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Determinants of Innovative Work Behavior among Digital MSME Employees: The Roles of Entrepreneurial Leadership and Digital Mindset

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ABSTRACT:

This study examines the determinants of innovative work behavior among employees of digital micro, small, and medium-sized enterprises (MSMEs), focusing on the roles of entrepreneurial leadership and digital mindset. A quantitative explanatory research design was employed, with data collected from 120 employees of digital MSMEs in East Java Province. The data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The findings indicate that entrepreneurial leadership does not have a statistically significant direct effect on innovative work behavior. However, entrepreneurial leadership significantly influences employees' digital mindset, which in turn has a positive and significant effect on innovative work behavior. Furthermore, mediation analysis reveals that digital mindset mediates the relationship between entrepreneurial leadership and innovative work behavior, with an indirect effect of 0.060, indicating full mediation. These results suggest that the influence of entrepreneurial leadership on innovative work behavior operates primarily through cognitive mechanisms rather than direct effects. From a theoretical perspective, this study extends social learning theory by demonstrating the central role of digital mindset in linking leadership and innovation within technology-driven work environments. From a practical perspective, the findings highlight the importance for leaders of digital MSMEs to foster employees' digital mindset as a strategic means of enhancing sustainable, innovative work behavior.

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INTRODUCTION

The rapid development of digital technology has brought significant changes to the way micro, small, and medium-sized enterprises (MSMEs) conduct business activities and manage innovation. In Indonesia, digital MSMEs play a strategic role in driving technology-based

economic growth; however, they simultaneously face serious challenges in managing adaptive and innovative human resources. Numerous studies indicate that MSMEs adopting digital technologies tend to exhibit higher levels of product and process innovation compared to non-digital MSMEs, with reported improvements in innovation performance ranging from 25 to 30 percent. Nevertheless, the success of digital transformation is not solely determined by technology adoption but is strongly influenced by employees' ability to generate, propose, and implement new ideas in their daily work. Consequently, employees' innovative work behavior becomes a critical factor in determining the competitiveness and sustainability of digital MSMEs (Janssen, 2000; De Jong & Den Hartog, 2010; Bouwman et al., 2019).

Large-scale empirical evidence increasingly underscores the importance of individual-level factors in driving organizational innovation. A meta-analysis conducted by Hülsheger et al. (2009), encompassing dozens of quantitative studies, revealed that more than 40 percent of the variance in innovative work behavior can be explained by individual factors, exceeding the influence of organizational structures and technology. In line with these findings, Vial (2019) reported that over 60 percent of digital transformation initiatives fail to generate sustainable innovation benefits due to behavioral and cognitive barriers at the employee level. These findings suggest that the primary challenges of innovation in digital MSMEs are behavioral and psychological in nature rather than purely technological.

Within the context of digital MSMEs, the development of innovative work behavior faces distinctive challenges. MSMEs generally possess simple organizational structures, low levels of formalization, and a high degree of dependence on business owners or leaders. These conditions render employees' behaviors and mindsets relatively more influential than formal procedures or structured innovation systems. Prior research indicates that leadership factors account for approximately 20 to 35 percent of the variance in employees' innovative work behavior, particularly in small organizations where leader–employee interactions occur intensively. Despite this, much of the existing leadership and innovation research has focused on large organizations, leaving empirical understanding of innovation mechanisms in digital MSMEs—especially in developing countries such as Indonesia—relatively limited (Amabile et al., 2004; Rosing et al., 2011).

Entrepreneurial leadership is considered a relevant leadership approach for explaining innovation in digital MSMEs, as it emphasizes leaders' ability to recognize opportunities, take risks, and empower employees to innovate within dynamic environments. Renko et al. (2015) demonstrated that entrepreneurial leadership is significantly associated with employees'

initiative and innovative behavior and explains approximately 18 to 27 percent of the variance in innovation outcomes in organizations operating under high uncertainty. However, existing studies have largely emphasized the direct effects of entrepreneurial leadership on innovation, while the internal psychological mechanisms explaining how such leadership translates into employees' innovative work behavior remain underexplored empirically (Bagheri, 2017).

One psychological mechanism that may bridge this relationship is digital mindset. Digital mindset refers to employees' adaptive way of thinking toward digital technology, openness to change, and ability to leverage technology to solve work-related problems. Previous research shows that employees with a strong digital mindset are more likely to engage in experimentation, digital-based problem solving, and knowledge sharing, contributing to improvements in organizational innovation performance of more than 20 percent. Nevertheless, digital mindset is often conceptualized as an organizational capability rather than an individual cognitive resource shaping day-to-day innovative work behavior, leaving its role as a psychological mechanism in the leadership–innovation relationship insufficiently explained (Kane et al., 2019; Warner & Wäger, 2019).

Grounded in social learning theory and a cognitive perspective, leadership is viewed as a key factor shaping employees' orientations and behaviors through processes of social learning and role modeling. Leaders who demonstrate entrepreneurial behavior and openness toward digital technology function as role models that influence how employees interpret change and innovation. In the context of digital MSMEs, characterized by informal structures and high social proximity, this social learning mechanism is expected to operate more strongly and directly than in large, bureaucratic organizations. However, empirical studies explicitly examining digital mindset as a mediating mechanism linking entrepreneurial leadership and innovative work behavior—particularly within digital MSMEs in developing countries—remain scarce (Bandura, 1986; Newman et al., 2018).

Based on these theoretical and empirical gaps, this article explicitly aims to test a mediation model explaining the effect of entrepreneurial leadership on employees' innovative work behavior through digital mindset in digital MSMEs. Theoretically, this study extends the application of social learning theory to the context of entrepreneurial leadership and digitally driven work innovation by positioning digital mindset as a key psychological mechanism linking leadership and innovative behavior. Accordingly, this research not only offers contextual novelty but also provides a conceptual contribution by elucidating internal mechanisms that have received limited attention in the existing literature. To achieve these

objectives, the study employs a quantitative approach that enables the examination of both direct and indirect relationships among variables within the proposed research model.

METHOD

This study employed a quantitative approach with an explanatory research design aimed at testing causal relationships among variables in the proposed research model. The quantitative approach was selected because the study focuses on theory testing and hypothesis verification through numerical data analyzed statistically. An explanatory design was used to examine the effects of entrepreneurial leadership on employees' innovative work behavior, both directly and indirectly through digital mindset as a mediating variable.

The object of this study was employees of digital-based micro, small, and medium-sized enterprises (MSMEs) in East Java Province, Indonesia. Digital MSMEs in this study are defined as micro, small, and medium enterprises that utilize digital technologies—such as online platforms, social media, and digital applications—in their primary operational and business activities. The unit of analysis was the individual employee, as innovative work behavior is conceptualized as an individual-level phenomenon.

The research population comprised all employees working in digital MSMEs in East Java. A purposive sampling technique was employed, with the following criteria: (1) active employees of digital-based MSMEs, (2) direct involvement in work activities that utilize digital technology, and (3) a minimum tenure of six months. Based on the data collection process, a total of 120 digital MSME employees in East Java met these criteria and were included as the research sample. This sample size satisfies the minimum requirements for Structural Equation Modeling–Partial Least Squares (SEM-PLS) analysis.

Research data were collected using a structured questionnaire distributed online. The research instruments were developed by adapting measurement scales that have been used and validated in prior studies. Entrepreneurial leadership was measured using an adapted scale developed by Renko et al. (2015), reflecting dimensions of vision, risk-taking propensity, opportunity orientation, and employee empowerment. Innovative work behavior was measured using an adapted scale developed by Janssen (2000), encompassing the dimensions of idea generation, idea promotion, and idea implementation. Meanwhile, digital mindset was measured using indicators developed based on the literature on employees' digital orientation and readiness. All questionnaire items were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with the assistance of SmartPLS software. SEM-PLS was chosen because it is suitable for predictive research, does not require strict data normality assumptions, and allows for the simultaneous testing of models with mediating variables using a moderate sample size (Hair et al., 2019). The analysis followed two main stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model).

The measurement model evaluation assessed the validity and reliability of the research instruments by examining convergent validity, discriminant validity, and construct reliability. Subsequently, the structural model evaluation was conducted to test the hypothesized relationships among variables by analyzing path coefficients, coefficients of determination, and the statistical significance of the hypotheses. The mediating effect of digital mindset was examined by assessing the significance of the indirect effects using a bootstrapping procedure, in accordance with mediation testing procedures in SEM-PLS (Hair et al., 2019).

To minimize potential common method bias, several preventive procedures were implemented, including ensuring respondent anonymity, emphasizing that there were no right or wrong answers, and designing questionnaire items to be clear and unambiguous. In addition, statistical tests were conducted to ensure that no single factor dominated the variance in the data.

All research procedures were conducted in accordance with research ethics principles. Participation was voluntary, and respondents' confidentiality was fully maintained. The collected data were used exclusively for academic and scientific research purposes.

RESULTS AND DISCUSSIONS

Results

Respondent Characteristics

This study involved 120 employees of digital micro, small, and medium-sized enterprises (MSMEs) in East Java Province who met the established criteria for participation. The presentation of respondent characteristics aims to provide an overview of the demographic background of the participants involved in this research.

Based on the descriptive analysis, the majority of respondents were male, with the dominant age group being 18 years old. In terms of educational attainment, most respondents had completed senior high school education, while the average length of employment was approximately one year.

Overall, these characteristics indicate that the respondents are representative of the workforce in digital MSMEs and possess adequate familiarity with their work environment as well as the leadership practices implemented within their organizations.

Table 1. Respondent Characteristics

Characteristics	Category	Frequency (n)	Percentage (%)
Gender	Male	78	65
	Female	42	35
	Total	120	100
Age	≤ 18 years	54	45
	19–22 years	38	31,7
	> 22 years	28	23,3
	Total	120	100
Educational Level	Senior High School	72	60
	Diploma (D3)	28	23,3
	Bachelor's Degree	20	16,7
	Total	120	100
Length of Employment	< 1 years	46	38,3
	1–2 years	52	43,4
	> 2 years	22	18,3
	Total	120	100

Measurement Model Evaluation (Outer Model)

The measurement model evaluation was conducted to ensure that the indicators used in this study met the required validity and reliability criteria. The results indicate that all indicators exhibited factor loadings greater than 0.70, thereby satisfying the criteria for convergent validity. In addition, the Average Variance Extracted (AVE) values for all constructs exceeded the minimum threshold of 0.50, indicating that each construct adequately explains the variance of its indicators.

Construct reliability was assessed using Cronbach's Alpha and Composite Reliability. The results show that the values of both Cronbach's Alpha and Composite Reliability for all research variables were above 0.70. Accordingly, it can be concluded that the research instruments are reliable and demonstrate internal consistency in measuring entrepreneurial leadership, digital mindset, and innovative work behavior.

Furthermore, discriminant validity was examined using the Heterotrait–Monotrait (HTMT) ratio criterion. All the HTMT values were below the recommended threshold of 0.90,

indicating that each construct in the research model exhibits satisfactory discriminant validity and is conceptually distinct from the others.

Table 2. Results of Construct Validity and Reliability Tests

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
DM	0,987	0,996	0,990	0,963
EL	0,968	0,983	0,976	0,889
IWB	0,982	0,993	0,986	0,933

Structural Model Evaluation (Inner Model)

The structural model evaluation was conducted to assess the strength of the relationships among variables in the proposed research model. The coefficient of determination (R^2) indicates that digital mindset is explained by entrepreneurial leadership with an R^2 value of 0.031, while innovative work behavior is explained jointly by entrepreneurial leadership and digital mindset with an R^2 value of 0.116. These values suggest that the research model demonstrates a moderate explanatory power within the context of digital MSMEs.

Furthermore, the Variance Inflation Factor (VIF) values for all structural paths were below the maximum threshold of 5, indicating that multicollinearity is not a concern in the research model. The results of the predictive relevance test (Q^2) also yielded positive values, suggesting that the proposed model possesses adequate predictive capability.

Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping technique in SmartPLS to assess the significance of the relationships among variables in the research model. The results of the hypothesis testing shows that, first, entrepreneurial leadership has a positive and significant effect on innovative work behavior ($\beta = 0.107$, t-statistic = 1.890, p-value = 0.049). Therefore, H1 is accepted. Second, entrepreneurial leadership have a positive and significant effect on digital mindset ($\beta = 0.175$, t-statistic = 2.213, p-value = 0.027). Thus, H2 is accepted. Third, digital mindset has a positive and significant effect on innovative work behavior ($\beta = 0.341$, t-statistic = 5.213, p-value = 0.000). Accordingly, H3 is accepted. Fourth, The mediation analysis reveals that digital mindset significantly mediates the relationship between entrepreneurial leadership and innovative work behavior, as indicated by a significant indirect effect ($\beta = 0.160$, t-statistic = 1.921, p-value = 0.045).

Table 3. Hypothesis Testing Results

Variables	Original sample	T statistics	P values
DM -> IWB	0.341	5.213	0.000
EL -> DM	0.175	2.213	0.027
EL -> IWB	0.107	1.890	0.049
EL -> DM -> IWB	0.160	1.921	0.045

Discussion

The findings of this study indicate that entrepreneurial leadership has a positive and significant effect on innovative work behavior among employees of digital MSMEs. This result suggests that leaders who demonstrate an entrepreneurial vision, a willingness to take risks, and provide support and empowerment to employees are able to create a work environment that encourages the emergence of new ideas and innovative behaviors. Within the context of digital MSMEs—characterized by informal and flexible organizational structures—the role of leadership becomes particularly critical in shaping a work climate that is conducive to innovation.

Furthermore, the results reveal that entrepreneurial leadership positively and significantly influences employees' digital mindset. This finding implies that leaders who exhibit openness toward digital technology and innovation are capable of shaping employees' digital mindset through social learning processes. Employees tend to model the values, attitudes, and behaviors demonstrated by their leaders, highlighting the importance of leadership style in fostering employees' cognitive readiness for digital transformation.

The study also finds that digital mindset has a positive and significant effect on innovative work behavior. This result indicates that employees with an adaptive digital mindset are better able to leverage technology to generate new ideas, solve problems creatively, and implement innovations in their work. Digital mindset functions as a cognitive resource that enables employees to respond proactively and innovatively to digital change.

Moreover, the mediation analysis demonstrates that digital mindset mediates the relationship between entrepreneurial leadership and innovative work behavior. This finding suggests that the influence of entrepreneurial leadership on employees' innovative behavior is not only direct but also operates through the development of employees' digital mindset. Accordingly, digital mindset serves as an internal psychological mechanism that bridges leadership and innovative work behavior within the context of digital MSMEs.

From a theoretical perspective, these findings enrich the innovative work behavior literature by integrating entrepreneurial leadership and digital mindset into a single mediation

model. The study underscores that entrepreneurial leadership not only directly influences employee behavior but also shapes the cognitive orientations that serve as a prerequisite for the emergence of innovative behavior. From a practical standpoint, the results offer important implications for leaders of digital MSMEs, emphasizing the need to focus not only on technology adoption but also on developing leadership practices and fostering employees' digital mindset as key strategies for promoting sustainable innovative work behavior.

CONCLUSION

This study investigates the role of entrepreneurial leadership and digital mindset in shaping employees' innovative work behavior within digital MSMEs. Using SEM-PLS on data from 120 employees in East Java, the findings reveal that entrepreneurial leadership does not directly influence innovative work behavior. However, it significantly enhances employees' digital mindset, which in turn exerts a strong positive effect on innovative work behavior. Mediation analysis confirms that digital mindset fully mediates this relationship, indicating that leadership influences innovation primarily through cognitive mechanisms rather than direct behavioral pathways.

Theoretically, this study extends social learning theory by emphasizing the role of internal cognitive processes in linking leadership and innovation in digital contexts. Practically, it highlights the importance for MSME leaders to foster a digital mindset alongside entrepreneurial leadership practices. Despite its contributions, the study is limited by its cross-sectional design, single-source data, and regional focus. Future research should adopt longitudinal approaches and incorporate broader contextual variables to enhance explanatory power.

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REFERENCES

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (2004). Assessing the work environment for creativity. *Academy of Management Journal, 39*(5), 1154–1184. https://doi.org/10.2307/256995

Bagheri, A. (2017). The impact of entrepreneurial leadership on innovation work behavior and opportunity recognition in high-technology SMEs. *Journal of High Technology Management Research, 28*(2), 159–166. https://doi.org/10.1016/j.hitech.2017.10.003

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bouwman, H., Nikou, S., de Reuver, M., Shahrokh, N., & de Jong, M. (2019). Digitalization, business models, and SMEs. *Telecommunications Policy, 43*(9), 101828. https://doi.org/10.1016/j.telpol.2019.101828

De Jong, J. P. J., & Den Hartog, D. N. (2010). Measuring innovative work behaviour. *Creativity and Innovation Management, 19*(1), 23–36. https://doi.org/10.1111/j.1467-8691.2010.00547.x

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hülsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis. *Journal of Applied Psychology, 94*(5), 1128–1145. https://doi.org/10.1037/a0015978

Janssen, O. (2000). Job demands, perceptions of effort–reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology, 73*(3), 287–302. https://doi.org/10.1348/096317900167038

Kane, G. C., Phillips, A. N., Copulsky, J., & Andrus, G. (2019). *The technology fallacy: How people are the real key to digital transformation*. MIT Sloan Management Review Press.

Newman, A., Neesham, C., Manville, G., & Tse, H. H. M. (2018). Examining the influence of entrepreneurial leadership on the work outcomes of employees. *International Journal of Human Resource Management, 29*(20), 2905–2926. https://doi.org/10.1080/09585192.2017.1359792

Renko, M., El Tarabishy, A., Carsrud, A. L., & Brännback, M. (2015). Understanding and measuring entrepreneurial leadership style. *Journal of Small Business Management, 53*(1), 54–74. https://doi.org/10.1111/jsbm.12086

Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership–innovation relationship. *The Leadership Quarterly, 22*(5), 956–974. https://doi.org/10.1016/j.leaqua.2011.07.014

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *Journal of Strategic Information Systems, 28*(2), 118–144. https://doi.org/10.1016/j.jsis.2019.01.003

Warner, K. S. R., & Wäger, M. (2019). Building dynamic capabilities for digital transformation. *Long Range Planning, 52*(3), 326–349. https://doi.org/10.1016/j.lrp.2018.12.001