

## The Role Of Transformational Leadership On Sustainable Performance Mediated By Innovation

**Ratih Anggraini<sup>a\*</sup>, Andrian<sup>b</sup>, Ferdinand Nainggolan<sup>c</sup>**

<sup>abc</sup>Program Studi Management, Universitas International Batam

\* Corresponding author e-mail: [ratih@uib.ac.id](mailto:ratih@uib.ac.id)

### ARTICLE INFO

DOI: 10.32832/jm-uika.v16i2.18804

Article history:

Received:

08 Januari 2025

Accepted:

27 Januari 2025

Available online:

05 Juni 2025

Keywords:

Transformational Leadership, Sustainable Performance, Innovation, External Social Capital, SMEs, Structural Model, Smart-PLS.

### ABSTRACT

*Innovation is a crucial factor for the sustainability of MSMEs, especially in facing market dynamics and increasing competition. This study aims to examine the impact of transformational leadership on the sustainable performance of MSMEs in Batam, considering innovation as a mediating variable and external social capital as a moderating variable. Data were collected through a survey and analyzed using a structural model with the Smart-PLS method. The results of the study indicate that transformational leadership significantly enhances innovation, which subsequently has a positive impact on the sustainable performance of organizations. External social capital strengthens the relationship between transformational leadership and sustainable performance. Innovation serves as a strong mediator in this relationship. The research model demonstrates robust statistical validity and reliability, with all quality indicators (Cronbach's Alpha, Composite Reliability, R Square, AVE, outer loading, HTMT, SRMR, and GoF) meeting established thresholds, supporting all seven hypotheses at  $p < 0.05$ . Transformational leadership significantly influences innovation and sustainable performance. Innovation also significantly affects sustainable performance. External social capital significantly moderates the influence of transformational leadership on sustainable performance, both directly and through innovation.*

## 1. INTRODUCTION

In the context of sustainability and global business transformation, the role of Micro, Small, and Medium Enterprises (MSMEs) has become increasingly crucial (Banerjee, 2023; Gherghina et al., 2019; Kot, 2018). MSMEs not only form the backbone of the economy in many countries, including Indonesia but also have potential as agents of change supporting sustainable performance (Anthanasius Fomum & Opperman, 2023). In several studies, MSMEs have been shown to play a critical role in economic development, especially in emerging economies (Abdulrazzaq Alaghbari, 2022; N. P. Nguyen et al., 2023; Wang et al., 2021). According to the World Trade Organization, MSMEs represent over 90% of the business population, 60-70% of employment, and 55% of GDP in developed countries. Studies from developed markets like Europe demonstrate MSMEs' innovation potential, with sectors like biotechnology showing significant patent contributions (Bayraktar & Algan, 2019). In Indonesia's context, MSMEs have shown similar innovation capabilities, with over 64 million business units serving as key drivers of economic growth (Nasution, 2020). These Indonesian MSMEs contribute significantly to the national economy, accounting for approximately 56% of total national investment (Mashuri, 2019) and 15.8% of total export value (Simanjuntak & Saroni, 2019). Despite their economic contribution, Indonesian MSMEs, especially in Batam's industrial zone, struggle with sustainable growth and competitiveness. While their high national investment shows financial capacity, low export performance highlights the need for transformational leadership to optimize resources, drive innovation, and enhance their domestic and international standing. The implementation of transformational leadership and sustainable management practices in MSMEs can be key in creating businesses that not only withstand external changes but also deliver positive impacts at both local and global levels. Therefore, supporting the growth and development of MSMEs with a sustainable approach can be an integral solution in responding to global issues and achieving sustainable development goals (Naharuddin & Mokhtar, 2023; Suriyankietkaew et al., 2022)

One important factor influencing the success of organizations in achieving innovation and sustainable performance is the style of leadership, particularly transformational leadership (Alrowwad et al., 2020; Jia et al., 2018; Zhu & Huang, 2023). According to research data by (Williams, 2022), it was stated that only 7% of senior managers surveyed by a business school in the UK opined that their companies had effectively developed global leaders. About 30% of U.S. companies acknowledge that they fail to fully capitalize on their international business opportunities because they lack leaders with the appropriate capabilities. Transformational leadership is a leadership style that inspires and motivates followers to exceed initial expectations (Hoang et al., 2023; Theng et al., 2021). Research by Indonesia's Ministry of Cooperatives and SMEs indicates that leadership development remains a critical challenge for Indonesian MSMEs, with studies showing that traditional management styles still dominate the sector. In the Indonesian context, transformational leadership - a style that inspires and

motivates followers to exceed initial expectations (Theng et al., 2021) - has shown particular promise in driving business success. A study of Indonesian MSMEs by (Fareed et al., 2023) demonstrates how transformational leaders who effectively communicate vision and intellectually stimulate employees achieve better organizational performance.

One of the primary mechanisms by which transformational leadership influences sustainable performance is through the enhancement of organizational innovation (Arif & Akram, 2018). In the context of Batam's MSMEs, this relationship becomes particularly significant. A recent study of Batam's manufacturing MSMEs reveals that transformational leadership creates an organizational climate conducive to innovation by empowering and motivating employees in ways that align with local business culture. For instance, Batam's MSMEs, operating in a key industrial hub near Singapore and Malaysia (Suwandi & Setyawan, 2023), face unique challenges in balancing traditional management practices with innovative approaches. Local studies show that motivated employees in Batam's MSMEs tend to be more creative and capable of producing innovations that benefit the organization's sustainability goals (Kho et al., 2023).

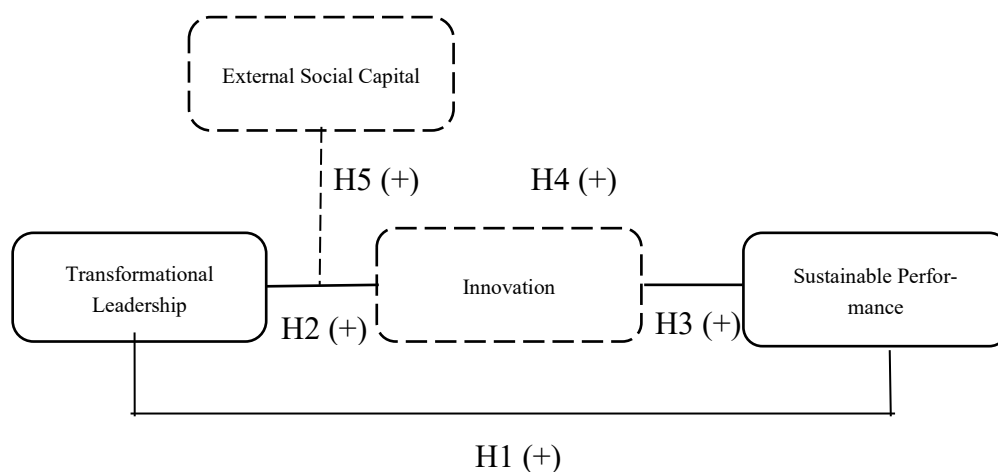
Therefore, the conceptual model proposed in this study is: that transformational leadership positively influences sustainable performance, both directly and indirectly through innovation. Innovation acts as a mediator in the relationship between transformational leadership and sustainable performance. External social capital serves as a moderator in the relationship between transformational leadership and sustainable performance.

Several previous studies have examined the relationship between transformational leadership and sustainable performance, particularly with an emphasis on the role of innovation as a mediator. Research by (Arif & Akram, 2018) demonstrates that transformational leadership has a significant impact on enhancing innovation within organizations (Anggraini et al., 2023), which in turn improves sustainability performance. Some studies find that transformational leadership can increase employee engagement in sustainable practices and compliance with environmental regulations, contributing to the achievement of organizational sustainability goals (Addai et al., 2023; Gull et al., 2022; Zhu & Huang, 2023). However, most of these studies focus on large organizations or multinational companies, with little attention given to Micro, Small, and Medium Enterprises (MSMEs). Additionally, previous research generally has not considered the role of external social capital as a moderating factor in the relationship between transformational leadership and sustainable performance (Gull et al., 2022; Zhu & Huang, 2023).

The research gap lies in the object and approach used. Most previous studies examine the relationship between transformational leadership and sustainability performance in large or multinational companies, whereas this study will focus on MSMEs as the main object. MSMEs have unique characteristics and challenges distinct from large companies, thus the results of this study are expected to contribute new insights to the literature. Furthermore, the use of external social capital as a moderating variable in this study is also something that has not been

extensively discussed in previous research. This study will explore how external social capital can strengthen or weaken the influence of transformational leadership on sustainable performance through innovation, thereby being expected to fill gaps in the existing literature and provide deeper insights into the dynamics of leadership and sustainable performance in MSMEs.

**Research Framework.** This research model aims to provide an in-depth understanding of the complex relationships among several constructs. The objective is to reveal how Transformational Leadership influences Sustainable Performance, mediated by Innovation and moderated by External Social Capital. In line with these research objectives, the following hypotheses are proposed:



**Figure 1. Research Framework**

- **H1:** The relationship between Transformational Leadership (X1) and Innovation (Xa) is significant.
- **H2:** The relationship between Transformational Leadership (X1) and Sustainable Performance (Y1) is significant.
- **H3:** The relationship between Innovation (Xa) and Sustainable Performance (Y1) is significant.
- **H4:** The relationship between Transformational Leadership (X1) and Sustainable Performance (Y1), mediated by Innovation (Xa), is significant.
- **H5:** External Social Capital (Na) significantly moderates the relationship between Transformational Leadership (X1) and Sustainable Performance (Y1).
- **H6:** External Social Capital (Na) significantly moderates the mediating role of Innovation (Xa) in the relationship between Transformational Leadership and Sustainable Performance (Y1).

These hypotheses form the foundation of the study, guiding the author's exploration of the complex interactions between these variables and their contributions to organizational success.

**H1 Transformational Leadership (X1) and Innovation (Xa).** Transformational Leadership (X1) has a direct positive relationship with Innovation (Xa). Various studies have found that the transformational leadership style can directly foster increased innovation within organizations. According to a study by (Le & Lei, 2019), Transformational Leadership positively correlates with product innovation and process innovation in manufacturing companies in China. Transformational leadership is thought to create an organizational climate conducive to innovation by encouraging employee engagement and building a collaborative culture (Kamal, 2023; Karimi et al., 2023; Muchiri et al., 2019).

Another study by (Alzoraiki et al., 2023; Nasir et al., 2022; Poespowidjojo et al., 2018) also found a positive influence of Transformational Leadership on technological innovation in technology companies. Transformational leaders can inspire and motivate their followers to think creatively and embrace change, ultimately driving technological innovation within the organization (Kanwal et al., 2019; Liao et al., 2022). In startup companies in Iran, it was found that Transformational Leadership positively contributes to the innovative behavior of employees. This leadership style can create a psychological climate supportive of innovative behavior (Nasir et al., 2022; Wang et al., 2021).

Research by (Fhadhilah & Setyaningrum, 2023), which studied MSMEs in Indonesia, also found a positive influence of Transformational Leadership on organizational innovation. Transformational leaders with characteristics of idealized influence, inspirational motivation, intellectual stimulation, and individual consideration have been shown to help enhance the organization's innovation capacity (Helmy et al., 2023; Purba et al., 2023; Tang et al., 2022). Thus, various empirical studies indicate that Transformational Leadership significantly and positively affects various aspects of Innovation, including both product and process innovation as well as individual and organizational innovative behavior. This leadership style creates an environment that supports and encourages the generation of new ideas and the implementation of innovation in organizations.

**H2 Transformational Leadership (X1) and Sustainable Performance (Y1).** Several studies indicate that Transformational Leadership positively impacts the Sustainable Performance of companies. According to research by (Aulia & Nawangsari, 2023; Tang et al., 2022), Transformational Leadership significantly influences the social and environmental dimensions of Sustainable Performance in hotels in China and university in Indonesia. Transformational leaders can inspire, motivate, and raise employee awareness of the importance of sustainable practices, which ultimately enhances the company's innovation (Liu et al., 2021; May Zhara Averina et al., 2023; L. T. Nguyen et al., 2020).

(Fareed et al., 2023; Mihaela, 2021) found that Transformational Leadership positively affects sustainable supply chain practices and sustainable performance in the public sector of Pakistan. Transformational leaders can create a shared vision for implementing sustainable supply chain practices, which in turn boosts innovation (Jundi et al., 2019; Mihaela, 2021).

Based on these studies, it can be concluded that Transformational Leadership significantly and positively affects the Sustainable Performance of an organization, particularly in the social and environmental dimensions. Transformational leaders can foster the adoption of sustainable practices to enhance the long-term performance of the company.

**H3 Innovation (Xa) and Sustainable Performance (Y1).** Several studies indicate that innovation plays a crucial role in enhancing the sustainable performance of companies. According to research by (Le & Lei, 2019), there is a positive relationship between product innovation and environmental sustainability performance in manufacturing companies in China. Product innovation helps companies reduce waste, improve resource efficiency, and achieve environmental goals (Hajar et al., 2021).

Another study by (Nasir et al., 2022) found that technological innovation positively affects sustainable manufacturing performance in Indian automotive companies. Technological innovation enables companies to achieve resource efficiency goals and operate sustainably (Amerieska et al., 2021).

(Che Sobry et al., 2022; Theng et al., 2021) also demonstrated that organizational innovation contributes positively to the sustainable performance of non-profit organizations in Indonesia. Organizational innovation helps organizations adopt environmentally friendly practices and social responsibility. Thus, it can be concluded that innovation in various forms, such as product, technology, and organizational innovation, plays a crucial role in helping organizations achieve sustainable performance in environmental, social, and economic dimensions.

**H4 Transformational Leadership (X1) -> Innovation (Xa) -> Sustainable Performance (Y2).** Several studies indicate that Transformational Leadership can indirectly enhance Sustainable Performance by fostering increased Innovation within organizations. Transformational Leadership is known to influence employee creativity and innovative behavior, which in turn positively impacts the implementation of sustainable practices and the achievement of organizational sustainable performance (Begum et al., 2020; Shahzad et al., 2022; Zhu & Huang, 2023)

Research by (Afsar & Umrani, 2020; Li et al., 2019; Putri & Riyanto, 2023) found that Transformational Leadership enhances manufacturing employees' creativity, which in turn positively impacts environmental sustainability initiatives in factories. This means that transformational leadership indirectly encourages environmental innovation through enhancing employee creativity.

(Buil et al., 2019; Futri et al., 2023; Helmy et al., 2023) also showed similar results where Transformational Leadership enhances employee creativity, leading to improved sustainable performance in Indonesia's creative food and beverage sector. Transformational Leadership

indirectly promotes sustainable performance through enhancing employees' innovative behavior (Naderi et al., 2019; Naguib & Naem, 2018). Thus, it can be concluded that Transformational Leadership can enhance Sustainable Performance by initially fostering Innovative Behavior and Creativity among employees. This enhancement of innovation capacity subsequently leads to improvements in organizational innovation.

**H5 External Social Capital (Na) Significantly Moderates the Relationship Between Transformational Leadership (X1) and Sustainable Performance (Y1).** By integrating H4 and H5, this study proposes a moderated mediation model with the following hypothesis:

**H6 External Social Capital (Na) Significantly Moderates the Mediating Role of Innovation (Xa) in the Relationship Between Transformational Leadership and Sustainable Performance (Y1).** The Research Framework is shown in Figure 1.

## RESEARCH METHODS

This study examines the relationship between transformational leadership and sustainable performance in MSMEs in Batam, focusing on the mediating role of innovation and the moderating effect of external social capital. The research employs a quantitative approach through structural equation modeling analysis.

The population comprises Micro, Small, and Medium Enterprises (MSMEs) operating in Batam, Indonesia. Using purposive sampling, the study selected participants based on specific criteria: (1) minimum age of 16 years, (2) educational levels from elementary school to university graduates, (3) employee numbers from one to more than five, (4) minimum business operation of one year, and (5) varying business turnover according to MSME scales. Data collection occurred from November 2023 to February 2024 through online methods (WhatsApp and Instagram) and direct questionnaire distribution, resulting in 304 valid responses. Analysis utilized structural equation modeling (SEM) through Smart-PLS software to examine direct effects, mediating effects, and moderating effects while providing comprehensive model validation including measurement validity, reliability assessment, structural model testing, and hypothesis verification.

The study employed questionnaires measuring Transformational Leadership (8 items), Innovation (5 items), External Social Capital (6 items), and Sustainable Performance (6 items), all adapted from Zhu & Huang (2023) using a 5-point Likert scale. The analysis utilized structural equation modeling through Smart-PLS software, involving two main stages. The measurement model evaluation assessed: (1) convergent validity through Average Variance Extracted ( $AVE > 0.5$ ), loading factors ( $> 0.7$ ), (2) discriminant validity using both Fornell-Larcker criterion (square root of AVE should be greater than correlations with other constructs) and Heterotrait-Monotrait ratio ( $HTMT < 0.85$ ), and (3) reliability via Cronbach's Alpha and Composite Reliability (both  $> 0.7$ ). The structural model assessment examined: (1) path coefficients for hypothesis testing through bootstrapping ( $t\text{-value} > 1.96$ ,  $p\text{-value} < 0.05$ ), (2)

R-square values for model explanatory power (0.75 strong, 0.50 moderate, 0.25 weak), and (3) model fit indices including Standardized Root Mean Square Residual (SRMR < 0.08) and Goodness of Fit index (GoF > 0.36 strong, > 0.25 moderate, > 0.10 weak). For hypothesis testing with direct effects, mediating effects, and moderating relationships, significance was assessed at  $p < 0.05$ .

2. RESULTS & DISCUSSION

A total of 350 questionnaires were distributed, and of these, 304 were completed and returned by the participants, The data collection was conducted from November 2023 to February 2024, targeting MSMEs in Batam through online and direct distribution methods. as shown in Table 1. There were 21 MSMEs that could not be contacted, while another 25 declined to participate. The achieved response rate was 86%. Data analysis was performed using Smart-PLS to ensure the reliability and validity of the research findings. Additionally, a non-response test was conducted to determine if there were differences in characteristics between respondents who immediately completed the questionnaire and those who completed it later. This test is important to identify potential non-response biases that could affect the analysis results, especially with a high response rate. A variable test was performed to compare the average responses of both groups, and data analysis using Smart-PLS ensured that there were no significant differences in variance between the sample populations.

Table 1. Survey Response Summary

Total number of questionnaires	350
Number of completed and returned questionnaire	304
Unreachable MSME	21
Number of MSME decline participation	25
Response rate	86%

Source: Processed (2024)

The study adapted validated measurement scales from Zhu & Huang (2023) for all variables: Transformational Leadership (8 items), Innovation (5 items), External Social Capital (6 items), and Sustainable Performance (6 items). All items were measured using a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Additionally, to measure the Sustainable Performance variable, six questions were used, also adapted from (Zhu & Huang, 2023). Data collection was conducted using a 1-5 scale, where 1 signifies strong disagreement and 5 signifies strong agreement. Higher scores indicate a higher level of agreement from the respondents with the statements in the questionnaire. Thus, the questionnaires used have



undergone a process of adaptation from previous research and are expected to be valid and reliable for measuring the constructs in this study.

Table 2 presents the demographic profile of 304 respondents who participated in this study. The demographic data collected includes gender, age, education level, number of employees, business age, and business turnover. These demographic characteristics are important to provide a comprehensive overview of the respondents' background in the research.

**Table 2. Respondent Demographics**

Descriptive Data	Description	Number	Percentage
Gender	Male	61	20%
	Female	243	80%
Age	> 16 - 25 Years	23	8%
	> 26 - 35 Years	49	16%
	> 35 - 45 Years	122	40%
	> 45 Years	110	36%
Education Level	Elementary School	12	4%
	Middle School	86	28%
	High School/ Vocational High School	89	29%
	Bachelor's Degree	113	37%
	Master's Degree	4	1%
	Doctorate	0	0%
Number of Employees	1 Person	108	36%
	2 - 5 People	182	60%
	6 - 10 People	9	3%
	11 - 20 People	5	2%
	> 20 People	0	0%
Business Age	<1 Year	18	6%
	2 Years	63	21%
	3 Years	38	13%
	4 Years	40	13%
	> 5 Years	145	48%
Business Turnover	< IDR 100,000,000	237	78%
	IDR 100,000,001 – IDR 200,000,000	37	12%
	IDR 200,000,001 – IDR 300,000,001	9	3%
	IDR 300,000,001 – IDR 400,000,000	7	2%
	IDR 400,000,001 – IDR 500,000,000	14	5%

*Source: Processed (2024)*

Based on the demographic data in Table 2, the majority of respondents are female (80%) with the dominant age range being 35-45 years (40%). In terms of education, most respondents hold a Bachelor's degree (37%), followed by High School/Vocational High School graduates (29%)

and Middle School graduates (28%). Regarding business characteristics, the majority of businesses have 2-5 employees (60%) and have been operating for more than 5 years (48%). In terms of business turnover, most respondents (78%) have a turnover below IDR 100,000,000, indicating the dominance of micro-businesses in this research sample.

Table 3 presents the results of the convergent validity test, which examines the measurement model's quality in this study. The analysis includes Average Variance Extracted (AVE) values and loading factors for four main constructs: Transformational Leadership (TL), Innovation (INN), External Social Capital (ESC), and Sustainable Performance (SP). Convergent validity assessment is crucial to ensure that the indicators used in this study accurately represent their respective constructs.

**Table 3. Convergent Validity Test Results**

Variable	AVE	Loading Factor
<b>Transformational Leadership (TL)</b>		
The leader shows determination in accomplishing goals.	0.644	0.727
The leader is respected by all for the way they handle things.		0.703
The leader does not care about personal gain or loss for the sake of the team or collective good.		0.836
The leader demonstrates competent, driven and confident traits.		0.86
The leader is very focused on the interests of the organization.		0.844
The leader expresses expectations for high performance to their subordinates.		0.812
The leader portrays an inspiring future to everyone.		0.812
The leader conveys a sense of mission to everyone.		0.814
<b>Innovation (INN)</b>		
The company introduced a new management system.	0.749	0.875
The company introduces new practices of organizational improvement (process reengineering, quality, management, etc.).		0.874
The company introduces new management processes (new work manual, new recruitment and assessment system).		0.9
The company introduces a new approach to planning and budgeting.		0.852
The company actively implements new policies to improve organizational performance.		0.825

Source: Processed (2024)

Variable	AVE	Loading Factor
<b>External Social Capital (ESC)</b>		
The company maintains good relationships with government departments.		0.819
The company can get support and resources from the government.		0.793
The company establishes good relationships with its partners.	0.616	0.706
The company regularly conducts technical exchanges with its partners.		0.753
The company establishes good relationships with financial institutions.		0.799
The company maintains good cooperative relationships with its suppliers.		0.833
<b>Sustainable Performance (SP)</b>		
The company takes the initiative to use low-carbon energy-saving products and equipment.		0.858
The company uses clean energy and fuels.		0.846
The company has a comprehensive energy-saving system and measures for energy conservation, comprehensive recycling of resources, green office, etc., and has implemented them effectively.	0.746	0.866
The company has built a perfect environmental protection organization management system and environmental management system.		0.879
The company reduces environmentally harmful behaviors.		0.877

*Source: Processed (2024)*

Based on the data presented in Table 3, it can be concluded that the Average Variance Extracted (AVE) for each variable in this study indicates a good level of convergent validity. Convergent validity testing examines the extent to which indicators that represent a construct consistently measure the same concept. In the context of testing convergent validity, an AVE value higher than 0.5, as described by (Hair et al., 2019), indicates that more than 50% of the variability of the indicators has been explained by the associated construct, meeting the criteria for good convergent validity (Santos & Cirillo, 2023). In the given data, the four variables Transformational Leadership, Innovation (INN), External Social Capital (ESC), and Sustainable Performance (SP) all have AVE values well above 0.5, with respective values of 0.644, 0.749, 0.616, and 0.746, indicating that each of these constructs has strong convergent validity.

Furthermore, the loading factor for each indicator provides insight into their relative significance in measuring the constructs they represent. According to (Yu et al., 2022), an acceptable loading value is above 0.60, while (Hair et al., 2019) set a stricter standard with an accepted loading value above 0.70. In the data presented, all indicators from TL, INN, ESC, and SP have

very high loadings, all above 0.70, indicating that they are highly valid in measuring the respective constructs.

**Discriminant Validity Test Results.** Discriminant validity testing is an additional tool used to measure validity in research. It is conducted by comparing the square root of the Average Variance Extracted (AVE) for each construct with the correlation between constructs in the model. According to (Fornell & Larcker, 1981), good discriminant validity occurs when the square root of AVE for each construct is greater than the correlations among those constructs. Research by (Hair et al., 2019) also emphasizes that cross-loading values should be lower than the loading of each indicator. The results of this discriminant validity test can be found in Table 4.

**Table 4. Discriminant Validity Test Results**

Variable	External Social Capital	Innovation	Moderating Effect 1	Sustainable Performance	Transformational Leadership
External Social Capital	0.785				
Innovation	0.685	0.865			
Moderating Effect 1	-0.657	-0.61	1		
Sustainable Performance	0.747	0.78	-0.632	0.864	
Transformational Leadership	0.723	0.774	-0.553	0.741	0.803

*Source: Processed (2024)*

The table presented displays the results of the discriminant validity test. The discriminant validity test results from Table 4 indicate that the correlation between variables for each indicator is greater than the correlation between different variables. Based on the given correlation values, it is evident that the constructs of external social capital and innovation have a significant positive relationship with a correlation value of 0.685. Similarly, external social capital and sustainable performance also show a significant correlation of 0.747. The correlation between Innovation and Sustainable Performance is also significant, achieving a value of 0.78. Furthermore, the correlation between external social capital and transformational leadership achieves a value of 0.723. From the correlations described, the data indicates that the correlation between variables for each indicator is greater than the correlation between other variables. Thus, it can be concluded that the measurement instruments meet the criteria for discriminant validity.

Table 5 presents the Heterotrait-Monotrait (HTMT) ratio test results, which examines the discriminant validity among the study variables: External Social Capital, Innovation, Moderating Effect 1, Sustainable Performance, and Transformational Leadership.

**Table 5. HTMT Ratio Test Results**

Variable	External So- cial Capital	Innovation	Moderating Effect 1	Sustainable Performance	Transformational Leadership
External Social Capital					
Innovation	0.75				
Moderating Effect 1	0.694	0.636			
Sustainable Per- formance	0.808	0.842	0.652		
Transformational Leadership	0.8	0.829	0.575	0.79	

Source: Processed (2024)

Based on the table presented, the overall HTMT Ratio values shown indicate that the discriminant validity criteria among the constructs are acceptable. This is based on prior research recommendations, including one by (Cheung et al., 2023), which states that an HTMT Ratio below 0.85 is acceptable for validity, and research by (Henseler et al., 2016) indicates that below 0.90 can be considered an adequate indication of discriminant validity. In this table, all HTMT Ratio values are below 0.90, with the lowest value being 0.575 between Transformational Leadership and Moderating Effect 1, and the highest value being 0.842 between Sustainable Performance and Innovation. Although there is no absolute cutoff value, lower values are considered more favorable to demonstrate strong discriminant validity.

Table 6 displays the reliability test results for the measurement model, showing both Cronbach's Alpha and Composite Reliability values for each variable in the study. These metrics assess the internal consistency and reliability of the measurement scales used for Transformational Leadership, Innovation, Sustainable Performance, and External Social Capital.

**Table 6. Reliability Test Results**

Variable	Cronbach's Alpha	Composite Reliability
<i>Transformational Leadership</i>	0.898	0.92
<i>Innovation</i>	0.915	0.936
<i>Sustainable Performance</i>	0.928	0.943
<i>External Social Capital</i>	0.847	0.887

Source: Data processed (2024)

This table shows the reliability test results using Cronbach's Alpha and Composite Reliability to measure internal consistency and the reliability of indicators in measuring their latent constructs. Cronbach's Alpha measures the lower bound of the reliability of a construct, while Composite Reliability is considered better at estimating a construct's internal consistency

(Mehmood et al., 2024). Both Cronbach's Alpha and Composite Reliability values should be greater than 0.7 to indicate good reliability (Cho, 2016). For Composite Reliability, all variables also show values above 0.7, with the highest at 0.943 for the Sustainable Performance variable and the lowest at 0.887 for External Social Capital. Composite Reliability values greater than 0.7 indicate that the indicators used in measuring each variable are reliable. Therefore, the data obtained can be relied upon for further analysis.

#### Inner Model Test Results

**Table 7.** Coefficient of Determination Results (R-Square)

Variable	R Square	R Square Adjusted
<i>Innovation</i>	0.599	0.598
<i>Sustainable Performance</i>	0.711	0.708

Source: Processed (2024)

Based on the table presented, for the Innovation variable, the R-squared value obtained is 0.599. According to criteria formulated by (Ozili, 2023), an R-squared value around 0.50 can be considered a moderate model. This indicates that 59.9% of the variation in the Innovation variable can be explained by other variables in the model. Furthermore, for the Sustainable Performance variable, the R-squared obtained is 0.711. This value is above 0.50, meaning the model can be considered strong in explaining variations in the Sustainable Performance variable (Hair et al., 2019). Specifically, 71.1% of the variance in Sustainable Performance can be explained by other variables in the model. The R-squared values obtained indicate that the model captures the phenomena occurring within the context of this research quite well.

#### Model Fit Test Results

**Table 8.** Standardized Root Mean Square Residual (SRMR)

Variable	Original Sample (O)	Sample Mean (M)	95%	99%
Saturated Model	0.059	0.036	0.04	0.042
Estimated Model	0.067	0.043	0.055	0.061

Source: Data Processed (2024)

For the Saturated Model, the SRMR value obtained is 0.036, while for the Estimated Model, the SRMR value is 0.043. Both SRMR values are below 0.1, in line with the criteria recommended by (Pavlov et al., 2021). An SRMR value below 0.1 indicates that the difference between the observed correlation matrix and the correlation matrix predicted by the model is relatively small, demonstrating a good fit between the model and the data. Furthermore, in the 95% and 99% columns, it is seen that the SRMR values for both models (Saturated and Estimated) also fall within the recommended range, providing additional support for the model's adequacy. These values can be considered an indication that the research model accurately captures the relationships occurring within the data.

### GoF (Goodness of Fit) Index

$$Comm = \frac{0.644+0.749+0.616+ 0.746}{4} = \mathbf{0.688} \dots\dots\dots 1$$

$$R^2 = \frac{0.599+0.711}{2} = \mathbf{0.655} \dots\dots\dots 2$$

$$Gof = \sqrt{0.688 \times 0.655} = \mathbf{0.6713} \dots\dots\dots 3$$

The GoF (Goodness of Fit) Index is a measure used in Structural Equation Modeling (SEM) to assess the extent to which a model fits the observed data. The higher the GoF value, the better the resulting model. According to evaluation standards, a GoF value of 0.10 indicates a "Weak" fit, 0.25 indicates a "Moderate" fit, and 0.36 indicates a "Strong" fit (Ugiana Gio et al., 2019). In Table 9, the GoF value calculated is 0.6713. With this value, it can be concluded that the GoF from the calculations in Table 9 indicates a "Strong" fit. This means that the structural model built in the SEM analysis appropriately and accurately reflects the relationships between the measured variables based on the observed data.

### Analysis and Discussion

**Table 9. Direct Effect Test Results**

	Hypothesis	Path Coefficient	T-Statistics	P-Values	Results
H1	Significant effect of Transformational Leadership on Innovation	0.775	18.677	0.000	Accepted
H2	Significant effect of Transformational Leadership on Sustainable Performance	0.189	3.184	0.001	Accepted
H3	Significant effect of Innovation on Sustainable Performance	0.374	6.182	0.000	Accepted
H5	Significant effect of External Social Capital moderating Transformational Leadership and Sustainable Performance	0.278	4.974	0.000	Accepted
H6	Significant effect of External Social Capital moderating Transformational Leadership and Sustainable Performance through Innovation	-0.071	2.449	0.014	Accepted

**Analysis of Direct Effects.** The research results using Smart-PLS provide profound insights into the relationships between the variables studied, with a focus on the p-value as an indicator of statistical significance. In Table 9 presented, all hypotheses show significant results, with p-value less than 0.05.

**H1 Transformational Leadership on Innovation.** The analysis confirms that transformational leadership significantly influences innovation in Batam's MSMEs (path coefficient = 0.775, t-statistic = 18.677,  $p < 0.05$ ). This strong relationship is particularly meaningful in Batam's context, where MSMEs operate in a unique business ecosystem influenced by the city's status as a special economic zone and its proximity to Singapore and Malaysia. Local MSME leaders who demonstrate transformational leadership qualities have successfully fostered innovation among their employees, particularly crucial for businesses in Batam's manufacturing, trading, and service sectors. For example, MSMEs in Batam's digital and creative industries have shown how transformational leaders encourage employees to develop innovative solutions for both local and international markets.

**H2 Transformational Leadership on Sustainable Performance.** Transformational leadership significantly influences sustainable performance in Batam's MSMEs (path coefficient = 0.189, t-statistic = 3.184,  $p = 0.001$ ). This finding is particularly relevant given Batam's strategic position as an industrial hub, where MSMEs must balance economic growth with environmental responsibility. Local MSME leaders who adopt transformational leadership approaches have successfully implemented sustainable practices while maintaining competitiveness. For instance, MSMEs in Batam's manufacturing sector have demonstrated how transformational leadership helps integrate sustainable practices into daily operations while meeting international standards.

**H3 Innovation Performance on Sustainable Performance.** Innovation significantly impacts sustainable performance (path coefficient = 0.374, t-statistic = 6.182,  $p < 0.05$ ) among Batam's MSMEs. This relationship is especially evident in how local businesses have innovated to meet sustainability challenges. For example, small manufacturing enterprises in Batam have developed innovative waste reduction processes, while service-sector MSMEs have implemented creative solutions for resource efficiency. These innovations have helped local businesses maintain competitiveness while adhering to environmental regulations.

**H5 External Social Capital Moderates Transformational Leadership and Sustainable Performance.** External social capital significantly moderates the relationship between transformational leadership and sustainable performance (path coefficient = 0.278, t-statistic = 4.974,  $p < 0.05$ ). This finding is particularly relevant in Batam's business environment, where networks with government agencies, larger industries, and international partners play crucial roles. Local MSMEs that maintain strong relationships with Batam's industrial parks, government bodies,



and Singapore-based businesses have shown enhanced ability to implement sustainable practices.

**H6 External Social Capital Moderates Transformational Leadership and Sustainable Performance through Innovation.** The study found a significant but negative moderating effect of external social capital on the innovation-mediated relationship between transformational leadership and sustainable performance (path coefficient = -0.071, t-statistic = 2.449,  $p = 0.014$ ). This interesting finding reflects the unique challenges faced by Batam's MSMEs, where excessive dependence on external networks might sometimes hinder internal innovation processes. For instance, some local MSMEs have experienced challenges in balancing external partnerships with their own innovation initiatives.

**Analysis of Indirect Effect.** This study used the Smart-PLS method to analyze hypotheses related to indirect effects. For hypothesis H4 "Transformational Leadership has a significant effect on Sustainable Performance through Innovation", the analysis results show a significant positive effect (path coefficient = 0.29, t-statistic = 5.639,  $p = 0.000$ ). With p-value less than 0.05, this hypothesis is accepted, indicating that Transformational Leadership indeed influences Sustainable Performance through Innovation as a mediating variable..

**H4 Transformational Leadership on Sustainable Performance through Innovation.** The mediating role of innovation in the relationship between transformational leadership and sustainable performance is significant (path coefficient = 0.29, t-statistic = 5.639,  $p < 0.05$ ). This finding is particularly relevant for Batam's MSMEs, where innovation serves as a crucial bridge between leadership practices and sustainable outcomes. For example, local businesses that have successfully transformed their operations have done so through innovative approaches encouraged by transformational leaders.

### 3. CONCLUSION & SUGGESTION

**Conclusion.** This study demonstrates the significant role of transformational leadership in enhancing innovation and sustainable performance among MSMEs in Batam. Specifically, transformational leadership practices have shown particular effectiveness in Batam's unique business ecosystem, where MSMEs operate at the intersection of local and international markets. The findings reveal that when MSME leaders in Batam adopt transformational leadership styles, they create environments that encourage innovation, particularly important given Batam's position as a special economic zone. The mediating role of innovation proves especially relevant in Batam's context, where MSMEs must constantly adapt to changing market demands and international standards. The study found that those MSMEs whose leaders facilitate innovation through transformational leadership practices achieve better sustainable performance outcomes. This is particularly evident in how Batam's MSMEs have developed innovative solutions for both operational efficiency and environmental sustainability. External social capital, a critical factor in Batam's business environment, strengthens the relationship

between transformational leadership and sustainable performance, though with some important caveats. While strong networks with government agencies, larger industries, and international partners enhance performance, the study revealed that excessive dependence on external networks might sometimes hinder internal innovation processes - a finding particularly relevant to Batam's MSMEs operating in industrial clusters.

**Suggestions and Recommendations.** Based on these findings, several recommendations emerge for enhancing MSME performance in Batam. MSME owners and managers should participate in targeted leadership training programs specifically designed for Batam's business context. Organizations should foster innovation by providing resources and opportunities for employee experimentation while building strategic networks with government agencies, suppliers, customers, and financial institutions. Digital transformation through the adoption of management systems and e-commerce platforms can improve operational efficiency, while regular performance monitoring will help track progress toward sustainability goals. Additionally, creating platforms for collaboration and knowledge sharing among MSMEs can strengthen the local business ecosystem while maintaining competitive advantages in Batam's unique market position.

## REFERENCES

- Abdulrazzaq Alaghbari, M. (2022). Impact of SMEs on Economic Development: A Systematic Review of Literature. *International Journal of Green Management and Business Studies*, 2(2), 20–28. <https://doi.org/10.56830/slg4118>
- Addai, P., Asiedu, E., Boakye, A. N., & Kumardzi, B. (2023). Ethical Leadership and Creativity Among Employees: Does Leadership Trust and Organizational Climate Matter? *SEISENSE Business Review*, 3(1), 62–75. <https://doi.org/10.33215/1584bf55>
- Afsar, B., & Umrani, W. A. (2020). Transformational leadership and innovative work behavior: The role of motivation to learn, task complexity and innovation climate. *European Journal of Innovation Management*, 23(3), 402–428. <https://doi.org/10.1108/EJIM-12-2018-0257>
- Alrowwad, A., Abualoush, S. H., & Masa'deh, R. (2020). Innovation and intellectual capital as intermediary variables among transformational leadership, transactional leadership, and organizational performance. *Journal of Management Development*, 39(2), 196–222. <https://doi.org/10.1108/JMD-02-2019-0062>
- Alzoraiki, M., Ahmad, A. R., Ateeq, A. A., Naji, G. M. A., Almaamari, Q., & Beshr, B. A. H. (2023). Impact of Teachers' Commitment to the Relationship between Transformational Leadership and Sustainable Teaching Performance. *Sustainability (Switzerland)*, 15(5). <https://doi.org/10.3390/su15054620>
- Amerieska, S., Nugrahani, N., Marsely, M., & Rahayu, S. (2021). The Impact of Digital and Green Innovation Strategy on Citizen Trust Towards Sustainable Financial Performance of Local Government. *International Journal of Finance & Banking Studies* (2147-4486), 10(4), 176–186. <https://doi.org/10.20525/ijfbs.v10i4.1472>
- Anggraini, R., Siagian, Y. M., & Yusran, H. L. (2023). Influencing Factors Enhancement Innovation Performance of Rural Tourism in Indonesia. *European Journal of Business and Management Research*, 8(3), 11–15. <https://doi.org/10.24018/ejbmr.2023.8.3.1939>
- Anthanasius Fomum, T., & Opperman, P. (2023). Financial inclusion and performance of MSMEs in Eswatini. *International Journal of Social Economics*, 50(11), 1551–1567. <https://doi.org/10.1108/IJSE->

10-2020-0689

Arif, S., & Akram, A. (2018). Transformational Leadership and Organizational Performance The Mediating Role of Organizational Innovation. *SEISENSE Journal of Management*, 1. <https://doi.org/10.5281/zenodo.1306335>

Aulia, K. Z., & Nawangsari, L. C. (2023). Effects of Green Human Resource Management and Green Transformational Leadership towards Employee Sustainable Performance through Employee Green Behavior at Mercu Buana University. *European Journal of Business and Management Research*, 8(5), 181–186. <https://doi.org/10.24018/ejbmr.2023.8.5.2128>

Banerjee, Dr. B. (2023). Challenges and Opportunities for Micro, Small, and Medium Enterprises: Navigating the Business Landscape. *The American Journal of Interdisciplinary Innovations and Research*, 05(05), 13–17. <https://doi.org/10.37547/tajiir/volume05issue05-04>

Bayraktar, M., & Algan, N. (2019). The Importance of SMEs on World Economies. *International Conference on Eurasian Economies 2019*, 500, 56–61. <https://doi.org/10.36880/c11.02265>

Begum, S., Xia, E., Mehmood, K., Iftikhar, Y., & Li, Y. (2020). The impact of ceos' transformational leadership on sustainable organizational innovation in smes: A three-wave mediating role of organizational learning and psychological empowerment. *Sustainability (Switzerland)*, 12(20), 1–16. <https://doi.org/10.3390/su12208620>

Buil, I., Martínez, E., & Matute, J. (2019). Transformational leadership and employee performance: The role of identification, engagement and proactive personality. *International Journal of Hospitality Management*, 77, 64–75. <https://doi.org/10.1016/j.ijhm.2018.06.014>

Che Sobry, S., Hasnan, N., & Abidin, R. (2022). The Influence of Social Capital on Sustainable Performance: A Context of Sustainable Supply Chain Management. *International Journal of Academic Research in Business and Social Sciences*, 12(6), 1344–1360. <https://doi.org/10.6007/ijarbs/v12-i6/13917>

Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2023). Reporting reliability, convergent and discriminant validity with structural equation modeling: A review and best-practice recommendations. *Asia Pacific Journal of Management*. <https://doi.org/10.1007/s10490-023-09871-y>

Cho, E. (2016). Making Reliability Reliable: A Systematic Approach to Reliability Coefficients. *Organizational Research Methods*, 19(4), 651–682. <https://doi.org/10.1177/1094428116656239>

Fareed, M. Z., Su, Q., & Aslam, M. U. (2023). Transformational Leadership and Project Success: The Mediating Role of Psychological Empowerment. *SAGE Open*, 13(1). <https://doi.org/10.1177/21582440231154796>

Fhadhilah, D. R., & Setyaningrum, R. P. (2023). Pengaruh Transformational Leadership, Green Human Resources Management Terhadap Business Sustainability Dimediasi Innovation Organizational Pada Karyawan Generasi Milenial Cafe Atau Restoran Tiara Cibirusah Wilayah Kabupaten Bekasi. *Jurnal Ilmiah Wahana Pendidikan*, 9(11), 102–113. <https://doi.org/10.5281/zenodo.8067559>

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. In *Source: Journal of Marketing Research* (Vol. 18, Issue 1).

Futri, S. Y., Jimad, H., & Hayati, K. (2023). The Influence of Transformational Leadership on Employee Performance through Innovative Work Behavior as a Mediating Variable. *Journal of Economics, Management and Trade*, 29(8), 41–50. <https://doi.org/10.9734/jemt/2023/v29i81113>

Gherghina, C. S., Botezatu, A. M., & Hosszu, A. (2019). Commission, E. Entrepreneurship and Small and Medium-Sized Enterprises (SMEs). Available online: <https://ec.europa.eu/growth/> (accessed on 12

August 2019)/smes\_en. 12(1).

Gull, S., Qamar, U., Bukhari, S. N. Z., & Tanvir, A. (2022). Is transformational leadership instrumental to environmental sustainability? A perspective of Pakistani textile sector. *Industria Textila*, 73(4), 411–419. <https://doi.org/10.35530/IT.073.04.202157>

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

Hajar, M. A., Alkahtani, A. A., Ibrahim, D. N., Darun, M. R., Al-Sharafi, M. A., & Tiong, S. K. (2021). The approach of value innovation towards superior performance, competitive advantage, and sustainable growth: A systematic literature review. In *Sustainability (Switzerland)* (Vol. 13, Issue 18). MDPI. <https://doi.org/10.3390/su131810131>

Helmy, I., Azizah, S. N., Purnomo, J., & Fitriani, N. (2023). The Effect of Transformational Leadership on Innovative Work Behavior in SMEs: Test of a Mediating Model. *Journal of International Conference Proceedings*, 6(1), 153–164. <https://doi.org/10.32535/jicp.v6i1.2245>

Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International Marketing Review*, 33(3), 405–431. <https://doi.org/10.1108/IMR-09-2014-0304>

Hoang, G., Yang, M., & Luu, T. T. (2023). Ethical leadership in tourism and hospitality management: A systematic literature review and research agenda. *International Journal of Hospitality Management*, 114. <https://doi.org/10.1016/j.ijhm.2023.103563>

Jia, X., Chen, J., Mei, L., & Wu, Q. (2018). How leadership matters in organizational innovation: a perspective of openness. *Management Decision*, 56(1), 6–25. <https://doi.org/10.1108/MD-04-2017-0415>

Jundi, K., Ghazalat, A., & Yahya, S. (2019). The Sustainable Development Practices Role and Transformational Leadership: Interaction and Impact on the Financial Performance. *Journal of Reviews on Global Economics*, 8, 591–603. <https://doi.org/10.6000/1929-7092.2019.08.51>

Kamal, K. (2023). Peranan Digital Transformational Leadership Terhadap Organizational Innovation Dalam Digital Startup.

Kanwal, F., Tang, C., Ur Rehman, A., Kanwal, T., & Fawad Sharif, S. M. (2019). Knowledge absorptive capacity and project innovativeness: the moderating role of internal and external social capital. *Knowledge Management Research and Practice*, 00(00), 1–18. <https://doi.org/10.1080/14778238.2020.1785960>

Karimi, S., Ahmadi Malek, F., Yaghoubi Farani, A., & Liobikienė, G. (2023). The Role of Transformational Leadership in Developing Innovative Work Behaviors: The Mediating Role of Employees' Psychological Capital. *Sustainability (Switzerland)*, 15(2). <https://doi.org/10.3390/su15021267>

Kho, K., Anggraini, R., & Aliandrina, D. (2023). The influence of sustainable leadership and sustainable performance through Pengaruh sustainable leadership dan sustainable performance melalui frugal. 8(2), 277–285.

Kot, S. (2018). Sustainable supply chain management in small and medium enterprises. *Sustainability (Switzerland)*, 10(4), 1–19. <https://doi.org/10.3390/su10041143>

Le, P. B., & Lei, H. (2019). Determinants of innovation capability: the roles of transformational leadership, knowledge sharing and perceived organizational support. *Journal of Knowledge Management*, 23(3), 527–547. <https://doi.org/10.1108/JKM-09-2018-0568>

Li, H., Sajjad, N., Wang, Q., Ali, A. M., Khaqan, Z., & Amina, S. (2019). Influence of transforma-

tional leadership on employees' innovative work behavior in sustainable organizations: Test of mediation and moderation processes. *Sustainability (Switzerland)*, 11(6).  
<https://doi.org/10.3390/su11061594>

Liao, Y., Qiu, X., Wu, A., Sun, Q., Shen, H., & Li, P. (2022). Assessing the Impact of Green Innovation on Corporate Sustainable Development. *Frontiers in Energy Research*, 9(February), 1–18.  
<https://doi.org/10.3389/fenrg.2021.800848>

Liu, Y., Chen, Y., Ren, Y., & Jin, B. (2021). Impact mechanism of corporate social responsibility on sustainable technological innovation performance from the perspective of corporate social capital. *Journal of Cleaner Production*, 308(May), 127345. <https://doi.org/10.1016/j.jclepro.2021.127345>

Mashuri, M. (2019). Analisis Strategi Pemasaran UMKM Di Era 4.0. *IQTISHADUNA: Jurnal Ilmiah Ekonomi Kita*, 8(2), 215–224. <https://doi.org/10.46367/iqtishaduna.v8i2.175>

May Zhara Averina, W. O., Wirawan Irawanto, D., & Tri Kurniawati, D. (2023). The effect of transformational leadership on sustainable employee performance with organizational commitment and green motivation as the mediating. *International Journal of Research in Business and Social Science* (2147- 4478), 12(9), 160–170. <https://doi.org/10.20525/ijrbs.v12i9.3020>

Mehmood, S., Nazir, S., Fan, J., & Nazir, Z. (2024). Achieving supply chain sustainability: enhancing supply chain resilience, organizational performance, innovation and information sharing: empirical evidence from Chinese SMEs. *Modern Supply Chain Research and Applications*.  
<https://doi.org/10.1108/MS CRA-01-2024-0002>

Mihaela, T. (2021). The Impact of Leadership on Innovation in Organizations. *Internasional Conference On Research In Management*, 48–54. <https://doi.org/10.33422/2nd.icrmanagement.2021.02.44>

Naderi, A., Nasrolahi Vosta, L., Ebrahimi, A., & Jalilvand, M. R. (2019). The contributions of social entrepreneurship and transformational leadership to performance: Insights from rural tourism in Iran. *International Journal of Sociology and Social Policy*, 39(9–10), 719–737.  
<https://doi.org/10.1108/IJSSP-06-2019-0124>

Naguib, H. M., & Naem, A. E.-H. M. A. (2018). The impact of Transformational leadership on the organizational innovation. *International Journal of Social Sciences and Humanities Invention*, 5(1), 4337–4343. <https://doi.org/10.18535/ijsshi/v5i1.15>

Naharuddin, S. N., & Mokhtar, M. R. A. (2023). Revitalising Business Sustainability through Full-Range Leadership Approach: A Supply Chain Management View. 15(3), 1–14.

Nasir, A., Zakaria, N., & Zien Yusoff, R. (2022). The influence of transformational leadership on organizational sustainability in the context of industry 4.0: Mediating role of innovative performance. *Cogent Business and Management*, 9(1). <https://doi.org/10.1080/23311975.2022.2105575>

Nasution, D. (2020). Analysis of SME's Industry Influence on Economic Growth in Indonesia. <https://doi.org/10.4108/eai.4-12-2019.2293833>

Nguyen, L. T., An, J., Ngo, L. V., & Hau, L. N. (2020). Transforming social capital into performance via entrepreneurial orientation. *Australasian Marketing Journal*, 28(4), 209–217.  
<https://doi.org/10.1016/j.ausmj.2020.03.001>

Nguyen, N. P., Hang, N. T. T., Hiep, N., & Flynn, O. (2023). Does transformational leadership influence organisational culture and organisational performance: Empirical evidence from an emerging country. *IIMB Management Review*, 35(4), 382–392. <https://doi.org/10.1016/j.iimb.2023.10.001>

Ozili, P. K. (2023). The acceptable R-square in empirical modelling for social science research. In *Social Research Methodology and Publishing Results: A Guide to Non-Native English Speakers* (pp.

134–143). IGI Global. <https://doi.org/10.4018/978-1-6684-6859-3.ch009>

Pavlov, G., Maydeu-Olivares, A., & Shi, D. (2021). Using the Standardized Root Mean Squared Residual (SRMR) to Assess Exact Fit in Structural Equation Models. *Educational and Psychological Measurement*, 81(1), 110–130. <https://doi.org/10.1177/0013164420926231>

Poespowidjojo, D. A. L., Ramli, A., Kamaruddeen, A. M., Bakar, M. S., & Shakir, K. A. (2018). Linking transformational leadership to firm innovativeness. *Indian Journal of Public Health Research and Development*, 9(11), 1370–1375. <https://doi.org/10.5958/0976-5506.2018.01643.1>

Purba, A., Ilmu, P., Padmono, P., Politeknik, W., & Pemasarakatan, I. (2023). Pengaruh Transformational Leadership Terhadap Innovation Pada Prodi Manajemen Pemasarakatan Politeknik Ilmu Pemasarakatan. *Jurnal Sains Student Research*, 1(2), 455–468. <https://doi.org/10.61722/jssr.v1i1.182>

Putri, M. A., & Riyanto, S. (2023). The Effect of Work Discipline, Work Environment and Transformational Leadership on Employee Productivity with Organizational Effectiveness as Mediating Variable in CV. Jaya Bangun Persada. In *International Journal of Innovative Science and Research Technology* (Vol. 8, Issue 7). [www.ijisrt.com](http://www.ijisrt.com)1864

Santos, P. M., & Cirillo, M. Â. (2023). Construction of the average variance extracted index for construct validation in structural equation models with adaptive regressions. *Communications in Statistics: Simulation and Computation*, 52(4), 1639–1650. <https://doi.org/10.1080/03610918.2021.1888122>

Shahzad, M. A., Iqbal, T., Jan, N., & Zahid, M. (2022). The Role of Transformational Leadership on Firm Performance: Mediating Effect of Corporate Sustainability and Moderating Effect of Knowledge-Sharing. *Frontiers in Psychology*, 13(July), 1–15. <https://doi.org/10.3389/fpsyg.2022.883224>

Simanjuntak, R. D., & Saroni, C. (2019). Analisis Pengaruh Pdb Umkm, Investasi Umkm, Dan Upah Minimum Rata-Rata Nasional Terhadap Penyerapan Tenaga Kerja Sektor Umkm Indonesia Tahun 2006-2017. *JIEP: Jurnal Ilmu Ekonomi Dan Pembangunan*, 2(3), 604. <https://doi.org/10.20527/jiep.v2i3.1195>

Suriyankietkaew, S., Krittayaruangroj, K., & Iamsawan, N. (2022). Sustainable Leadership Practices and Competencies of SMEs for Sustainability and Resilience: A Community-Based Social Enterprise Study. *Sustainability (Switzerland)*, 14(10), 1–36. <https://doi.org/10.3390/su14105762>

Suwandi, E., & Setyawan, A. (2023). Organizational Performance in Batam's Food Industry: The Mediating Role of Organizational Culture. In *International Journal of Economics Development Research* (Vol. 4, Issue 5).

Tang, Y., Chen, Y. J., Shao, Y. F., & Cao, Q. (2022). The Impact of Sustainable Transformational Leadership on Sustainable Innovation Ambidexterity: Empirical Evidence From Green Building Industries of China. *Frontiers in Public Health*, 10. <https://doi.org/10.3389/fpubh.2022.814690>

Theng, B. P., Wijaya, E., Juliana, J., Eddy, E., & Putra, A. S. (2021). The role of transformational leadership, servant leadership, digital transformation on organizational performance and work innovation capabilities in digital era. *JPPI (Jurnal Penelitian Pendidikan Indonesia)*, 7(2), 225–238. <https://doi.org/10.29210/020211164>

Ugiana Gio, P., Caraka Eko, R., & Mulyaningsih Dwi, H. (2019). Partial Least Squares Path Modeling (PLS-PM) Dengan STATCAL-PLSPM. september 2016, 1–6.

Wang, J., Kim, H. R., & Kim, B. J. (2021). From ethical leadership to team creativity: The mediating role of shared leadership and the moderating effect of leader–member exchange differentiation. *Sustainability (Switzerland)*, 13(20). <https://doi.org/10.3390/su132011280>

Williams, R. (2022). Mengapa Program Pengembangan Kepemimpinan Bisa Gagal – dan bagaimana melakukannya dengan cara yang benar . <https://www.linkedin.com/>.

<https://www.linkedin.com/pulse/mengapa-program-pengembangan-kepemimpinan--2e/?originalSubdomain=id>

Yu, M., Lin, H., Wang, G. G., Liu, Y., & Zheng, X. (2022). Is too much as bad as too little? The S-curve relationship between corporate philanthropy and employee performance. *Asia Pacific Journal of Management*, 39(4), 1511–1534. <https://doi.org/10.1007/s10490-021-09775-9>

Zhu, J., & Huang, F. (2023). Transformational Leadership, Organizational Innovation, and ESG Performance: Evidence from SMEs in China. *Sustainability (Switzerland)*, 15(7). <https://doi.org/10.3390/su15075756>