

The Effect of Digital Leadership and Technology-Based Human Resource Management on Employee Performance in Digital SMEs

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ABSTRACT

The rapid expansion of the digital economy has compelled Small and Medium Enterprises (SMEs) to adopt advanced leadership approaches and technology-driven human resource management practices. Digital leadership emphasizes the ability of leaders to leverage digital technologies to drive organizational change, innovation, and employee empowerment. This study aims to examine the effect of Digital Leadership and Technology-Based Human Resource Management (TBHRM) on employee performance in digital SMEs, with employee engagement as a mediating variable. A quantitative explanatory research design was employed, involving 150 employees from digital SMEs fostered by the Department of Cooperatives and SMEs in Denpasar City, Indonesia. Data were collected through a structured questionnaire and analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The results reveal that Digital Leadership and TBHRM have a positive and significant effect on employee performance. Furthermore, employee engagement partially mediates the relationship between both independent variables and employee performance. These findings highlight the strategic importance of digitally competent leadership and technology-enabled HR practices in enhancing employee outcomes and sustaining competitiveness in the digital business environment. This study contributes to the growing body of knowledge on digital leadership and digital HRM while offering practical insights for SME managers in the digital economy.

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1. INTRODUCTION

The digital transformation of business has fundamentally altered how organizations operate, compete, and manage human resources. In the digital economy, organizational success is increasingly determined by the ability of leaders to integrate digital technologies with strategic decision-making and people management practices. For Small and Medium Enterprises (SMEs), digitalization presents both opportunities and challenges, particularly in managing human resources effectively amid rapid technological change.

Digital leadership has emerged as a critical leadership paradigm in the digital era. It refers to leaders' capabilities to envision, adopt, and leverage digital technologies to create value, foster innovation, and guide employees through digital transformation. Unlike traditional leadership models, digital leadership emphasizes agility, data-driven decision-making, and continuous learning. Leaders who demonstrate digital leadership are more likely to encourage technology adoption and create an environment that supports employee engagement and performance.

Alongside leadership, Technology-Based Human Resource Management (TBHRM) plays a vital role in supporting digital business operations. TBHRM involves the utilization of digital tools and information systems in HR functions such as recruitment, training, performance appraisal, and employee development.

Through TBHRM, organizations can improve HR efficiency, transparency, and strategic alignment, which are essential for digital SMEs operating with limited resources.

Despite the increasing relevance of digital leadership and TBHRM, many digital SMEs still struggle to fully realize their potential benefits. Challenges such as limited digital competencies, resistance to change, and insufficient integration between leadership and HR systems often hinder employee performance. Previous studies have suggested that employee engagement may serve as a key mechanism through which digital leadership and digital HR practices influence performance outcomes.

However, empirical research that simultaneously examines digital leadership, technology-based HRM, employee engagement, and employee performance within the context of digital SMEs remains limited, particularly in developing economies. This research gap underscores the need for comprehensive empirical studies to understand how these factors interact to shape employee performance in the digital business environment.

Therefore, this study aims to analyze the effect of Digital Leadership and Technology-Based Human Resource Management on employee performance in digital SMEs, with employee engagement as a mediating variable. The findings are expected to contribute to the literature on digital leadership and HRM while providing practical implications for SME managers and policymakers involved in digital transformation initiatives.

2. RESEARCH MODEL AND HYPOTHESIS

Based on the theoretical framework of digital leadership, strategic human resource management, and employee engagement, this study proposes a conceptual model in which Digital Leadership and Technology-Based Human Resource Management influence Employee Performance both directly and indirectly through Employee Engagement.

The hypotheses developed in this study are as follows:

H1: Digital Leadership has a positive and significant effect on Employee Performance.

H2: Technology-Based Human Resource Management has a positive and significant effect on Employee Performance.

H3: Digital Leadership has a positive and significant effect on Employee Engagement.

H4: Technology-Based Human Resource Management has a positive and significant effect on Employee Engagement.

H5: Employee Engagement has a positive and significant effect on Employee Performance.

H6: Employee Engagement mediates the relationship between Digital Leadership and Employee Performance.

H7: Employee Engagement mediates the relationship between Technology-Based Human Resource Management and Employee Performance.

3. METHODS

This study employed a quantitative explanatory research design to examine causal relationships among the proposed variables. The research context focused on digital SMEs fostered by the Department of Cooperatives and SMEs in Denpasar City, Indonesia, which actively implement digital technologies in their business operations.

The population consisted of employees working in digital SMEs across sectors such as e-commerce, digital marketing, creative industries, and technology-based services. A total of 150 respondents were selected using purposive sampling with the following criteria: (1) full-time employment status, (2) minimum six months of working experience, and (3) routine use of digital systems in daily work activities.

Data were collected using a structured questionnaire measured on a five-point Likert scale. Digital Leadership was measured through indicators including digital vision, technological competence, innovation support, and digital communication. Technology-Based Human Resource Management was measured using indicators of e-recruitment, digital training, electronic performance appraisal, HR information systems, and HR analytics. Employee Engagement was assessed using vigor, dedication, and absorption, while Employee Performance was measured through task performance, adaptability, work quality, and productivity.

Data analysis was conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS software. The analysis involved evaluation of the measurement model (validity and reliability tests) and the structural model (path coefficients, coefficient of determination, effect size, and mediation analysis using bootstrapping).

4. RESULTS AND DISCUSSION

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5. CONCLUSIONS

This study concludes that Digital Leadership and Technology-Based Human Resource Management play a critical role in enhancing employee performance in digital SMEs. Employee engagement serves as an important mediating mechanism that strengthens the impact of leadership and HR practices on performance outcomes. The findings emphasize the need for SME leaders to develop digital competencies and invest in technology-enabled HR systems as part of their digital transformation strategies. Future research is recommended to incorporate longitudinal designs and additional contextual variables to further enrich understanding of digital leadership and HRM in the digital economy.

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