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Regular Research Article

Evaluation of the Implementation of Strategic Human Resource Management (SHRM) on Organizational Performance in the Era of Digital Transformation

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Abstract: This study aims to evaluate the implementation of Strategic Human Resource Management (SHRM) on organizational performance in the era of digital transformation. Digital transformation has driven organizations to integrate technology, data, and innovation in human resource management to enhance competitiveness and business sustainability. The research method used is a quantitative approach with a survey design, involving respondents from various industrial sectors undergoing digitalization. Data were collected through structured questionnaires and analyzed using inferential statistical techniques to examine the relationship between SHRM practices such as digital-based HR planning, digital competency development, technology-based performance management, and adaptive organizational culture and organizational performance. The research results indicate that the implementation of SHRM integrated with digital technology has a positive and significant impact on improving organizational performance, both in terms of productivity, innovation, and operational effectiveness. Moreover, digital HR capabilities and transformational leadership support have proven to be key factors in strengthening that relationship. This research provides practical implications for organizations to design HR strategies that are adaptive to technological changes and strengthen the role of SHRM as a strategic partner in achieving competitive advantage in the digital era.

Keywords: Strategic Human Resource Management (SHRM), Digital Transformation, Organizational Performance, Digital Capabilities

1. Introduction

The development of digital technology in recent decades has brought significant changes to the way organizations operate and compete on a global scale. Digital transformation not only changes business processes but also affects organizational structure, business models, and human resource management (HRM). Technologies such as artificial intelligence (AI), big data analytics, cloud computing, and Human Resource Information System (HRIS) have become integral parts in enhancing efficiency, accuracy, and speed of decision-making within organizations. In this context, digital transformation becomes a key factor in improving organizational performance and creating sustainable competitive advantages [1]. Along with these changes, the role of human resource management has undergone a very significant shift. If previously the HR function was more focused on administrative aspects, it has now evolved into a strategic function that directly contributes to the achievement of organizational goals. The concept of Strategic Human Resource Management (SHRM) has emerged as an approach that emphasizes the importance of alignment between HR strategies and organizational business strategies. SHRM not only focuses on workforce management but also on developing organizational capabilities through enhancing competencies, employe engagement, and creating a work culture that is adaptive to change [2]. In the era of digital transformation, SHRM is experiencing increasingly complex

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evolution. The adoption of digital technology has transformed HR practices, such as digital recruitment (e-recruitment), e-learning-based training, and data-driven performance management systems. Additionally, the use of HR analytics enables organizations to make more accurate and evidence-based decisions. This transformation positions the HR function as a strategic partner capable of driving innovation and enhancing overall organizational performance [2]. Various studies indicate a strong relationship between the implementation of digital-based SHRM and organizational performance. Empirical studies reveal that digital HR strategies can enhance workforce productivity, operational effectiveness, and organizational innovation. Moreover, the integration of technology in HR practices also contributes to the improvement of employe satisfaction and engagement, which ultimately impacts the overall performance of the organization [3]. This shows that the success of organizations in the digital era greatly depends on their ability to manage human resources strategically and adaptively. However, the implementation of SHRM in the era of digital transformation is not without various challenges. One of the main challenges is the digital skills gap that still exists in many organizations. In addition, resistance to change, lack of organizational readiness, and limitations in technological infrastructure also pose obstacles in optimizing the implementation of digital-based SHRM. Research shows that the success of digital transformation is not only determined by technology but also by HR readiness, management support, and effective change strategies [4].

On the other hand, the importance of organizational agility is also gaining more attention in the context of digital transformation. Organizations with a high level of agility tend to be more capable of adapting to dynamic business environment changes and are more effective in implementing SHRM strategies. Organizational agility enables organizations to respond to changes quickly, increase operational flexibility, and drive continuous innovation. Therefore, the integration of SHRM, digital transformation, and organizational agility becomes an important factor in improving organizational performance [5]. In Indonesia, digital transformation in HR management is also beginning to show significant progress, both in the public and private sectors. Various organizations have adopted digital systems to enhance the efficiency and effectiveness of HR management, such as the use of HRIS, digital learning platforms, and technology-based performance evaluation systems. However, the implementation of digital-based SHRM in Indonesia still faces various challenges, particularly related to HR readiness, organizational culture, and technological infrastructure.

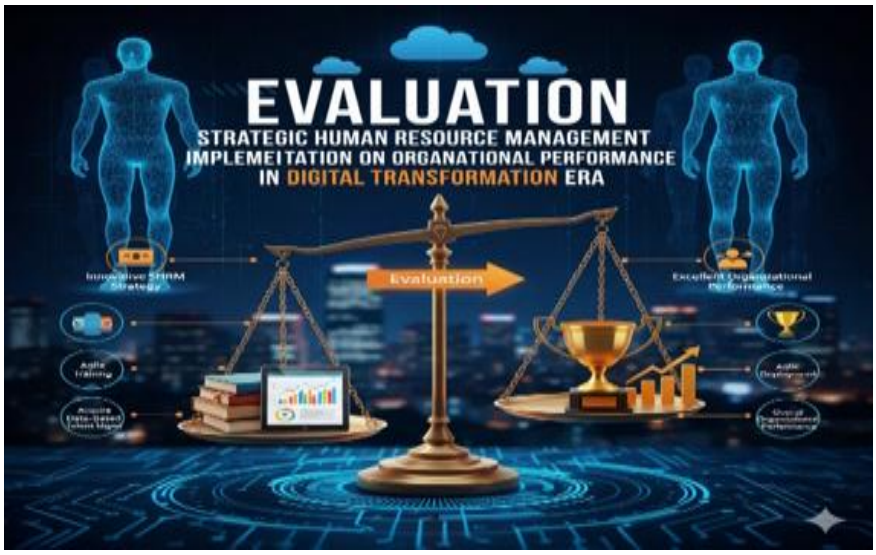

Figure 1. Conceptual Visualization of SHRM Implementation and Its Impact on Organizational Performance in the Digital Transformation Era.

This indicates that a comprehensive evaluation of SHRM implementation is necessary to ensure that the strategies applied are truly effective in improving organizational performance [6]. Based

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on this background, this research becomes important to deeply examine how the implementation of Strategic Human Resource Management (SHRM) affects organizational performance in the era of digital transformation [7]. This research not only focuses on the direct relationship between SHRM and organizational performance but also considers the role of digital transformation and other supporting factors such as organizational agility and digital capabilities. Thus, this research is expected to provide theoretical contributions to the development of SHRM literature as well as practical contributions for organizations in designing more adaptive, innovative, and sustainable HRM strategies. Overall, this study emphasizes that the success of organizations in the era of digital transformation is not only determined by the adoption of technology but also by the ability to integrate HRM strategies with technological developments. Therefore, SHRM becomes a key element in creating competitive, adaptive organizations that can survive amidst the increasingly complex dynamics of global change.

2. Materials and Methods

This study employed a quantitative research design to examine the level of readiness of maritime human resources in adopting digital technologies within port management environments. The quantitative approach was selected because it enables objective measurement of variables and statistical testing of relationships among constructs, which is appropriate for technology readiness assessment and behavioral prediction in organizational contexts.

2.1. Research Design

This study uses a quantitative approach with an explanatory research design aimed at testing the causal relationship between the implementation of Strategic Human Resource Management (SHRM) and organizational performance in the context of digital transformation [8]. This approach was chosen because it can empirically test the model of relationships between variables through numerical data and robust statistical analysis. In addition, this design is widely used in digital SHRM research because it can simultaneously test the roles of mediation and moderation variables [9].

2.2. Population and Sampling Technique

The research population consists of organizations that have implemented digital transformation in business processes and HR management [10], both in the public and private sectors. The sampling technique used is stratified random sampling to ensure representation across industry sectors and inclusion criteria:

a. Organizations have >50 employees.
b. Organizations have implemented digital HR systems such as HRIS, e-recruitment, and HR analytics.
c. Respondents are managers or HR practitioners.

This approach is relevant because previous research shows that sector stratification enhances external validity and the generalization of research results [11].

2.3. Types and Sources of Data

This research uses two types of data, namely primary data and secondary data. Primary data were obtained through structured questionnaires distributed to respondents who were directly involved in human resource management and digital transformation practices within their organizations. The questionnaire was designed to measure respondents' perceptions of Strategic Human Resource Management (SHRM), digital transformation, organizational agility, and organizational performance. Meanwhile, secondary data were obtained from international journals, books, industry reports, scientific publications, and relevant institutional documents. These data were used to support the theoretical foundation, strengthen the research framework, and provide broader context regarding the relationship between SHRM, digital transformation, and organizational performance. The use of primary data is important because it provides direct empirical evidence from respondents regarding the implementation of SHRM in the digital transformation era, while secondary data are used to enrich the literature review, justify the selection of variables and indicators, and support the interpretation of research findings. Therefore, the combination of primary and secondary data allows this study to obtain a more comprehensive understanding of the research problem [12].

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2.4. Research Instrument

The research instrument used in this study was a structured questionnaire based on a 1–5 Likert scale, ranging from strongly disagree to strongly agree. The questionnaire was developed based on indicators of Strategic Human Resource Management (SHRM), digital transformation, organizational agility, and organizational performance that have been validated in previous studies [13]. The SHRM variable (X1) was measured through several indicators, including strategic alignment, digital talent management, HR analytics, and digital performance management. The digital transformation variable (X2) was measured through technology adoption, including the use of artificial intelligence (AI), Human Resource Information System (HRIS), Big Data, digitalization of HR processes, and data-driven decision-making. Furthermore, organizational agility (X3) was measured through responsiveness, flexibility, and adaptability, while organizational performance (Y) was measured through productivity, innovation, operational efficiency, and decision-making speed.

These indicators were selected because they represent key dimensions of HRM practices in the digital transformation era. Digital HR practices, such as e-learning, data-driven HR management, HR analytics, and AI-based HR systems, have been shown to support more effective human resource management and contribute to improved organizational performance [14]. Therefore, the questionnaire was designed to capture respondents' perceptions of how SHRM and digital transformation practices influence organizational agility and organizational performance.

2.5. Data Collection Techniques

Data were collected through online and offline surveys using structured questionnaires. The online survey was distributed using digital platforms to reach respondents more efficiently, while the offline survey was conducted to accommodate respondents who had limited access to digital survey tools. This combination was used to increase the response rate and ensure broader respondent participation. The data collection process was conducted using a cross-sectional approach, in which data were collected within a single period. This approach is appropriate for examining the relationship between Strategic Human Resource Management (SHRM), digital transformation, organizational agility, and organizational performance because it allows the researcher to capture respondents' perceptions at a specific point in time [15].

2.6. Data Analysis Techniques

Data analysis in this study was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) [16]. This method was selected because it is suitable for analyzing complex research models involving several latent variables and relationships among constructs. The analysis consisted of three main stages. The first stage was the measurement model test, or outer model, which was used to evaluate the validity and reliability of the research indicators through convergent validity, Average Variance Extracted (AVE), and composite reliability. Indicators were considered acceptable when the loading factor exceeded 0.70, the AVE value was greater than 0.50, and the composite reliability value exceeded 0.70. The second stage was the structural model test, or inner model, which was used to examine the relationships among variables through path coefficients, R^2 values, and hypothesis testing using the bootstrapping procedure. The third stage involved mediation and moderation testing to examine the role of SHRM as a mediating variable and organizational agility as a moderating variable. SEM-PLS was considered appropriate for this study because it can analyze complex models, accommodate latent variables, and does not require strict normality assumptions. Therefore, this method is widely used in studies related to digital transformation and modern human resource management.

2.7. Validity and Reliability Test

Validity and reliability tests were conducted to ensure that the research instrument was able to measure the intended constructs accurately and consistently. Validity testing included convergent validity and discriminant validity. Convergent validity was assessed through the loading factor value, with an acceptable threshold of ≥ 0.70, while discriminant validity was evaluated using the AVE value, which should be greater than 0.50, and cross-loading indicators. Reliability testing was conducted using Cronbach's Alpha and Composite Reliability, with both values expected

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to be ≥ 0.70. These tests are essential to ensure that each indicator consistently represents the constructs of SHRM, digital transformation, organizational agility, and organizational performance. Previous studies emphasize that validity and reliability are important prerequisites in SEM-based research because they determine the quality and credibility of the measurement instrument [17].

2.8. Model Fit Test

The model fit test was conducted to evaluate the ability of the proposed research model to explain the relationship among the studied variables. In this study, model fit was assessed using the R^2 value, effect size (f^2), and predictive relevance (Q^2). The R^2 value was used to determine the extent to which the independent variables explain the dependent variable, while the f^2 value was used to assess the contribution of each exogenous variable to the endogenous variable. In addition, the Q^2 value was used to evaluate the predictive relevance of the model. The model was considered acceptable if it could significantly explain organizational performance as the dependent variable, particularly in relation to the implementation of SHRM, digital transformation, and organizational agility. These criteria are important to ensure that the model has sufficient explanatory and predictive power in analyzing organizational performance in the digital transformation era [18].

3. Results

This section presents the research results related to the evaluation of Strategic Human Resource Management (SHRM) implementation and its impact on organizational performance in the era of digital transformation. The results include the relationship between research variables, hypothesis testing, statistical model values, and descriptive findings.

3.1. Relationship Between Research Variables

The conceptual relationship between the research variables shows that digital transformation has a direct influence on organizational performance. In addition, SHRM acts as a mediating variable that connects digital transformation with organizational performance. Organizational agility is positioned as a moderate variable that strengthens the relationship between SHRM and organizational performance.

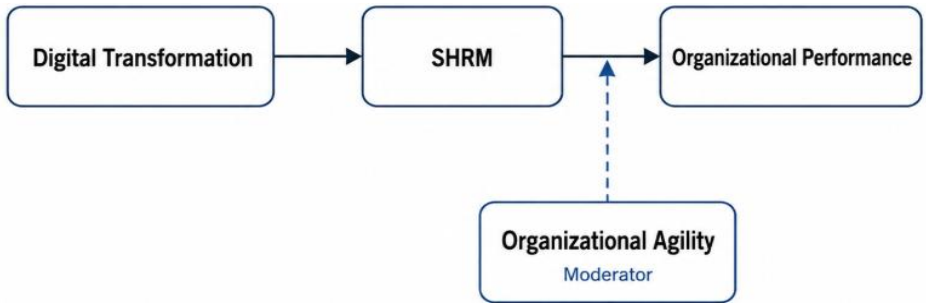

Figure 2. The Relationship Between Research Variables

The figure illustrates that digital transformation contributes to organizational performance through the strategic role of human resource management. Digital transformation encourages organizations to adopt technology-based HR practices, such as HR analytics, digital talent management, e-recruitment, and digital performance management. These practices strengthen the role of SHRM in improving employee productivity, innovation, operational efficiency, and decision-making speed. Furthermore, organizational agility enhances this relationship by enabling organizations to respond quickly to technological changes, market dynamics, and internal organizational challenges.

3.2. Hypothesis Test Results

The hypothesis testing results indicate that all proposed hypotheses are accepted. Digital transformation has a positive and significant effect on organizational performance. This finding shows that the adoption of digital technology can improve efficiency, innovation, and decision-making processes. Digital transformation also has a positive and significant effect on SHRM, indicating that digitalization strengthens the strategic role of human resource

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management. Furthermore, SHRM has a positive and significant effect on organizational performance, confirming that strategic HR practices contribute to productivity, competitiveness, and organizational effectiveness. The mediating role of SHRM is also significant, which means that SHRM serves as an important bridge between digital transformation and organizational performance. In addition, organizational agility significantly moderates the relationship, showing that flexibility and adaptability strengthen the impact of SHRM on organizational performance.

Table 1. Hypothesis Test Results

Hypothesis	Variable Relationship	Result	Interpretation
H1	Digital Transformation → Organizational Performance	Significant (+)	Technology enhances efficiency, innovation, and decision-making speed.
H2	Digital Transformation → SHRM	Significant (+)	Digitalization strengthens the strategic role of HR.
H3	SHRM → Organizational Performance	Significant (+)	SHRM improves productivity, competitiveness, and organizational effectiveness.
H4	SHRM as a Mediator	Significant (+)	SHRM bridges digital transformation and organizational performance.
H5	Organizational Agility as a Moderator	Significant (+)	Organizational flexibility strengthens the relationship between SHRM and performance.

Overall, the results confirm that SHRM plays a central role in the digital organizational system. The integration of digital transformation and SHRM contributes significantly to the improvement of organizational productivity, innovation, and performance.

3.3. Model Statistical Values

The statistical model results show that the proposed model has good explanatory power. The R^2 value of organizational performance is 0.68, which indicates that 68% of the variation in organizational performance can be explained by digital transformation, SHRM, and organizational agility. Meanwhile, the R^2 value of SHRM is 0.55, indicating that digital transformation explains 55% of the variation in SHRM. The path coefficient from SHRM to organizational performance is 0.42, while the path coefficient from digital transformation to SHRM is 0.56. These values indicate strong relationships among the key variables in the model.

Table 2. Model Statistical Values

Statistical Indicator	Value	Category
R^2 Organizational Performance	0.68	Strong
R^2 SHRM	0.55	Moderate
Path Coefficient SHRM → Organizational Performance	0.42	High
Path Coefficient Digital Transformation → SHRM	0.56	High
AVE	> 0.50	Valid
Composite Reliability	> 0.80	Very Reliable

These results indicate that the research model is statistically acceptable. The model can explain approximately 68% of the variation in organizational performance, while the measurement instruments meet the requirements of validity and reliability. This finding confirms that the alignment between SHRM and digital technology is an important factor in strengthening organizational competitiveness in the digital era.

3.4. Descriptive Findings

The descriptive findings show that all research variables are in the high category. Digital

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transformation has an average score of 4.10, indicating that the organization has widely adopted digital technologies in its business and HR processes. SHRM has an average score of 4.05, showing that HR practices have shifted from administrative functions to strategic functions. Digital capability has an average score of 3.95, indicating that human resources are relatively ready to support digital transformation. Organizational agility has an average score of 3.90, showing that the organization has a good level of adaptability and flexibility. Organizational performance has the highest average score of 4.15, indicating that digital transformation and SHRM implementation contribute positively to performance improvement.

Table 3. Descriptive Findings

Variable	Average Score	Category	Meaning
Digital Transformation	4.10	High	Widespread technology adoption
SHRM	4.05	High	HR has become more strategic
Digital Capability	3.95	High	Human resources are digitally ready
Organizational Agility	3.90	High	The organization is adaptive and flexible
Organizational Performance	4.15	High	Organizational performance has improved

The descriptive results indicate that the organization has reached a high level of digital maturity. Human resources have also undergone transformation toward stronger digital competencies. These findings suggest that organizations need to continue developing digital skills, strengthening strategic HR practices, and building an innovative culture to improve organizational performance sustainably.

4. Discussion

The summary of the research results presented in the figures and tables shows that the main objective of this study, namely to evaluate the effect of Strategic Human Resource Management (SHRM) implementation on organizational performance in the era of digital transformation, has been empirically achieved. The findings indicate that digital transformation has a positive effect on organizational performance. However, this effect becomes stronger when supported by the strategic role of SHRM and strengthened by organizational agility. These results confirm that SHRM acts as an important mechanism that connects the use of digital technology with organizational performance improvement. This is also reflected in the conceptual model and hypothesis testing results, which show that all proposed hypotheses were accepted.

From a scientific perspective, these findings indicate that digital technologies such as artificial intelligence (AI), Human Resource Information Systems (HRIS), and big data do not automatically improve organizational performance. These technologies must be integrated with effective human resource management strategies. SHRM enables organizations to manage digital competencies, improve employee engagement, strengthen HR analytics, and build an adaptive work culture. Therefore, SHRM can be understood as a strategic enabler that transforms technological potential into tangible organizational outcomes, such as increased productivity, innovation, operational efficiency, and faster decision-making. In addition, the role of organizational agility as a moderating variable confirms that flexibility and adaptability are important factors in optimizing the implementation of SHRM during digital transformation.

The findings of this study are consistent with previous research stating that the integration of digital transformation and strategic HR practices can improve organizational performance and competitiveness [2], [6], [8], [9]. The results also support studies emphasizing that digital HRM practices, HR analytics, and technology-based HR systems contribute to HR effectiveness and organizational outcomes [3], [9]. Furthermore, the role of organizational agility in this study is in line with previous findings showing that agile organizations are more capable of responding to environmental changes and implementing SHRM effectively [5]. Thus, this study strengthens the view that human resources are strategic assets that can create organizational value when

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managed through appropriate strategies and supported by digital technology.

However, this study also presents an important finding. Some previous studies suggest that digital transformation can directly improve organizational performance, while the results of this study show that SHRM plays a dominant mediating role. This means that technology adoption alone is not sufficient to generate optimal performance. In the context of organizations that are still developing their digital capabilities, the success of digital transformation depends heavily on HR readiness, digital competencies, leadership support, and the ability of the organization to align HR strategies with technological change. This difference may be influenced by variations in digital maturity, organizational culture, technological infrastructure, and employee readiness across organizations.

Overall, the results of this study provide an important understanding that organizational success in the digital transformation era is not only determined by the adoption of technology but also by the ability to integrate technology, human capital, and strategic management. SHRM has been proven to be a key factor that ensures digital transformation can be translated into sustainable organizational performance improvement. Therefore, organizations need to strengthen digital HR practices, develop employee digital competencies, improve organizational agility, and align HR strategies with business strategies to achieve superior performance in a dynamic digital environment.

5. Conclusion

Based on the research results, it can be concluded that the implementation of Strategic Human Resource Management (SHRM) has a significant role in improving organizational performance in the era of digital transformation. The findings show that digital transformation contributes positively to organizational performance. However, this contribution becomes more optimal when mediated by SHRM. This indicates that digital technologies such as AI, HRIS, big data, and digital HR platforms function as enablers, while SHRM acts as the main strategic mechanism that converts technological potential into improved productivity, innovation, operational efficiency, and decision-making speed.

This study also shows that digital-based SHRM practices, including strategic alignment, digital competency development, HR analytics, digital talent management, and technology-based performance management, have a significant contribution to organizational performance. The statistical results indicate that the research model has strong explanatory power, meaning that digital transformation, SHRM, and organizational agility can explain a substantial proportion of organizational performance. In addition, organizational agility strengthens the relationship between SHRM and organizational performance, indicating that organizations with higher adaptability and flexibility are better able to optimize the benefits of SHRM in the digital transformation process.

The findings of this study are consistent with previous research showing that digital transformation can improve organizational performance when supported by appropriate HR strategies, digital competencies, and an adaptive organizational culture. This study also confirms that SHRM has evolved from an administrative function into a strategic function that plays an important role in creating competitive advantage through the integration of technology and effective human capital management.

Overall, this study emphasizes that organizational success in the era of digital transformation is not only determined by the level of technology adoption but also by the organization's ability to integrate technology, human resources, and strategic management. Therefore, organizations that can implement SHRM strategically, develop digital HR capabilities, and strengthen organizational agility will have greater opportunities to achieve superior and sustainable performance amid increasingly dynamic global competition.

Conflict of Interest declaration: This research has no affiliations with or involvement in any organization or entity with any financial interest in the subject matter or materials discussed in this manuscript.

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