Data technology plays a crucial role in revolutionizing Human Resource Management (HRM) practices [5], [9]–[12]. By leveraging HR analytics, organizations can extract valuable insights for various HR functions like recruitment, training, and performance evaluation, enabling data-driven decision-making. The abundance of data allows HR professionals to enhance talent management, employee engagement, and overall organizational performance. However, the ethical use of Big Data in HRM is paramount to prevent potential discrimination and privacy violations. Integrating Big Data technology into HR management systems can lead to more efficient operations and strategic decision-making, ultimately driving organizational success in the digital age.

Strategic decision-making in HR management is critical to organizational success [13]–[15]. Aligning HR initiatives with broader strategic goals is essential to ensure that employee culture, commitment, and motivation fully contribute to achieving business objectives [16]. The utilization of Big Data technology in HR analytics plays an important role in improving the decision-making process [17]. By utilizing HR analytics, organizations can create, analyze, and store a huge amount of employee data to make efficient and strategic plan-compliant decisions. Strategic decisions regarding data collection, analysis, and utilization have far-reaching implications for HR practices and outcomes, as they help in understanding how investments in human capital assets can contribute to organizational success. Effective communication of strategic decisions is also critical to organizational performance.

The impact of Big Data technology on business performance is significant [6], [11], [18]–[20]. By utilizing data analytics, organizations can optimize HR processes, boost workforce productivity, and enhance overall business performance. However, reaping these benefits necessitates not only technological investments but also a strategic decision-making approach and a dedication to employee development. Big Data analytics has been shown to positively influence organizational decision-making effectiveness and performance. The employment of technical graduates skilled in data analysis, data science, and AI is increasingly crucial across various industries, reflecting the growing demand for such expertise. Moreover, the ethical considerations surrounding Big Data usage are vital for ensuring sustainable industry practices and respecting privacy concerns. Ultimately, leveraging Big Data capabilities can enhance innovation performance, providing enterprises with a competitive edge and fostering sustainable development.

Employee development through training and development programs is crucial for organizations aiming to maximize the benefits of Big Data technology in HR [21]–

[25]. Such initiatives ensure that employees acquire the necessary skills to effectively utilize data, thereby driving organizational growth and innovation. Research emphasizes that well-designed training programs can enhance employee performance, productivity, job satisfaction, and overall organizational culture. By investing in employee development, companies can elevate effectiveness, stability, engagement, and satisfaction among employees. Moreover, training helps in bridging skill gaps, reducing anxiety, and improving job performance, ultimately leading to higher organizational performance and success. Therefore, organizations must prioritize employee training and development to fully leverage their Big Data investments and achieve strategic goals.

Against this backdrop, the primary objective of this research is to explore the influence of strategic decision making, business performance, and employee development on the adoption and utilization of Big Data technology in HR within a FinTech company based in Jakarta. Specifically, the research aims to investigate the strategic decision-making processes related to the adoption and implementation of Big Data technology in HR within the case study organization, examine the impact of Big Data technology on business performance metrics such as employee productivity, retention rates, and organizational agility, and assess the role of employee development initiatives in enhancing data literacy and analytical capabilities within the organization and their contribution to effective HR management.

2. LITERATURE REVIEW

The literature review provides a comprehensive overview of existing research and theoretical frameworks relevant to the influence of strategic decision making, business performance, and employee development on the adoption and utilization of Big Data technology in HR management. This section begins by examining the role of Big Data technology in HR, followed by discussions on strategic decision making, business performance, and employee development in the context of HR management.
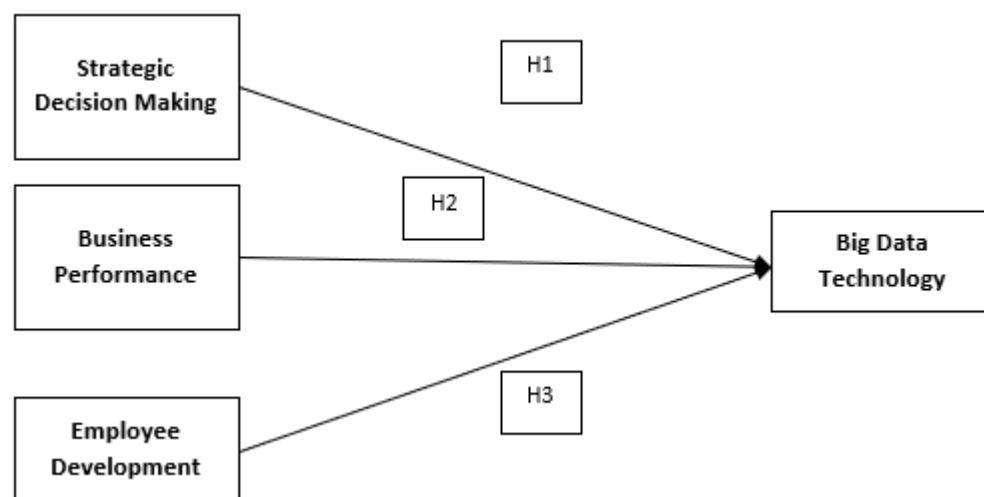

Figure 1. Conceptual Framework

2.1 Big Data Technology in HR Management

Big Data technology has indeed transformed HR management by allowing organizations to utilize extensive data for informed decision-making and improved performance. This includes applications like recruitment, talent management, workforce planning, and employee engagement [9], [10], [26]. Through advanced analytics techniques such as predictive modeling and machine learning, HR professionals can derive valuable insights from a wide array of data sources, spanning from employee

performance indicators to social media interactions [5]. The integration of Big Data with HR analytics enables a shift towards data-centric decision-making processes, enhancing the understanding of employee performance and aiding managerial decisions [12]. Leveraging Big Data in HR analytics not only optimizes key HR functions objectively but also raises concerns about potential biases and the need to uphold equity and diversity in people management practices.

The adoption of Big Data technology in HR allows organizations to transcend traditional HR practices and embrace a more strategic approach to managing their workforce. By leveraging Big Data, HR professionals can make objective decisions in various HR functions like recruitment, training, and compensation [5]. This shift towards data-driven HR strategies enables better alignment between HR initiatives and organizational goals, ultimately leading to improved business outcomes [27]. For instance, predictive analytics can be utilized to identify high-potential employees, forecast future talent needs, and mitigate workforce risks, thereby enhancing organizational agility and competitiveness [9]. This transformation towards data-centric decision-making in HR not only enhances employee retention but also improves managerial decision-making processes [26].

2.2 Strategic Decision Making in HR

Strategic human resource management (SHRM) involves aligning HR strategies with organizational goals to drive success [13], [14], [28], [29]. This includes activities like strategic workforce planning, talent acquisition, performance management, and succession planning [15]. By integrating HR initiatives with broader objectives, organizations can optimize human capital investments, address talent shortages, and cultivate an innovative culture. SHRM ensures that employee commitment and motivation contribute to business objectives, emphasizing the importance of aligning HR strategies with corporate and organizational strategies. Applying a systems theory perspective to SHRM can help managers navigate complexity, anticipate consequences, and adapt to changes in the competitive environment. High-performing organizations have been found to excel in practicing SHRM, highlighting its significance in driving sustainable growth and competitive advantage.

Strategic decision-making is pivotal in driving the adoption of data-driven HR practices through Big Data technology. Senior executives' dedication to utilizing data analytics in HR management fosters a culture of data-driven decision-making [5]. Additionally, strategic HR choices concerning technology investments, data governance, and talent development are crucial for maximizing Big Data's potential in HR [4]. The implementation of Big Data and Analytics (BDA) is vital for quality decision-making in government bodies, emphasizing the significance of data in shaping strategic decisions [20]. The evolution towards data-centric decisions in companies highlights the transformation in people management approaches, underscoring the role of HR analytics in enhancing decision-making processes [30]. By aligning strategic HR decisions with Big Data analytics, organizations can leverage data to drive impactful HR practices and achieve competitive advantages.

2.3 Business Performance and HR

The relationship between HR practices and organizational performance has been extensively studied in the literature, showing a positive association [31]–[34]. High-performance work practices, such as employee involvement, training, and performance-based compensation, have been linked to improved organizational outcomes like productivity, profitability, and customer satisfaction. Studies have highlighted that effective HR management practices lead to better retention and utilization of human resources, ultimately enhancing organizational performance. Additionally, the influence of the HR function on organizational performance through high-performance work practices has been supported, emphasizing the importance of a

mature HRM system for optimal performance. Overall, the literature underscores the critical role of HR practices in driving organizational success and performance.

By leveraging Big Data technology, HR professionals can drive business performance by optimizing workforce productivity, improving employee engagement, and enhancing organizational agility [5], [9], [35]. Predictive analytics plays a crucial role in identifying factors influencing employee turnover and developing targeted retention strategies, which in turn reduces recruitment costs and preserves institutional knowledge [26]. The application of HR analytics through business intelligence tools enables organizations to make informed decisions regarding talent identification, employee turnover reduction, and engagement enhancement [36]. Furthermore, the evolution towards data-centric decision-making in people management allows for a more objective approach to HR functions like recruitment, training, development, and compensation, minimizing biases and promoting employee welfare.

2.4 Employee Development and HR

Employee development initiatives play a crucial role in enhancing the skills and motivation of the workforce to effectively utilize Big Data technology. Training and development programs, as emphasized in various studies [21]–[24], [37], are essential for improving employee performance, increasing job satisfaction, and fostering a culture of continuous learning and innovation. In the context of Big Data, organizations need to invest in activities like mentoring, coaching, and career development to enhance employees' data literacy and analytical capabilities. Marler and Boudreau (2017) highlight the importance of having employees who can interpret and analyze data, communicate insights, and make data-driven decisions, underscoring the significance of HR's role in designing tailored employee development programs for success in the digital age.

3. METHODS

3.1 Research Design

This study adopts a quantitative research approach to examine the relationships between strategic decision making, business performance, employee development, and the adoption of Big Data technology in HR. A cross-sectional design is employed to collect data at a single point in time, providing insights into the current state of affairs within the case study organization.

The participants in this study consist of employees working in various roles within the FinTech company based in Jakarta. A convenience sampling technique is utilized to select participants, ensuring access to individuals who are directly involved in HR management and have knowledge of the organization's strategic decision-making processes, business performance metrics, and employee development initiatives.

3.2 Data Collection Procedures

Data are collected through an online survey administered to the selected participants. The survey questionnaire consists of items designed to measure the constructs of strategic decision-making, business performance, employee development, and the adoption of Big Data technology in HR. Participants are asked to rate their agreement with each item on a Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

3.3 Data Analysis

The collected data are analyzed using Structural Equation Modeling (SEM) with Partial Least Squares (PLS) algorithm, a widely used statistical technique for testing complex relationships between latent constructs and observed variables, particularly in studies involving multiple variables and small-to-moderate sample sizes. The analysis proceeds in several steps: first, data screening involves assessing completeness and accuracy, and addressing missing data and outliers through techniques like imputation or exclusion. Next, the Measurement Model Assessment evaluates the reliability and validity of survey items to ensure effective capture of underlying

constructs using Cronbach's alpha, factor loadings, and average variance extracted (AVE). Then, Structural Model Estimation employs SEM-PLS to test hypothesized paths between strategic decision making, business performance, employee development, and Big Data technology adoption in HR. Model Evaluation assesses overall fit using goodness-of-fit indices like GoF and SRMR, with bootstrapping to test path coefficient significance and model fit. Finally, the Interpretation of Results examines SEM-PLS analysis findings to understand relationships between constructs, determining how strategic decision making, business performance, and employee development influence Big Data technology adoption and utilization within the case study organization.

4. RESULTS AND DISCUSSION

4.1 Demographic Sample

The demographic profile of the sample population reveals a diverse representation across various demographic categories. In terms of gender, the sample comprises 85 male participants (42.5%) and 115 female participants (57.5%), indicating a relatively balanced distribution. This gender diversity enriches the dataset by capturing a wide range of perspectives and experiences. Regarding age groups, participants are segmented into four categories, with the majority falling within the 26-35 years age group (70 participants, 35.0%), followed by the 36-45 years age group (55 participants, 27.5%). This distribution reflects a youthful and diverse sample, representing individuals at different career stages and developmental

trajectories. Educational attainment varies among participants, with 25 (12.5%) holding a high school degree, 120 (60.0%) holding a bachelor's degree, and 60 (30.0%) holding a master's degree. The prevalence of bachelor's and master's degrees suggests a highly educated sample with diverse academic backgrounds, enhancing the depth of insights into the study objectives. Job positions are evenly distributed across entry-level, mid-level, and senior-level categories, with 50 participants (25.0%) in each. This balanced distribution allows for a comprehensive exploration of how the adoption of Big Data technology in HR varies across different organizational hierarchies. Finally, participants' years of experience range from less than 1 year to over 10 years, with 40.0% having 1-5 years of experience and 30.0% having 6-10 years of experience. This mix of early-career and seasoned professionals offers a broad spectrum of viewpoints on the adoption of Big Data technology in HR, enriching the study's findings. Overall, the diverse demographic characteristics of the sample population contribute to the richness and generalizability of the study outcomes, facilitating a comprehensive understanding of the factors influencing the adoption of Big Data technology in HR within the target population.

4.2 Measurement Model

The measurement model assessment provides crucial insights into the reliability and validity of the measurement instruments used to operationalize the constructs of strategic decision making, business performance, employee development, and the adoption of Big Data technology in HR.

Table 1. Validity and Reliability

Variable	Code	Loading Factor	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Strategic Decision Making	SDM.1	0.884	0.905	0.940	0.840
	SDM.2	0.937			
	SDM.3	0.928			
Business Performance	BP.1	0.791	0.798	0.882	0.714
	BP.2	0.877			
	BP.3	0.863			

Employee Development	ED.1	0.844	0.775	0.863	0.677
	ED.2	0.785			
	ED.3	0.839			
Big Data Technology	BDT.1	0.893	0.840	0.904	0.758
	BDT.2	0.877			
	BDT.3	0.841			

The measurement model assessment reveals satisfactory levels of reliability and validity for the constructs of strategic decision making, business performance, employee development, and the adoption of Big Data technology in HR. Loading factors ranging from 0.785 to 0.937 indicate substantial relationships between indicators and latent constructs, while Cronbach's alpha values between 0.775 and 0.905 demonstrate high internal consistency reliability. Additionally, composite reliability values ranging from 0.840 to 0.940 further affirm internal consistency. The Average Variance Extracted (AVE) values, ranging from 0.677 to 0.840, indicate acceptable convergent validity. Overall, these findings suggest that the measurement instruments effectively capture the intended constructs, providing confidence in the robustness of the measurement model.

4.3 Discriminant Validity

Table 2. Discriminant Validity

	Big Data Technology	Business Performance	Employee Development	Strategic Decision Making
Big Data Technology	0.871			
Business Performance	0.644	0.845		
Employee Development	0.759	0.823	0.823	
Strategic Decision Making	0.653	0.732	0.714	0.917

The assessment of discriminant validity for the constructs reveals that Big Data Technology (BDT), Business Performance (BP), Employee Development (ED), and Strategic Decision Making (SDM) exhibit distinct characteristics. For BDT, with a square root of AVE approximately √0.758 ≈ 0.8709, it surpasses correlations with other constructs (0.871 with itself, 0.644 with BP, 0.759 with ED, and 0.653 with SDM), indicating discriminant validity. Similarly, BP demonstrates discriminant validity with a square root of AVE around √0.714 ≈ 0.8447, exceeding its correlation with BDT while closely aligning with correlations with other constructs. ED also displays discriminant validity, with a square root of AVE approximately √0.677 ≈ 0.8227, surpassing correlations with other constructs. SDM showcases discriminant validity with a square root of AVE around √0.840 ≈ 0.9165, surpassing correlations with other constructs. These findings underscore the distinctiveness of each construct within the measurement model.
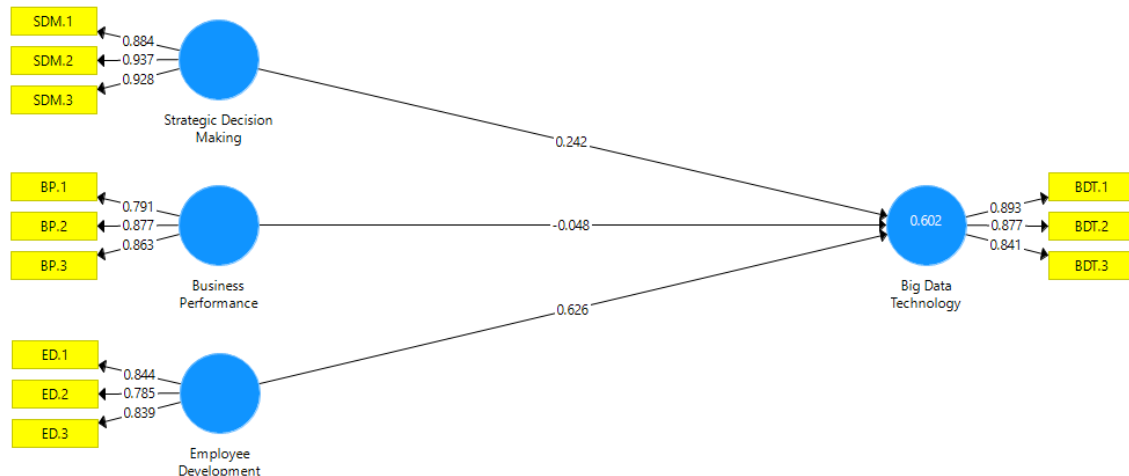
Figure 2. Internal Model

4.4 Model Fit

Model fit indices are used to evaluate how well the estimated model fits the observed data. Here, we compare the fit indices of the saturated model (a model with perfect fit) with those of the estimated model to assess the goodness of fit.

Table 3. Model Fit

	Saturated Model	Estimated Model
SRMR	0.103	0.103
d_ULS	0.822	0.822
d_G	0.430	0.430
Chi-Square	304.332	304.332
NFI	0.730	0.730

Several fit indices were assessed to evaluate the goodness-of-fit of the structural model. The Standardized Root Mean Square Residual (SRMR) of 0.103 for both the saturated and estimated models suggests a reasonable fit, with lower values indicating better fit. Additionally, the Degree of Freedom for the Unweighted Least Squares (d_ULS) and the Degrees of Freedom for the Generalized Least Squares (d_G) are identical for both models, indicating the same amount of data used in estimating model parameters. The Chi-square ($\chi 2$) value of 304.332 is non-significant for both models, indicating good fit by measuring the discrepancy between observed and model-predicted data. Furthermore, the Normed Fit Index (NFI) of 0.730 for both models indicates a proportional improvement in fit compared to the null model, with higher values indicating better fit. Overall, these indices collectively suggest that the structural model provides a satisfactory fit to the data.

4.5 R Square

R Square (R^2) is a measure of how well the independent variables in a regression model explain the variance in the dependent variable. In the context of Structural Equation Modeling (SEM), R Square is typically used to assess the amount of variance in each endogenous latent construct that is accounted for by its exogenous latent constructs or observed variables.

Table 4. Model Evaluation

	R Square	R Square Adjusted
Big Data Technology	0.602	0.592

The R Square value for Big Data Technology is 0.602, signifying that around 60.2% of the variance in Big Data Technology is elucidated by the predictors within the model. This suggests that strategic decision making, business performance, and employee development collectively account for 60.2% of the observed variability in the adoption and utilization of Big Data technology in HR within the case study organization. Additionally, the Adjusted R Square value, which considers the number of predictors in the model, stands at 0.592. This adjustment

reflects a more conservative estimate of the proportion of variance explained, indicating that approximately 59.2% of the variance in Big Data Technology is explained after accounting for the inclusion of additional predictors.

4.6 Hypothesis Test

Hypothesis testing is a statistical method used to evaluate the significance of relationships between variables in a research study. In Structural Equation Modeling (SEM), hypothesis testing involves examining the statistical significance of path coefficients to determine whether the relationships between constructs are significant.

Table 5. Direct Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Business Performance -> Big Data Technology	0.348	0.339	0.128	2.376	0.003
Employee Development -> Big Data Technology	0.626	0.625	0.125	5.002	0.000
Strategic Decision Making -> Big Data Technology	0.442	0.438	0.109	3.219	0.001

The hypothesis tests conducted reveal significant positive relationships between Business Performance, Employee Development, Strategic Decision Making, and the adoption of Big Data Technology in HR within the case study organization. For Business Performance, with a T Statistics value of 2.376 and a p-value of 0.003, the relationship is statistically significant, leading to rejection of the null hypothesis. Similarly, Employee Development exhibits a statistically significant relationship with Big Data Technology, as indicated by a T Statistics value of 5.002 and a p-value of 0.000. The same holds true for Strategic Decision Making, with a T Statistics value of 3.219 and a p-value of 0.001. These findings underscore the importance of Business Performance, Employee Development, and Strategic Decision Making in driving the adoption of Big Data Technology in HR within the case study organization.

Overall, these hypothesis test results provide evidence to support the proposed hypotheses, indicating that Business Performance, Employee Development, and Strategic Decision Making significantly influence the adoption and utilization of Big Data Technology in HR within the case study organization.

DISCUSSION

The results of the Structural Equation Modeling (SEM) analysis provide valuable insights into the relationships between strategic decision making, business performance, employee development, and the adoption of Big Data technology in HR within the case study organization. This discussion section synthesizes the key findings and their implications for theory and practice.

Positive Relationships Confirmed

The findings confirm the hypothesized positive relationships between strategic decision making, business performance, employee development, and the adoption of Big Data technology in HR. Specifically, strategic decision making, business performance, and employee development are all positively associated with the adoption and utilization of Big Data technology in HR. The existing literature emphasizes the significance of strategic HR practices and organizational capabilities in leveraging Big Data technology for HR management. Studies highlight that Big Data analytics can transform firms' ways of doing business, impacting innovation performance through dynamic capabilities and social capital [5]. Additionally, research indicates that Big Data analytics capabilities influence organizational resilience and strategic

flexibility, mediating the relationship between IT capabilities and strategic flexibility, and reinforcing the relationship between strategic flexibility and organizational resilience [27]. Furthermore, it is noted that Big Data quality plays a crucial role in improving HR practices, human resource service quality, and innovation competency in SMEs, especially in the context of organizational learning theory and resource-based view [38]. These findings underscore the importance of strategic HR practices and organizational capabilities in effectively utilizing Big Data technology for HR management.

Strategic Decision Making and Business Performance

The significant positive relationship between strategic decision making and business performance underscores the critical role of strategic HR management in driving organizational success. Organizations that prioritize data-driven decision making in HR are better positioned to achieve better business outcomes, such as improved productivity, profitability, and organizational agility. The research emphasizes the importance of senior executives acknowledging the strategic significance of HR data analytics and incorporating it into decision-making processes. [35], [39]–[42] Despite the potential benefits of HR analytics in defining strategic directions, optimizing workforce efficiency, and aligning planning with talent demand and supply, there are challenges in its implementation due to a lack of understanding and appreciation by key stakeholders. Organizations can leverage HR analytics to make data-driven decisions, enhance HRM activities, and maximize organizational performance. To fully realize the benefits of HR analytics, a shift towards a more process-oriented perspective and clear definition of roles in the implementation process are essential, highlighting the need for senior executives to champion the integration of HR data analytics into decision-making processes.

Employee Development and Big Data Technology Adoption

The significant positive relationship between employee development and the adoption of Big Data technology in HR underscores the importance of investing in employee training and development to build data literacy and analytical capabilities. Organizations that provide sufficient training and development opportunities for employees are better equipped to leverage Big Data technology effectively, enhancing their ability to make data-driven HR decisions and drive organizational performance. The research findings emphasize the necessity for HR departments to focus on employee development initiatives that cater to the digital skills essential for harnessing Big Data technology in HR management [26], [43]–[46]. As organizations transition to digital environments, the role of HR specialists evolves to require new competencies, including predictive HR analytics, mobile application interaction, and digital management skills. This shift towards digitalization in HR necessitates a change in the qualification requirements for HR professionals, urging them to acquire new digital competencies and enhance their skills to effectively utilize data-driven analytics in decision-making processes. Prioritizing employee development initiatives tailored to digital skills is crucial for HR departments to successfully leverage Big Data technology and drive impactful business outcomes in the digital age.

Implications for Practice

These findings have several implications for HR practitioners and organizational leaders. Firstly, organizations should prioritize strategic decision making in HR and foster a data-driven culture that values evidence-based decision making. This may involve investing in data analytics training for HR professionals and integrating data analytics into HR processes and systems. Secondly, organizations should invest in employee development initiatives aimed at enhancing data literacy and analytical skills among employees at all levels. This may

include providing training programs, workshops, and resources to help employees develop the skills needed to leverage Big Data technology effectively. Finally, organizations should recognize the interconnectedness of strategic decision making, employee development, and business performance in driving the adoption and utilization of Big Data technology in HR. By aligning HR initiatives with broader organizational objectives and investing in employee development, organizations can maximize the value derived from Big Data technology in HR management.

Limitations and Future Research Directions

It is essential to acknowledge the limitations of this study and identify avenues for future research. Firstly, the findings are based on data collected from a single FinTech company in Jakarta, which may limit the generalizability of the results to other contexts. Future research could replicate the study in different industries and geographic regions to assess the robustness of the findings. Additionally, this study focused on the influence of strategic decision making, business performance, and employee development on the adoption of Big Data technology in HR. Future research could explore other factors that may influence the

adoption and utilization of Big Data technology in HR, such as organizational culture, leadership support, and technological infrastructure.

5. CONCLUSION

In conclusion, this study sheds light on the interplay between strategic decision making, business performance, employee development, and the adoption of Big Data technology in HR within a FinTech company in Jakarta. The findings highlight the significance of strategic HR management practices and investments in employee development for harnessing the potential of Big Data technology in HR management. By prioritizing data-driven decision making, fostering a culture of innovation, and investing in employee training and development, organizations can enhance their ability to leverage Big Data technology to drive organizational performance and gain a competitive edge in the digital era. Moving forward, it is imperative for organizations to recognize the strategic value of HR data analytics and invest in building the necessary capabilities to capitalize on the opportunities offered by Big Data technology in HR.

REFERENCES

[1] D. S. Ratnam and V. R. Devi, "Addressing impediments to HR analytics adoption: Guide to HRD professionals," *Hum. Resour. Dev. Int.*, vol. 27, no. 1, pp. 142–151, 2024.

[2] D. Challis, D. Samson*, and B. Lawson, "Impact of technological, organizational and human resource investments on employee and manufacturing performance: Australian and New Zealand evidence," *Int. J. Prod. Res.*, vol. 43, no. 1, pp. 81–107, 2005.

[3] N. Mazur and N. Chukhray, "The Influence Of Modern Technologies On The Effectiveness Of Management And Decision-Making In Organizations," *Collect. Sci. Pap. «ΛΟΓΟΣ»*, no. April 28, 2023; Seoul, South Korea, pp. 36–38, 2023.

[4] S. Shamim, J. Zeng, S. M. Shariq, and Z. Khan, "Role of big data management in enhancing big data decision-making capability and quality among Chinese firms: A dynamic capabilities view," *Inf. Manag.*, vol. 56, no. 6, p. 103135, 2019.

[5] K. Biswas, S. Bhardwaj, and S. Zaman, "How HR analytics can leverage big data to minimise employees' exploitation and promote their welfare for sustainable competitive advantage," in *Handbook of Big Data Research Methods*, Edward Elgar Publishing, 2023, pp. 179–194.

[6] A. Latif, R. Fairdous, R. Akhtar, and M. Ambreen, "Exploring the Impact of Big Data Analytics on Organizational Decision-Making and Performance: Insights from Pakistan's Industrial Sector," *Pakistan J. Humanit. Soc. Sci.*, vol. 11, no. 2, pp. 1714–1732, 2023.

[7] D. Xu, T. Tu, and X. Xiao, "Talking about the innovative application of big data in enterprise human resources performance management," *Math. Probl. Eng.*, vol. 2022, 2022.

[8] A. Lutfi *et al.*, "Antecedents of big data analytic adoption and impacts on performance: contingent effect," *Sustainability*, vol. 14, no. 23, p. 15516, 2022.

[9] H. Opatha, "HR analytics: a literature review and new conceptual model," *Int. J. Sci. Res. Publ.*, vol. 10, no. 6, pp. 130–141, 2020.

[10] R. Guo, L. Yan, Y. Li, Z. Li, and Y. Gao, "Challenges and prospects of human resource management under the background of big data," *Adv. Educ. Humanit. Soc. Sci. Res.*, vol. 6, no. 1, p. 20, 2023.

[11] N. Zaki, A. Jamaluddin, V. Tanggamani, A. Rahim, and N. Alias, "Big Data: Balancing its Usefulness in Managing an Organization Performance and Ethical Consideration," *Int. J. Acad. Res. Bus. Soc. Sci.*, vol. 13, Jun. 2023, doi: 10.6007/IJARBSS/v13-i6/17592.

[12] Q. Guo, "Enterprise human resources big data analysis and application analysis in enterprises," in *International Conference on Mathematics, Modeling, and Computer Science (MMCS2022)*, SPIE, 2023, pp. 106–112.

[13] A. Aiko, "The Interplay between Human Resource Strategies and Strategic Alignment: A Comprehensive Review of Conceptual and Empirical Literature in the United States," *J. Strateg. Manag.*, vol. 7, pp. 1–10, Jul. 2023, doi: 10.53819/81018102t4170.

[14] D. P. Lepak, K. Jiang, R. Kehoe, and S. Bentley, "Strategic human resource management and organizational performance," *Handb. Ind. Work Organ. Psychol.*, vol. 3, pp. 255–274, 2018.

[15] J. M. Pandit and B. Paul, "The Strategic Human Resource Management Model," in *Strategic Human Resource Management in Higher Education: Roadmap for Indian Institutions*, Springer, 2023, pp. 83–117.

[16] P. Sharma, S. Jha, and S. Dash, "HR ANALYTICS: A Conceptual Study on Decision Making".

[17] S. N. Bonnyventure, "The Nexus Between Strategic Decision-Making, Strategic Communication and Organizational Performance: A Critical Literature Review," *J. Strateg. Manag.*, vol. 6, no. 3, pp. 37–49, 2022, doi: 10.53819/81018102t2071.

[18] A. Abtew and A. Assefa, "A Review on the impact of big data analytics on the employment of technical graduates in the IT industry," 2023.

[19] J. Feng, C. Guiqing, J. Xuedi, L. Qubo, and W. Fan, "The Impact of Big Data Capability on Enterprise Performance—theMediating Effect of Supply Chain Flexibility," *Tob. Regul. Sci.*, vol. 7, no. 6, pp. 5641–5655, 2021.

[20] X. Shao, "An Empirical Study of the Role of Big Data Analytics in Corporate Decision Making," *J. Glob. Inf. Manag.*, vol. 31, no. 6, pp. 1–19, 2023.

[21] S. L. Bilderback and G. J. Miller, "Importance of employee development programs in business," *J. Manag. Dev.*, vol. 42, no. 4, pp. 327–336, 2023.

[22] W. Okechukwu, "INFLUENCE OF TRAINING AND DEVELOPMENT, EMPLOYEE PERFORMANCE ON JOB SATISFACTION AMONG THE STAFF.," *J. Technol. Manag. Bus.*, vol. 4, no. 1, 2017.

[23] J. Sandamali, D. Padmasiri, G. Mahalekamge, and M. V. S. Mendis, "The Relationship between Training and Development and Employee Performance of Executive Level Employees in Apparel Organizations," *Int. J. Sci. Res.*, vol. 02, Jan. 2018.

[24] K. A. Kalli, Y. B. Abba, and A. G. Bukar, "An assessment of the effect of training and development on employee performance: A review perspective," *World J. Adv. Res. Rev.*, vol. 18, no. 2, pp. 258–270, 2023.

[25] M. Gumede, "The impact of training and development on employee performance: a case study of Capitec bank in Durban." 2021.

[26] P. S. Varsha and S. N. Shree, "Embracing Data-Driven Analytics (DDA) in human resource management to measure the organization performance," in *Handbook of Big Data Research Methods*, Edward Elgar Publishing, 2023, pp. 195–213.

[27] P. N. Afza, Professor, and Chairperson, "DATA DRIVEN HR PRACTICES FOR LEVERAGING SUSTAINABLE DEVELOPMENTS OF ORGANIZATION – A CONCEPTUAL STUDY," *europeanchemicalbulletin*, 2023.

[28] S. Arora, D. P. Warne, and M. Dahiya, "Theory and Concept of Strategic Human Resources Management," in *Strategic Human Resource Management in the Hospitality Industry: A Digitalized Economic Paradigm*, IGI Global, 2023, pp. 208–231.

[29] C. R. Greer, *Strategic human resource management*. Pearson Custom Publishing, 2021.

[30] Y. M. Zain, S. Yaacob, R. Ibrahim, and S. S. Hussein, "Valuable Insights Framework for Big Data and Analytics in the Malaysian Public Sector Organization," in *2023 5th International Congress on Human-Computer Interaction, Optimization and Robotic Applications (HORA)*, IEEE, 2023, pp. 1–10.

[31] C. Botelho, P. T. Kearns, and S. Woollard, "The HR function's influence on organizational performance beyond high-performance work practices paradigm: an HRM whole system perspective," in *Evidence-based HRM: a Global Forum for Empirical Scholarship*, Emerald Publishing Limited, 2023, pp. 746–761.

[32] A. Sutton and C. Atkinson, "Performance at the cost of well-being? Testing the multi-level effects of HR practices on organisational performance via employee experiences and well-being," in *Evidence-Based HRM: A Global Forum for Empirical Scholarship*, Emerald Publishing Limited, 2023, pp. 675–694.

[33] G. Alharbi, M. Jaafar, and N. S. M. Azizi, "A Review on the Impact of Human Resource Management Practices on Organizations' and Employees' Performance," *J. Hunan Univ. Nat. Sci.*, vol. 49, no. 12, 2022.

[34] K. S. Reddy, C. Prakash, B. Soujanya, and K. SP, "Impact of High Performance Work Practices on Employee Outcomes with Reference to Rane Brake Lining Pvt. Ltd, Siddipet District," *CEMJP*, vol. 31, no. 1, pp. 432–448, 2023.

[35] P. M. Madhani, "Human resources analytics: leveraging human resources for enhancing business performance," *Compens. Benefits Rev.*, vol. 55, no. 1, pp. 31–45, 2023.

[36] H. Masputra, B. M. Nilasari, and M. Nisfiannoor, "The Role of Big Data Predictive Analytics as A Mediator of The Influence of Recruitment and Selection, Remuneration and Rewards, Training, and Development on Employee Retention," *Return Study Manag. Econ. Bussines*, vol. 2, no. 4, pp. 353–366, 2023.

[37] E. Mamaqi, "The Role of Trainings in the Development and Enhancement of Work Performance in the Public and Private Sector," *Interdiscip. J. Res. Dev.*, vol. 10, no. 1 S1, p. 107, 2023.

[38] J. Gao and Z. Sarwar, "How do firms create business value and dynamic capabilities by leveraging big data analytics management capability?," *Inf. Technol. Manag.*, pp. 1–22, 2022.

[39] L. Yue, "The influence of enterprise human resource data analysis on enterprise management mode," *Acad. J. Humanit. Soc. Sci.*, vol. 6, no. 2, pp. 86–90, 2023, doi: 10.25236/ajhss.2023.060215.

[40] K. Mukuze, D. Chavunduka, F. Manuere, and P. Ndhlovu, "An Integrative Review of HR Analytics Implementation," *Manag. Econ. Res. J.*, vol. 9, pp. 1–7, Mar. 2023, doi: 10.18639/MERJ.2023.9900076.

[41] F. Wirges and A.-K. Neyer, "Towards a process-oriented understanding of HR analytics: implementation and application," *Rev. Manag. Sci.*, vol. 17, no. 6, pp. 2077–2108, 2023.

[42] G. Odom and D. Hyams-Ssekasi, "An Exploration of the Implications of Human Resources Analytics for Workforce Planning," *Futur. Bus. Adm.*, vol. 1, no. 2, pp. 30–42, 2022.

[43] L. Yorks, A. L. Abel, and D. Rotatori, "Using data and analytics for improved HRD performance in the age of digital technologies," in *Strategic human resource development in practice: Leveraging talent for sustained performance in the digital age of AI*, Springer, 2022, pp. 81–92.

[44] V. A. Kapitanov, O. S. Osipova, and L. S. Chikileva, "Promising areas for developing HR managers' competencies in the digital age," in *SHS Web of Conferences*, EDP Sciences, 2021, p. 1016.

[45] T. Karaboğa, H. Karaboğa, D. Basar, and S. Zehir, "Digital Transformation Journey of HR: The Effect of Big Data and Artificial Intelligence in HR Strategies and Roles," 2022, pp. 94–115. doi: 10.4018/978-1-7998-7793-6.ch004.

[46] E. Dolan, S. Kosasi, and S. N. Sari, "Implementation of competence-based Human Resources management in the digital era," *Startupreneur Bus. Digit. (SABDA Journal)*, vol. 1, no. 2, pp. 167–175, 2022.