

Work Engagement Mediating Job Demands Resources and MSME Performance in Makassar, Indonesia

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Abstract: This study examines the influence of job demands and job resources on the performance of Micro, Small, and Medium Enterprises (MSMEs) owners, with work engagement as a mediating variable. Understanding the factors that drive MSME performance is increasingly important, considering the strategic role of MSMEs in supporting regional economic growth and employment. However, empirical evidence regarding the applicability of the Job Demands–Resources framework in the MSME context remains limited, particularly in developing countries. This study employed a quantitative approach using a survey method involving 100 MSME owners in Makassar City. Data were analyzed using Partial Least Squares Structural Equation Modeling. The findings reveal that job resources positively contribute to MSME performance, whereas job demands do not significantly influence performance. Job resources were also found to affect work engagement, while job demands showed no significant relationship with work engagement. In addition, work engagement was found to influence MSME performance. Nevertheless, work engagement did not mediate the relationship between job demands and MSME performance, nor between job resources and MSME performance. These findings suggest that the availability of adequate work resources plays a more substantial role in enhancing MSME performance than the level of work demands faced by business owners. This study contributes to the development of the Job Demands–Resources theory within the MSME context and provides practical insights for policymakers and business development agencies in designing interventions aimed at strengthening MSME performance.

Keywords: job demands, job resources, work engagement, msme performance

1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) constitute one of the main pillars of the Indonesian economy and play a crucial role in promoting economic growth, creating employment opportunities, and improving community welfare. The strategic role of MSMEs is reflected not only in the large number of business units that dominate the national economic structure but also in their substantial contribution to Gross Domestic Product (GDP) and employment generation. According to data from the Ministry of Micro, Small, and Medium Enterprises of the Republic of Indonesia, the number of MSMEs in 2024 reached approximately 64.2 million business units, contributing 61.07% to the national GDP, equivalent to IDR 8,573.89 trillion. Furthermore, the MSME sector absorbs approximately 97% of the national workforce and makes a significant contribution to domestic investment. These figures indicate that the successful development of MSMEs has direct implications for national economic growth and societal welfare resmi (Kementerian Koperasi dan UKM RI, 2024). Despite their substantial contribution to the national economy, MSMEs continue to face numerous challenges. One of the primary issues is their relatively low productivity compared to large-scale enterprises. Most MSMEs still rely on simple management systems, resulting in suboptimal operational efficiency.

Digital transformation has significantly altered business practices, consumer behavior, and product and service marketing mechanisms. MSME owners are required to integrate technology into their business operations to remain competitive. However, limitations in digital competencies, technological access, and resources often hinder business owners from successfully implementing business transformation. Consequently, the competitiveness of MSMEs tends to be lower than that of businesses that have effectively leveraged technology. This situation indicates that improving MSME performance remains a critical issue requiring attention from various stakeholders. Performance is one of the key indicators of business success, reflecting the ability of individuals or organizations to achieve predetermined objectives. From a Human Resource Management (HRM) perspective, performance is influenced not only by individual capabilities but also by motivation, the work environment, and organizational support. (Armstrong, 2023) explains that performance is the result of a combination of competence, motivation, opportunity, and organizational support that enables individuals to achieve targeted outcomes. Similarly, (Robbins and Judge, 2022) argue that performance is a function of an individual's ability, motivation, and opportunity to perform work-related tasks.

MSME owners generally assume multiple roles, serving not only as business owners but also as managers, marketers, financial administrators, and operational staff. Consequently, business performance is highly dependent on the ability of MSME owners to manage the various work demands encountered in their daily business activities. One of the most widely applied theories for explaining the relationship between job characteristics and performance is the Job Demands–Resources (JD-R) Theory developed by (Bakker and Demerouti, 2017). This theory posits that every job consists of two primary components: job demands and job resources. Job demands refer to aspects of work that require sustained physical, mental, or emotional effort and are therefore associated with certain physiological and psychological costs, such as stress, fatigue, and burnout. In contrast, job resources refer to aspects of work that help individuals achieve work goals, reduce the negative effects of job demands, and facilitate learning and personal development (Bakker & Demerouti, 2017). Job demands experienced by MSME owners may take various forms. High work pressure resulting from business competition, sales targets, and market uncertainty often creates psychological burdens.

Furthermore, most MSME owners are required to perform multiple business functions simultaneously, including procurement, production, marketing, customer service, and financial management. They must also meet increasingly complex customer expectations regarding product quality and service excellence. If these demands are not balanced by adequate resources, they may

reduce motivation and business performance. Conversely, the availability of job resources can assist MSME owners in managing these demands more effectively. Job resources encompass various forms of support that facilitate successful work performance. According to (Bakker and Demerouti, 2017), job resources may include social support, opportunities for competence development, technology, and job autonomy. Social support from family members, colleagues, business communities, and government institutions can help MSME owners cope with work-related pressures. Training and competency development programs enable entrepreneurs to improve their knowledge and managerial skills. The utilization of digital technology enhances operational efficiency and expands market access. Moreover, job autonomy provides business owners with the flexibility to make strategic decisions that align with their business needs.

The availability of these resources is expected to increase work motivation and support improved business performance. In addition to job demands and job resources, a psychological variable that has received considerable attention in organizational behavior research is work engagement. Work engagement as a positive and fulfilling psychological state characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). Work engagement consists of three main dimensions. Vigor refers to high levels of energy, enthusiasm, and mental resilience while working. Dedication reflects emotional involvement characterized by enthusiasm, inspiration, pride, and a sense of significance regarding one's work. Absorption describes a state in which individuals are fully concentrated and deeply engrossed in their work, making it difficult to detach from ongoing activities. Individuals with high levels of work engagement tend to demonstrate greater motivation, higher productivity, and superior performance than those with lower levels of engagement (Schaufeli, 2018). Research on the Job Demands–Resources (JD-R) Theory has been extensively conducted across various sectors, including education, healthcare, manufacturing, public institutions, and service organizations. Most studies have found that job resources positively influence work engagement and performance, whereas job demands are generally associated with burnout and reduced performance (Bakker & Demerouti, 2017; Schaufeli, 2018).

However, the majority of these studies have focused on employees working in formal organizations characterized by structured work systems, established human resource management practices, and clearly defined job responsibilities. These characteristics differ considerably from those of MSME owners, who often perform multiple business functions independently while facing significant resource constraints. Moreover, a bibliometric study by (Putra, et al., 2024) highlighted that research on work engagement within Indonesian MSMEs remains limited and continues to represent an emerging area of inquiry. Therefore, empirical investigations examining the applicability of the JD-R framework in the MSME context are needed to provide context-specific evidence regarding the relationships among job demands, job resources, work engagement, and business performance. Based on the foregoing discussion, this study aims to analyze the effects of job demands and job resources on work engagement and the performance of MSME owners in Makassar City, as well as to examine the mediating role of work engagement. Specifically, this study addresses the following research questions:

- (1) Do job demands and job resources significantly influence the performance of MSME owners in Makassar City?
- (2) Do job demands and job resources significantly influence the work engagement of MSME owners in Makassar City?
- (3) Does work engagement mediate the relationships between job demands, job resources, and the performance of MSME owners in Makassar City?

This study is expected to contribute to the development of the Job Demands–Resources Theory within the MSME sector and provide insights for policymakers, business support institutions, and MSME owners in formulating sustainable strategies to improve business performance.

2. LITERATURE REVIEW

The Job Demands–Resources (JD-R) Theory is one of the most widely used theoretical frameworks for explaining how job characteristics influence individual well-being and performance. The theory was first developed by Bakker and Demerouti (2007) and has since been extensively applied and expanded across various organizational contexts. According to Bakker and Demerouti (2017), every job contains characteristics that can be classified into two main categories: job demands and job resources. Job demands refer to aspects of work that require sustained physical and psychological effort and are therefore associated with certain physiological and psychological costs, such as fatigue and work-related stress. In contrast, job resources refer to aspects of work that help individuals achieve work goals, reduce the negative effects of job demands, and support personal growth and development. This perspective is consistent with Conservation of Resources Theory, which suggests that individuals strive to obtain and preserve valuable resources to cope with stress and maintain optimal functioning (Hobfoll, 2021). Within the MSME sector, business owners frequently encounter various job demands, including sales target pressures, limited workforce availability, customer expectations, and increasingly intense business competition. At the same time, entrepreneurs require various resources, such as social support, training opportunities, access to technology, and job autonomy, to maintain productivity and ensure business sustainability. Job demands refer to aspects of work that require continuous physical, emotional, and psychological effort and are therefore associated with certain physiological and psychological costs (Bakker & Demerouti, 2017).

2.1. Job Demands and Resources

Job demands do not necessarily produce negative outcomes. However, when such demands exceed an individual's capacity over an extended period, they may result in work stress, fatigue, and decreased performance. In the context of MSMEs, job demands may include high work pressure, diverse customer expectations, limited operational time, and the obligation to perform multiple business activities simultaneously. MSME owners are often required to assume multiple roles, ranging from production and marketing to financial management and customer service, thereby increasing the complexity of their work responsibilities. Job resources refer to physical, social, psychological, and organizational aspects of work that help individuals achieve work goals, reduce the adverse effects of job demands, and promote learning and personal development (Bakker & Demerouti, 2017). In the MSME environment, job resources may include family support, coworker support, entrepreneurship training, access to digital technology, opportunities for competency development, and autonomy in business decision-making. According to Schaufeli (2018), the availability of adequate job resources enhances intrinsic motivation and encourages individuals to perform their work more effectively and efficiently.

2.2 Work Engagement

Work engagement is a positive, fulfilling, work-related psychological state characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). Work engagement consists of three primary dimensions: vigor, dedication, and absorption. Vigor reflects high levels of energy and mental resilience while working. Dedication refers to emotional involvement characterized by enthusiasm, inspiration, and pride in one's work. Meanwhile, absorption describes a condition in which individuals are fully concentrated and deeply immersed in their work, making it difficult to detach themselves from ongoing work activities. According to the JD-R Theory, work engagement is the result of a motivational process influenced by the availability of job resources. Individuals who possess sufficient work resources tend to demonstrate higher levels of engagement, which subsequently contributes to improved performance (Bakker & Demerouti, 2017).

2.3 MSME Performance

Performance refers to the outcomes achieved by individuals or organizations within a specific period based on predetermined standards. Armstrong (2023) explains that performance is a combination of competence, motivation, opportunity, and organizational support. Similarly, Robbins and Judge (2022) argue that performance is influenced by individual ability, work motivation, and a supportive work environment. In the MSME context, performance can be assessed through the ability of business owners to increase productivity, achieve business targets, improve service quality, manage resources effectively, and sustain business continuity. Therefore, understanding the factors that influence MSME performance is essential for supporting business growth and enhancing competitiveness.

2.4 Hypothesis Development

The Job Demands–Resources (JD-R) Theory explains that job demands may produce either positive or negative outcomes depending on how individuals perceive and manage these demands (Bakker & Demerouti, 2007, 2017). When job demands exceed individuals' adaptive capacities, they may lead to exhaustion and reduced effectiveness. In the context of MSMEs, business owners frequently face sales pressures, multiple responsibilities, and intense competition, which may influence their business performance. Previous studies have demonstrated that job demands play an important role in determining entrepreneurial outcomes and well-being (Khan, 2025; Yu et al., 2025). Therefore, the following hypothesis is proposed:

H1: Job demands significantly affect MSME performance

According to the JD-R Theory, job resources stimulate motivation and facilitate the achievement of work goals (Bakker & Demerouti, 2007, 2017). From the perspective of Resource-Based Theory, valuable resources constitute strategic assets that enable organizations to achieve superior performance (Barney, 2021). In the MSME context, resources such as social support, training opportunities, autonomy, and access to technology may enhance business effectiveness. Empirical studies have consistently found that job resources positively influence performance (Tummers & Bakker, 2021; Zhang et al., 2023). Therefore, the following hypothesis is proposed:

H2: Job resources positively affect MSME performance

The health impairment process embedded in the JD-R Theory suggests that excessive job demands consume individuals' physical and psychological energy, thereby reducing their level of work engagement (Bakker & Demerouti, 2007, 2017). MSME owners often encounter role overload and time pressure, which may decrease enthusiasm and dedication toward their businesses. Entrepreneurial studies have also shown that excessive demands are associated with adverse psychological outcomes (Khan, 2025; Yu et al., 2025). Therefore, the following hypothesis is proposed:

H3: Job demands negatively affect work engagement

Job resources are recognized as key antecedents of work engagement because they satisfy basic psychological needs and strengthen intrinsic motivation (Bakker & Demerouti, 2017). Employees and entrepreneurs who perceive adequate support and opportunities for growth are more likely to experience vigor, dedication, and absorption in their work (Bakker & Albrecht, 2018). Empirical evidence further indicates that organizational resources significantly enhance employee engagement (Albrecht et al., 2021; Xanthopoulou et al., 2021). Therefore, the following hypothesis is formulated:

H4: Job resources positively affect work engagement

Work engagement is defined as a positive, fulfilling, work-related psychological state characterized by vigor, dedication, and absorption (Schaufeli et al., 2002; Schaufeli, 2018). Engaged individuals tend to exert greater effort, demonstrate persistence, and perform beyond formal expectations. Previous studies have confirmed that work engagement contributes positively to both

individual and organizational performance (Christian et al., 2021; Nkansah et al., 2024). Thus, the following hypothesis is proposed:

H5: Work engagement positively affects MSME performance

The JD-R Theory posits that job demands may influence performance indirectly through work engagement (Bakker & Demerouti, 2017). High job demands can reduce engagement levels, which subsequently affect work outcomes. Accordingly, work engagement may serve as an explanatory mechanism linking job demands and performance. Furthermore, the motivational process proposed by the JD-R Theory suggests that job resources foster work engagement, which in turn enhances performance (Bakker & Demerouti, 2007, 2017). Studies have demonstrated that the positive effects of resources on performance operate through higher levels of engagement (Yin et al., 2022; Zito et al., 2024). Therefore, the following hypothesis is proposed:

H6: Work engagement mediates the relationship between job demands and MSME performance

H7: Work engagement mediates the relationship between job resources and MSME performance

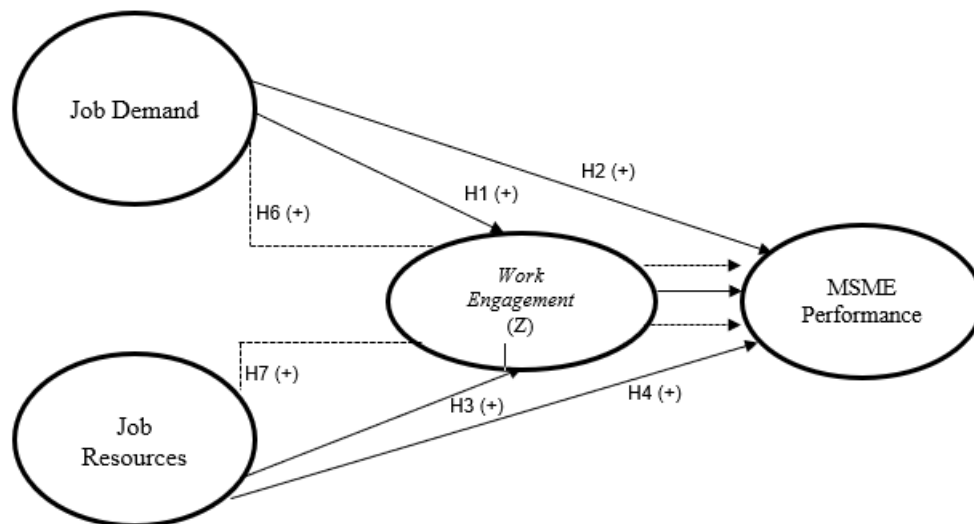


Figure 1. Conceptual Framework
Source: Developed by the authors (2026)

3. RESEARCH METHOD

3.1 Research Design

This study employed a quantitative approach with an explanatory research design. Explanatory research aims to explain causal relationships among variables through hypothesis testing developed based on theories and previous empirical findings (Sekaran & Bougie, 2021). A quantitative approach was selected because the study focuses on objectively measuring variables using numerical data collected from respondents through a structured questionnaire. This study examined the effects of Job Demands and Job Resources on MSME Owners' Performance, with Work Engagement serving as a mediating variable. The relationships among variables were analyzed using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach to investigate both direct and indirect effects among the research variables. The study was conducted among Micro, Small, and Medium Enterprise (MSME) owners operating in Makassar City, South Sulawesi, Indonesia. Data collection was carried out from January to March 2026 through the distribution of questionnaires, both directly and online, to respondents who met the established research criteria.

3.2 Sample and Data Collection

Population refers to the entire group of subjects possessing specific characteristics relevant to the research objectives (Sugiyono, 2023). The population in this study consisted of all MSME owners actively operating businesses in Makassar City. The exact number of MSME owners meeting the research criteria was unknown due to the lack of comprehensive data regarding active MSMEs directly managed by business owners during the data collection period. Therefore, this study adopted an unknown population approach. A sample is a subset of the population selected to represent its characteristics in a research study (Hair et al., 2022). Since the exact population size was unknown, the determination of the sample size in this study was based on recommendations for Partial Least Squares Structural Equation Modeling (PLS-SEM) using a statistical power approach. (Hair et al., 2022) emphasize that the 10-times rule is no longer considered an adequate approach for determining sample size in PLS-SEM. Instead, sample size should be determined using more rigorous methods such as statistical power analysis (G*Power) or the inverse square root method proposed by (Kock and Hadaya, 2018), which take into account model complexity, effect size, and required statistical power. In line with these recommendations, a sample size of 100 respondents was considered sufficient to ensure adequate statistical power in PLS-SEM analysis.

This sample size is generally acceptable for models with latent constructs measured by multiple indicators, particularly when the objective is to obtain stable parameter estimates and reliable model evaluation. Therefore, the use of 100 respondents in this study is deemed appropriate to support robust statistical analysis and to ensure the reliability of both the measurement model and the structural model in PLS-SEM. The sampling technique used in this study was purposive sampling, which involves selecting respondents based on specific criteria relevant to the research objectives (Sugiyono, 2023). The criteria for respondent selection were as follows:

1. The respondent is the owner or primary manager of an MSME.
2. The business has been operating for at least one year.
3. The respondent is directly involved in daily business operations.
4. The business is located in Makassar City.
5. The respondent is willing to participate in the study.

3.3 Data Analysis

The data analysis method used is the PLS-SEM equation model using SmartPLS4 software. Based on the objectives to be achieved in this study, PLS-SEM analysis was chosen because of the following considerations: (1) PLS-SEM can be used to test models that have many variables and relationships between variables; and (2) PLS-SEM can be used to test relationships between variables and to identify the most influential variables. Data analysis was carried out in two stages, namely the measurement model and the structural model. The use of purposive sampling ensured that respondents possessed sufficient experience and understanding of business operations, enabling them to provide accurate information regarding the variables examined in this study. The data in this study were collected using a structured questionnaire. The instrument consisted of multiple items for each research variable, as follows: Job Demands: 5 items; Job Resources: 6 items; Work Engagement: 6 items; MSME Performance: 5 items. All items were measured using a 5-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. The measurement items were adapted from established scales in previous studies and literature on Job Demands–Resources Theory and performance measurement. A pilot test was conducted to ensure clarity, readability, and content validity of the questionnaire before distribution. MSME performance in this study was measured using subjective self-reported assessment from business owners/managers, reflecting perceived business performance in terms of productivity, growth, and operational effectiveness.

4. RESULTS

4.1 Respondent Characteristics

This study involved 100 MSME owners in Makassar City selected through a purposive sampling technique. The respondents consisted of business owners who had operated their businesses for at least one year and were directly involved in managing their business activities. Based on business type, the respondents were dominated by the trade sector (38%), followed by culinary businesses (34%), service businesses (18%), and other business sectors (10%). In terms of business experience, most respondents had been operating their businesses for 3–5 years (42%), followed by more than 5 years (35%) and less than 3 years (23%). These characteristics indicate that the respondents possessed sufficient experience in managing business activities and were therefore able to provide relevant information regarding the research variables.

4.2. Common Method Bias (CMB)

The reliance on cross-sectional data and self-reported instruments in this study introduces the potential for Common Method Bias (CMB), which can lead to inaccurate estimations of the relationships among constructs. Therefore, a CMB assessment was conducted using the full collinearity assessment procedure (Kock, 2015) via SmartPLS 4 software. The results of the full collinearity assessment are presented in Table 1.

Table 1. Common Method Bias (CMB)

Variabel	Full Colliearity VIF
Job Demands	< 3.3
Job Resources	< 3.3
Work Engagement	< 3.3
MSME Perfomance	< 3.3

Source: SmartPLS 4 Data Processing Results (2026)

The evaluation criterion stipulates that the Variance Inflation Factor (VIF) value for each construct must be below the 3.3 threshold to rule out any indication of method bias. The results of the full collinearity assessment indicate that all constructs have VIF values below 3.3. This confirms that common method bias does not pose a serious concern in this study.

4.3 Measurement Model Evaluation (Outer Model)

The measurement model evaluation was conducted to assess the validity and reliability of the constructs employed in this study. The evaluation included convergent validity, discriminant validity, and construct reliability. Table 2 summarizes the range of outer loadings for each construct in the study. Based on the recommended threshold of > 0.70 (Hair et al., 2021), the analysis reveals that all indicators possess loading values ranging from 0.715 to 0.954. This convincingly confirms that all items meet the required reliability criteria and are valid for measuring their respective constructs.

Table 2. Outer Loadings

Variable	Indicator Loadings
Job Demands	0.836-0.954
Job Resources	0.743-0.874
Work Engagement	0,724-0.944
MSME Perfomance	0,715-0.889

Source: SmartPLS 4 Data Processing Results (2026)

The results indicate that all indicators have outer loading values above the threshold of 0.70, demonstrating that each indicator has strong convergent validity and adequately reflects its respective construct (Hair et al., 2022).

Table 3. Convergent Reliability

Variable	Cronbach's Alpha	Cronbach's Alpha
Job Demands	0.958	0,965
Job Resources	0.928	0,939
Work Engagement	0.959	0,966
MSME Performance	0.967	0.972

Source: SmartPLS 4 Data Processing Results (2026)

The reliability results show that all constructs exceed the recommended threshold of 0.70 for both Cronbach's Alpha and Composite Reliability. This confirms that all constructs demonstrate high internal consistency and are reliable for further analysis. Convergent validity was evaluated using the Average Variance Extracted (AVE) value. According to Hair et al. (2022), a construct demonstrates adequate convergent validity when its AVE value exceeds 0.50.

Table 4. Average Variance Extracted (AVE)

Variable	AVE
Job Demands	0,825
Job Resources	0,669
Work Engagement	0,780
MSME Performance	0,628

Source: SmartPLS 4 Data Processing Results (2026)

Based on Table 3, all variables have AVE values above 0.50. The highest AVE value was found for Job Demands (0.825), while the lowest was observed for MSME Performance (0.628). Therefore, all constructs satisfy the convergent validity requirement and adequately explain the variance of their indicators (Hair et al., 2022). Construct reliability was evaluated using Composite Reliability (CR). A construct is considered reliable when its Composite Reliability value exceeds 0.70 (Hair et al., 2022).

Table 5. Composite Reliability

Variabel	Composite Reliability
Job Demands	0,966
Job Resources	0,941
Work Engagement	0,966
MSME Performance	0,970

Source: SmartPLS 4 Data Processing Results (2026)

Table 4 shows that all variables have Composite Reliability values above 0.70. The highest reliability value was found for MSME Performance (0.970), while the lowest was observed for Job Resources (0.941). These results indicate that all constructs demonstrate excellent internal consistency and are therefore suitable for further analysis.

4.4 Structural Model Evaluation

Before assessing the structural paths, the inner model was evaluated for multicollinearity to ensure that the predictor constructs are not overly correlated. Following the recommendations of Hair et al. (2021), the Variance Inflation Factor (VIF) was examined for each predictor. Table 6 illustrates that all inner VIF values range from 2.05 to 2.31, which are significantly below the recommended threshold of 3.0. This confirms the absence of severe multicollinearity among the constructs, allowing for an unbiased estimation of the structural model's path coefficients.

Table 6. Inner VIF

Variabel	VIF
Job Demands	2.31
Job Resources	2.18
Work Engagement	2.05

Source: SmartPLS 4 Data Processing Results (2026)

All Variance Inflation Factor (VIF) values are below the threshold of 3.3, indicating that there is no serious multicollinearity issue among the constructs in the structural model. The coefficient of determination (R^2) was used to measure the explanatory power of exogenous variables on endogenous variables.

Table 7. R^2 Values

Variabel Endogen	R^2
Work Engagement	0,047
MSME Performance	0,578

Source: SmartPLS 4 Data Processing Results (2026)

The R^2 value of 0.047 indicates that Job Demands and Job Resources explain 4.7% of the variance in Work Engagement. Meanwhile, the R^2 value of 0.578 indicates that Job Demands, Job Resources, and Work Engagement explain 57.8% of the variance in MSME Performance. According to Hair et al. (2022), these values indicate a moderate level of explanatory power. Overall, the findings indicate that Job Resources are the most influential determinant of MSME performance, while Job Demands show no significant effect. Work Engagement has a significant but negative relationship with performance, and mediation effects are not supported. The model demonstrates moderate explanatory power, suggesting that performance is primarily driven by resource-based factors rather than job demands or engagement mechanisms.

Table 7. Predictive Relevance (Q^2)

Variabel	(Q^2)
Performance	0.36

Source: SmartPLS 4 Data Processing Results (2026)

The Q^2 values indicate that the model has adequate predictive relevance for the endogenous constructs. Specifically, both Work Engagement and MSME Performance exhibit Q^2 values greater than zero, confirming that the model possesses meaningful out-of-sample predictive power. This suggests that the structural model is not only explanatory but also sufficiently capable of predicting real-world outcomes, thereby supporting the overall robustness of the proposed JD–R framework in explaining MSME performance. The Standardized Root Mean Square Residual (SRMR) value was 0.070. According to Hu and Bentler (1999), an SRMR value below 0.08 indicates a good model fit. Therefore, the proposed model is considered suitable for hypothesis testing.

4.5 Hypothesis Testing

The final stage in the evaluation of a structural model is hypothesis testing to assess the significance of direct effects and indirect (mediation) effects among the research constructs. This testing was conducted using a non-parametric bootstrapping procedure via SmartPLS 4 software with 5,000 subsamples to produce robust p-value estimates. The significance level set in this study is 5% ($\alpha = 0.05$). Thus, a hypothesis is considered supported if the path coefficient yields a p-value less than 0.05. A comprehensive summary of the test results for the seven hypotheses proposed in this study, along with their path coefficients (β), is presented in Table 8.

Table 8. Hypothesis Testing Results

Hypothesis	Relationship	β	p-value	Decision
H1	Job Demands \rightarrow Work Engagement	0.130	0.227	Rejected
H2	Job Resources \rightarrow Work Engagement	-0.292	0.046	Supported
H3	Job Demands \rightarrow Performance	0.010	0.807	Rejected
H4	Job Resources \rightarrow Performance	0.560	0.000	Supported
H5	Work Engagement \rightarrow Performance	-0.080	0.035	Supported
H6	Job Demands \rightarrow Work Engagement \rightarrow Performance	-0.010	> 0.05	Rejected
H7	Job Resources \rightarrow Work Engagement \rightarrow MSME Performance	0.023	> 0.05	Rejected

Source: SmartPLS 4 Data Processing Results (2026)

The decision criteria were based on a 5% significance level, whereby a hypothesis was accepted if the p-value was less than 0.05. The results of the path coefficient (β) estimates, significance values, and decisions for each hypothesis Based on Table 6, three hypotheses were supported (H2, H4, and H5), while four hypotheses (H1, H3, H6, and H7) were rejected.

5. DISCUSSION

The findings indicate that job demands did not significantly affect work engagement among MSME owners in Makassar City. This result suggests that business pressures, such as workload, customer expectations, and operational complexity, do not necessarily determine entrepreneurs' levels of vigor, dedication, and absorption in managing their businesses. MSME owners may perceive such demands as an inherent part of entrepreneurial activities rather than as factors that reduce their psychological involvement in work. This finding is consistent with entrepreneurial studies emphasizing that business owners often develop adaptive capacities that enable them to cope with demanding work situations. Khan (2025) reported that entrepreneurs are capable of managing socio-cultural and business pressures through various coping mechanisms, while Yu et al. (2025) found that entrepreneurs may remain resilient despite experiencing substantial demands. These findings suggest that the *health impairment process* proposed by the JD-R Theory (Bakker & Demerouti, 2007, 2017) may not operate optimally in entrepreneurial settings, where individuals generally possess greater autonomy and flexibility in managing their work. From a practical perspective, MSME development programs should focus on strengthening entrepreneurs' adaptive capabilities, such as resilience, stress management, and problem-solving skills, rather than merely attempting to reduce work demands. This approach may better support entrepreneurs in sustaining their engagement while facing increasingly complex business challenges.

The findings reveal that job resources had a significant but negative effect on work engagement among MSME owners in Makassar City. This result indicates that the greater the resources available to entrepreneurs, the lower their levels of vigor, dedication, and absorption in managing their

businesses. This finding represents one of the most distinctive contributions of the present study, as it contradicts the assumptions of the Job Demands–Resources (JD-R) Theory, which posits that job resources stimulate motivation and foster work engagement (Bakker & Demerouti, 2017). Previous studies have consistently demonstrated a positive relationship between job resources and work engagement. Bakker and Demerouti (2017) argued that resources such as autonomy, social support, and learning opportunities promote motivational processes that enhance engagement. Similarly, Albrecht et al. (2021) found that organizational resources contribute positively to employee engagement, while Schaufeli (2021) emphasized that supportive work environments encourage individuals to become more enthusiastic and dedicated to their work. However, the findings of this study suggest that such relationships may not necessarily apply to MSME owners. One possible explanation is that entrepreneurs tend to perceive resources, including training opportunities, technology utilization, business networks, and external support, primarily as instrumental means to achieve business targets rather than as factors that strengthen their psychological attachment to work. As access to resources increases, entrepreneurs may become more focused on operational efficiency and business outcomes, thereby reducing their emotional involvement in day-to-day business activities. These findings imply that the motivational pathway proposed by the JD-R Theory may operate differently in entrepreneurial settings. Therefore, further research is needed to re-examine the applicability of the JD-R motivational process among MSME owners by incorporating entrepreneurship-specific factors that may better explain variations in work engagement.

The findings indicate that job demands did not significantly influence MSME performance. This result suggests that business pressures, such as workload, customer expectations, and operational complexity, are not sufficient to explain variations in the performance of MSME owners in Makassar City. Unlike employees in formal organizations, entrepreneurs are often accustomed to handling multiple responsibilities simultaneously, including production, marketing, financial management, and customer service. Consequently, such demands tend to be perceived as an inherent part of business activities rather than as barriers to achieving performance outcomes. Although the JD-R Theory proposes that excessive job demands may impair performance through increased strain and energy depletion (Bakker & Demerouti, 2007, 2017), the present findings imply that this mechanism may not fully apply within entrepreneurial settings. MSME owners may develop resilience and adaptive capabilities through continuous exposure to uncertainty and business challenges. This interpretation is supported by Yu et al. (2025), who argued that entrepreneurs often rely on personal resources to maintain functioning despite experiencing demanding work conditions. These findings suggest that the relationship between job demands and performance may vary across occupational contexts. While job demands have been shown to influence employee outcomes in formal organizational settings, their effects among MSME owners appear to be less pronounced. From a practical perspective, efforts to improve MSME performance should not focus solely on reducing entrepreneurs' workloads. Instead, greater emphasis should be placed on strengthening business competencies and providing adequate support to help entrepreneurs manage business demands more effectively.

The findings indicate that job resources play a crucial role in enhancing MSME performance in Makassar City. This result suggests that business owners who have access to adequate resources are more capable of improving productivity, responding to market changes, and sustaining their business operations. In the MSME context, resources such as entrepreneurship training, technological support, social networks, and autonomy in decision-making provide entrepreneurs with the capacity to overcome operational constraints and pursue business opportunities more effectively. This finding is consistent with the motivational process proposed by the Job Demands–Resources (JD-R) Theory, which argues that job resources facilitate goal attainment and promote positive performance outcomes (Bakker & Demerouti, 2017). It also supports the Resource-Based Theory, which emphasizes that valuable and strategic resources constitute important sources of competitive advantage (Barney,

2021). Previous studies have similarly demonstrated that the availability of job resources contributes positively to performance improvement (Tummers & Bakker, 2021; Zhang et al., 2023). The present study extends these findings by confirming the importance of resources within the context of MSME owners operating in a dynamic and competitive business environment. From a practical perspective, these findings highlight the need for policymakers and business support institutions to strengthen entrepreneurs' access to business development resources. Initiatives such as digital literacy programs, mentoring schemes, entrepreneurship training, and networking opportunities may provide MSME owners with the capabilities necessary to improve business performance. Therefore, enhancing the availability and utilization of strategic resources should become a priority in efforts to foster sustainable MSME growth.

The findings indicate that work engagement significantly influenced MSME performance; however, the relationship occurred in a negative direction. This result suggests that higher levels of vigor, dedication, and absorption among MSME owners do not necessarily lead to better business performance. Instead, excessive psychological involvement in work may reduce entrepreneurs' ability to manage their businesses effectively. This finding contrasts with previous studies reporting that work engagement positively contributes to individual and organizational performance (Schaufeli, 2018; Christian et al., 2021). One possible explanation is that MSME owners often face blurred boundaries between work and personal life. High levels of dedication and absorption may encourage entrepreneurs to devote excessive time and energy to their businesses, resulting in difficulties disengaging from work responsibilities. Under such circumstances, intense involvement may lead to inefficient resource allocation, impaired decision-making, and reduced effectiveness in managing business operations. Schaufeli (2018) acknowledged that strong work involvement may not always generate favorable outcomes when adequate recovery opportunities are lacking. The negative relationship identified in this study suggests that the role of work engagement may differ across occupational contexts. While engagement is generally associated with improved performance among employees, its effects among entrepreneurs may be more complex. Therefore, future studies should incorporate entrepreneurship-specific factors, such as entrepreneurial resilience, work–life balance, and self-efficacy, to better understand the mechanisms through which work engagement influences MSME performance. From a practical perspective, MSME development programs should not only encourage entrepreneurs' commitment to their businesses but also promote sustainable work practices that support long-term performance.

The findings indicate that work engagement did not mediate the relationships between job demands and MSME performance, nor between job resources and MSME performance. This result suggests that work engagement may not serve as the primary mechanism through which job characteristics influence performance among MSME owners in Makassar City. In other words, the effects of job demands and job resources on business performance appear to occur independently of entrepreneurs' levels of psychological engagement. These findings differ from the dominant perspective within the Job Demands–Resources (JD-R) Theory, which identifies work engagement as a key motivational process linking job characteristics to performance outcomes (Bakker & Demerouti, 2017; Schaufeli, 2018). Previous studies have demonstrated that individuals with access to adequate resources tend to exhibit higher levels of engagement, which subsequently contribute to improved performance (Albrecht et al., 2021; Saks, 2022). However, the present study suggests that such a mechanism may not operate similarly in entrepreneurial contexts. One possible explanation is that MSME owners rely more heavily on direct and tangible resources to achieve business success. Access to training, technology, business networks, and external support may influence performance more immediately, without necessarily strengthening work engagement. Furthermore, the entrepreneurial environment is characterized by uncertainty and resource constraints, which may encourage business owners to prioritize practical problem-solving and business survival over

psychological involvement in work activities. These findings indicate that the motivational process proposed by the JD-R Theory may not be universally applicable across occupational contexts. Consistent with Olsen et al. (2025), who emphasized the importance of contextual considerations when applying the JD-R framework within SMEs, the present study demonstrates that the role of work engagement as a mediating mechanism may be less prominent among entrepreneurs and MSME owners.

6. CONCLUSION

This study investigated the effects of job demands and job resources on work engagement and MSME performance, as well as the mediating role of work engagement among MSME owners in Makassar City. The findings reveal that job resources significantly contribute to MSME performance, whereas job demands do not significantly influence either work engagement or MSME performance. These results indicate that the availability of strategic resources plays a more important role in improving business performance than the reduction of work-related demands. The study further demonstrates that job resources significantly affect work engagement in a negative direction, and work engagement also exhibits a significant negative relationship with MSME performance. Moreover, work engagement was not found to mediate the relationships between job demands and MSME performance or between job resources and MSME performance. Therefore, the motivational pathway proposed by the Job Demands–Resources (JD-R) Theory was not fully supported within the context of MSME owners in Makassar City. Overall, this study suggests that the mechanisms underlying the JD-R Theory may operate differently in entrepreneurial settings. For MSME owners, tangible business resources appear to have a more direct influence on performance than psychological mechanisms related to work engagement.

Several limitations of this study should be acknowledged. First, the cross-sectional design limits the ability to establish causal relationships among the variables investigated. Second, the study focused exclusively on MSME owners in Makassar City, thereby limiting the generalizability of the findings to other regions or entrepreneurial contexts. Third, the use of self-reported measures may increase the possibility of common method bias. Future research is encouraged to employ longitudinal or mixed-method approaches to obtain a deeper understanding of the dynamic relationships among job characteristics, work engagement, and performance in the MSME sector. Comparative studies involving different regions and business sectors may also enhance the generalizability of the findings. Furthermore, future studies should explore alternative mediating mechanisms that may be more relevant to entrepreneurial contexts, such as entrepreneurial resilience, self-efficacy, psychological capital, and innovation capability.

IMPLICATIONS FOR RESEARCH

This study contributes to the extension of the Job Demands–Resources Theory by demonstrating that its assumptions may not be universally applicable across occupational contexts. While the positive role of job resources in enhancing performance supports the JD-R framework, the negative relationships involving work engagement and the absence of its mediating role suggest that the motivational process proposed by the theory requires further examination in entrepreneurial environments. These findings highlight the importance of considering contextual differences when applying employee-based theories to MSME owners. From a practical perspective, the findings suggest that efforts to improve MSME performance should prioritize strengthening strategic business resources. Policymakers and institutions supporting MSME development are encouraged to expand entrepreneurs' access to entrepreneurship training, digital technologies, mentoring programs, and business networking opportunities. Such interventions may provide more immediate benefits for business performance than initiatives focusing solely on increasing psychological engagement.

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