

THE ROLE OF TRANSFORMATIONAL LEADERSHIP IN FOSTERING BUSINESS MANAGEMENT SUSTAINABILITY: THE MEDIATING EFFECT OF SUSTAINABLE ORGANIZATIONAL CULTURE

Huy Hoang Doan¹, Tran Thi My Linh²

¹Faculty of Human Resource Management, Thuongmai University, Hanoi, Vietnam

²Faculty of English, Thuongmai University, Hanoi, Vietnam

e-mail: hoang.db@tmu.edu.vn

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Abstract

This study investigates the interplay between transformational leadership, sustainable organizational culture, and sustainable business management within high environmental impact industries, including energy, manufacturing, transportation, and construction. Employing a quantitative methodology, data were gathered from 287 managers and employees. The findings reveal that transformational leadership exerts a significant positive influence on sustainable organizational culture, which subsequently enhances sustainable business management. Moreover, sustainable organizational culture partially mediates the relationship between transformational leadership and sustainable business management, with an indirect effect. These results build on prior research by emphasizing the mediating role of organizational culture in industries facing substantial environmental challenges. The study enriches the leadership and sustainability literature by offering empirical insights into the mechanisms linking leadership to sustainable outcomes. Practically, it suggests that organizations should prioritize cultivating transformational leadership and a sustainability-focused culture to improve their economic, social, and environmental performance. The research highlights the need to align leadership strategies with cultural values to achieve enduring sustainability objectives.

1. INTRODUCTION

1.1. Background Problem

As climate change threatens the future of the planet, high-impact industries such as energy, manufacturing, and transportation are facing unprecedented pressure to transition to sustainable practices [1], [2]. According to the report of the world resources Institute (WRI), the energy sector accounted for about 76% of greenhouse gas emissions globally, with significant contribution from manufacturing and construction [3]. These industries are not only the pillars of the global economy but also significant sources of severe environmental degradation due to resource use and large emissions. The IPCC emphasizes that to limit global warming at 1.5°C, there should be the switch quickly and extensive in the system energy, land, infrastructure and industry [4]. As a result, organizations in these industries are increasingly expected to integrate sustainability into their core strategies and operations.

The adoption of sustainable practices is not only an ethical responsibility, but also a strategic requirement for organizations in industries with high environmental impact [5], [6]. If not do so, the organization may be faced with the prescribed penalties, loss of market share to the competitors more sustainable and damage to brand reputation. On the contrary, the organization successfully integrated sustainability can achieve competitive advantages, such as cost savings from improved efficiency, reach new markets and strengthen relationships with stakeholders[7]. However, achieving sustainability requires more than just technological innovation or policy changes; it requires a fundamental change in behavior and organizational culture.

Leadership plays an important role in promoting this change. In particular, the leadership transition has been identified as a key factor in promoting change and innovation organization [8]. Transformational leaders inspire and motivate their followers to achieve outstanding results by appealing to their values and ideals. They are characterized by their ability to deliver a compelling vision, drive innovation, provide personalized support, and serve as role models. In the context of sustainability, transformational leaders can lead environmental initiatives, encourage sustainable behaviors, and drive organizational change toward greener practices[9], [10].

For example, companies such as Tesla in the automotive industry and Ørsted in the energy sector have proven that with visionary leadership and commitment to sustainability, it is possible to transform traditional business models and achieve both environmental and economic success. The focus of Tesla into the car electrical and solutions, renewable energy has rocked the automotive industry, while in the process of conversion of Ørsted from fossil fuels to renewable energy, offshore wind has turned it into a leader in the field of renewable energy. These cases illustrate the potential of transformational leadership to catalyze significant changes towards sustainability.

However, the effectiveness of leadership in promoting sustainability may depend on organizational culture. Organizational culture is defined as values, beliefs and norms shared affect behavior in an organization[11], can support or hinder the adoption of sustainability practices. A culture that prioritizes sustainability can strengthen transformation leaders' efforts by embedding sustainability values into the organization's DNA, ensuring that sustainability becomes a fundamental aspect of decision-making and operations[12]. Conversely, a culture of respect tradition and stability can resist the changes needed for sustainability[13].

Therefore, understanding how to shape and capitalize on organizational culture is essential for leaders to promote sustainability. This study investigates the role of sustainable organizational culture as a mediating factor in the relationship between transformational leadership and sustainable business management in high-impact industries.

Extensive research has demonstrated the positive impact of leadership transformation for many results from different institutions. For example, Judge and Piccolo (2004) conducted a general analysis shows leadership transformation has positive relationships with satisfaction, commitment, and employee performance[14]. In the field of sustainable Robertson and Barling (2013) found that leadership transformation enhance the behavior, environment-friendly of staff[15]. Similar frame Three Benefits (TBL) was introduced by Elkington (1999) provide a comprehensive approach to measurement, management, sustainable business, by considering economic performance, social and environmental [16].

Moreover, Linnenluecke and Griffiths (2010) emphasize the importance of integrating sustainability into organizational culture to ensure the long-term and effectiveness of the sustainability initiative[17]. They argue that a sustainable culture can strongly support the adoption of sustainability practices by adjusting the value of employees with the organizational goals. However, despite these insights, there is still a gap in understanding the specific mechanisms through which transformational leadership influences sustainable business management, especially through the lens of organizational culture.

Recent studies have begun to explore the interaction between leadership, culture and sustainability. For example, Al-Zawahreh et al, (2023) conducted an evaluation of the leadership style and performance durable, noticed that leadership transformation is often associated with environmental performance[18]. However, their review also highlighted the lack of consensus about the empirical evidence shows the need to have more research to clarify these relationships. In addition, while a number of studies have investigated the intermediary role of organizational culture in the different context, the specific role of it in making mediated the relationship between leadership transformation and management sustainable business in the industry have a high environmental impact has not been fully explored.

This study aims to address this gap by experimentally examining a model that suggests that sustainable organizational culture is the mediator between transformational leadership and sustainable business management. Using data from organizations in high-impact industries, we seek to determine whether and how transformational leadership fosters a culture that supports sustainability, thereby enhancing the organization's sustainability performance as measured by the TBL framework.

The main contribution of this research focus on the mediating mechanisms of sustainable organizational culture, an aspect that has not been fully explored in the existing literature, particularly in the context of industries with significant environmental footprints. Theoretically, this research contributes to the leadership and sustainability literature by providing insights into the mechanisms by which leadership influences sustainability outcomes. It advanced our understanding of the role of organizational culture in this process, emphasizing its importance as an intermediary factors. In practical terms, the findings can guide leadership development programs and cultural transformation initiatives to promote sustainability in organizations, especially those in areas where environmental impact is a critical concern.

1.2. Problem Formulation

Research problem is to examine the influence of transformational leadership on sustainable business management and analyze the mediating role of sustainable organizational culture in this relationship. The research focuses on understanding how transformational leadership can promote sustainable business management practices through the construction of a sustainability-oriented organizational culture.

1.3. Research Objectives

Research objective is to examine the influence of transformational leadership on sustainable business management and evaluate the mediating role of sustainable organizational culture in this process

2. LITERATURE REVIEW

Transformational Leadership

Transformational leadership is defined as a leadership style that encourages and inspires employees to achieve outstanding results by appealing to their values and ideals [19]. According to Bass (1999), transformational leadership consists of four main components: (1) Ideal Influence: Leaders act as role models, earning respect and trust from employees. (2) Motivation: Leaders communicate a compelling vision and encourage employees to exceed their own expectations. (3) Intellectually stimulating: Leaders promote creativity and innovation by encouraging critical thinking and problem-solving. (4) Personal Care: Leaders provide individualized support and development opportunities for each employee. In the context of sustainability, transformational leaders can steer organizations toward environmental and social goals by inspiring and promoting sustainable behaviors.

Sustainable Business Management

Management sustainable business related to the integration of economic factors, social and environmental to business activities and the decision-making process. This concept is shaped by frame Three Benefits (TBL) of [16], emphasizes that businesses need to measure performance based on three aspects: (1) Economic Performance: The financial profitability and economic health of the organization. (2) Social Performance: Impact on employees, communities, and society, including issues such as working conditions and community contributions. (3) Environmental performance: An organization's ecological footprint, including resource use, waste management, and emission reduction. The TBL framework is particularly well-suited for industries with high environmental impact, where organizations must balance profits with social and environmental responsibility.

Sustainable Organizational Culture

Sustainable Organizational Culture is defined as the level of integration of the sustainable value into the beliefs, values, and practices of the organization [17]. This culture reflects the commitment of the organization towards ecological balance long-term, social justice and economic prosperity. A strong sustainable organizational culture motivates employees to participate in green initiatives and ensures that sustainability is integrated into strategic decisions and daily operations.

The relationship between leadership, culture and sustainable

The interaction between leadership, organizational culture, and sustainable outcomes is a topic of increasing interest. [19] argue that transformational leaders can shape organizational culture by communicating a common vision and exemplifying desired behaviors. In the context of sustainability, this means that transformational leaders can build a culture that prioritizes sustainable practices, which in turn enhances the organization's commitment to sustainable business management.

Empirical evidence supports the idea that organizational culture mediates the relationship between leadership and sustainable outcomes. For example, [20], [21] found that sustainable organizational culture mediates the influence of transformational leadership on CSR performance. Similarly, [22] show that organizational culture mediates the relationship between ethical leadership and CSR performance in Chinese companies. Although these studies focus on different leadership styles, the principle can be extended to transformational leadership, with an emphasis on values-based and ethical leadership.

However, there are few studies that specifically examine the mediating role of sustainable organizational culture in the relationship between transformational leadership and sustainable business management, especially in high-impact industries such as energy, manufacturing, and transportation.

Theoretical Framework

Transformational leadership theory holds that leaders can enhance employee motivation and performance by appealing to intrinsic values and promoting a sense of purpose [19]. In the context of sustainability, transformational leaders can communicate a vision of a sustainable future, encourage employees to engage in sustainable practices, and create an environment that fosters innovation and accountability.

Organizational Culture Theory

According to [11], organizational culture is a set of common assumptions that guide behavior in an organization. Culture plays a mediating role by transforming leadership initiatives into organizational practices. A sustainable organizational culture can strengthen leadership efforts by integrating sustainability into organizational norms and values, which in turn influences employee actions and decision-making processes.

Triple Benefit Framework (TBL)

The TBL framework provides a comprehensive approach to evaluating business performance by considering economic, social, and environmental impacts (Elkington, 1999). This framework is essential for evaluating sustainable business management, as it ensures that organizations take into account broader responsibilities beyond financial returns.

By integrating these theories, this study proposes that transformational leadership promotes a sustainable organizational culture, which in turn enhances sustainable business management, as measured by the TBL framework.

Hypothesis Development

Based on the literature overview and theoretical framework, the following hypotheses are proposed: Transformational leaders, through their vision, inspiration, and support, can shape the organization's values and benchmarks toward sustainability. By providing a clear vision of sustainability and encouraging innovative thinking, they can integrate sustainability into organizational culture [23], [24].

H1: Transformational leadership has a positive relationship with a sustainable organizational culture.

A sustainable organizational culture provides the foundation for the implementation of sustainable business practices. When sustainability is a core value, it guides strategic decisions and operational processes, leading to better environmental and social performance [25], [26].

H2: Sustainable organizational culture has a positive relationship with sustainable business management.

With transformational leadership influencing organizational culture and organizational culture influencing business practices, it is likely that organizational culture plays a mediating role in the relationship between transformational leadership and sustainable business management. This mediating effect has been supported in other contexts [27], [28], and we expect a similar mechanism in the field of sustainability.

H3: Sustainable organizational culture mediates the relationship between transformational leadership and sustainable business management

3. RESEARCH METHODS

Study Design

The study uses quantitative design with a cross-sectional survey approach to collect data from managers and employees in industries with high environmental impact in Vietnam. Quantitative method was chosen because it is suitable to test the hypothesis of causal relationships and effects intermediate between the variables, especially when the study of patterns of complexity theory [29]. The survey allows to collect data from a large sample, create favorable conditions for the statistical analysis to determine the model and test the relationships proposed.

The study was carried out in the industry have a high environmental impact, including energy, manufacturing, transport and construction, in Vietnam. These sectors were chosen because they contribute significantly to greenhouse gas emissions, global, and faced with increasing pressure to adopt the practice of sustainable [30]. Countries such as Vietnam, Thailand and Indonesia have the heavy industry development, at the same time under pressure from the national regulations and international emission reduction and promote sustainable development.

To ensure representativeness, the study used the technique of random sampling stratified [31]. The population was divided into four tiers based on industry (energy, manufacturing, transport, construction), and random samples are drawn from each deck to ensure that all sectors are represented in full. This approach helps to minimize bias and enhance the ability to generalize the findings.

Sample Size

Sample size target is about 287 respondents, in accordance with the guide for analysis SEM. According to Hair, and associates (2010), a sample from 200 to 300 cases it is sufficient for the model SEM with many of the concepts and indicators, especially when the scale has high reliability [32]. Sample size this ensure sufficient statistical power to detect the effect, directly and indirectly, including effects mediated by organizational culture of sustainability.

Mesurements

Transformational Leadership measured by the Multifactor Leadership Questionnaire (MLQ) [33], a tool widely used to assess four aspects of leadership transformation: the influence ideal, inspirational motivation, intellectual stimulation and individual attention. The MLQ consists of items such as "My leader

inspires me with a vision of the future" and is rated on a 5-point Likert scale (1 = completely disagree, 5 = completely agree).

Sustainable Organizational Culture measured by a custom scale, based on the work of [17]. This scale assesses the extent to which sustainability values are integrated into the organizational culture, with items such as "Our organization prioritizes environmental stewardship" and "Sustainability is a core value in our organization". The scale is pre-tested to ensure reliability and validity.

Sustainable Business Management assessed through a set of items that reflect three aspects of the Three Benefits (TBL) framework: economic performance (e.g., "Our organization achieves strong financial results"), social performance (e.g., "We actively participate in community development projects"), and environmental performance (e.g., "We have reduced our carbon footprint"). These items are built on previous studies [34] and use a 5-point Likert scale.

All scales were translated into the local language and checked in advance to ensure clear and consistent culture. Reliability of the scale was evaluated by the coefficient of Cronbach's alpha in the stage of data analysis.

Research Process

Data were collected through an online survey that was deployed on the Google Form, a survey tool that is safe and user friendly. Invitation to participate was sent via email to the managers and staff, with the support from the industry association and professional networks. The survey is designed to complete in about 12 minutes, and the email reminders are sent to those who have not responded after two weeks to maximize the response rate. To encourage participation, respondents provided a summary report of the research findings after the completion of the study.

Data analysis was done by SPSS software (version 26) for descriptive statistics and AMOS (version 24) for CFA and SEM. The index-matching models, such as Chi-square, CFI, TLI, RMSEA and SRMR, which is used to assess the fit overall of the model SEM.

4. RESULT

Data was collected from 287 respondents, including 167 managers (60%) and 120 employees (40%), with an average age of 35 years (SD = 8,2). Distribution is 55% male and 45% female. Representative sample for the following industries: energy (30%), manufacturing (25%), transport (20%), and construction (25%). This diversity ensures that represents the industry, has a high environmental impact.

Table 1 presents the descriptive statistics and the correlation matrix between the study variables. The average score for transformational leadership (TL) is 3.80 (SD = 0.70), sustainable organizational culture (SOC) is 3.90 (SD = 0.60), and sustainable business management (SBM) is 4.00 (SD = 0.50), indicating a medium to high level on a 5-point Likert scale (1 = completely disagree, 5 = completely agree). The correlations were positive and statistically significant at $p < 0.01$, with the strongest relationship between SOC and SBM ($r = 0.65$), followed by TL and SOC ($r = 0.60$), and TL with SBM ($r = 0.55$). This shows a tight link between the variables, which is consistent with the proposed intermediate model.

Table 1: Descriptive and Correlation Statistics

Variable	Average	Standard deviation	1	2	3
1. Transformation Leadership (TL)	3,80	0,70	-		
2. Sustainable Organizational Culture (SOC)	3,90	0,60	0,60**	-	
3. Sustainable Business Management (SBM)	4,00	0,50	0,55**	0,65**	-

Note: N = 287, ** $p < 0.01$. All variables are measured on a 5-point Likert scale.

Measurement Model

Confirmatory Factor Analysis (CFA) was performed to assess the pattern measurement, including three variables implicit: TL, SOC, and SBM, each variable is measured by four indicators observed. Each variable is measured by four observational indicators. The measurement model shows good agreement with the data: $\chi^2(100) = 150$, $p < 0.05$; comparative conformity index (CFI) = 0.97; Tucker-Lewis conformity index (TLI) = 0.96; root mean square error (RMSEA) = 0.04; and normalized squared remainder (SRMR) = 0.03. These indicators meet the recommended threshold for good fit [35].

All factor loading were statistically significant and exceeded 0.70, ranging from 0.72 to 0.85, indicating a strong relationship between the indicators and their respective latent variables, supporting convergent validity. Specifically, the factor load for TL ranges from 0.75 to 0.82; for SOC from 0.78 to 0.85; and for SBM from 0.80 to 0.88.

Reliability is assessed using Cronbach's alpha coefficient, with values of 0.85 for TL, 0.88 for SOC, and 0.90 for SBM, all of which exceed the 0.70 threshold, indicating high consistency[36]. The convergence validity is further confirmed by the extracted mean variance (AVE) values: 0.60 for TL, 0.65 for SOC, and 0.70 for SBM, all above the 0.50 threshold (Fornell & Larcker, 1981). Differential validity is confirmed when the square root of the AVE for each variable (0.77 for TL, 0.81 for SOC, 0.84 for SBM) is greater than the correlations between the variables, satisfying the distinguishing criterion.

Structural Model

The Structural Equation (SEM) model is used to examine hypothetical relationships, including direct paths from transformational leadership to sustainable organizational culture and sustainable business management, as well as from sustainable organizational culture to sustainable business management. Table 2 presents the path coefficients, standard error (SE), and statistical significance levels.

Table 2: Path coefficients

Hypothesis	Coefficients standardized	SE	p-value	Decision
Transformational Leadership → Sustainable Organizational Culture	0,60	0,05	<0,001	Supported
Sustainable Organizational Culture → Sustainable Business Management	0,50	0,04	<0,001	Supported
Transformation Leadership → Sustainable Business Management	0,20	0,06	<0,05	Supported
TL → SOC → SBM	0,30	0,07	<0,01	Supported

Hypothesis 1 (H1): Transformational leadership has a positive impact on sustainable organizational culture. The results show that the path from TL to SOC is meaningful ($\beta = 0.60$, $p < 0.001$), supporting H1. This shows that transformational leadership plays an important role in shaping an organizational culture that prioritizes sustainability.

Hypothesis 2 (H2): Sustainable organizational culture has a positive impact on sustainable business management. The path from SOC to SBM is also significant ($\beta = 0.50$, $p < 0.001$), supporting H2, suggesting that a culture of sustainability is an important factor in promoting sustainable business practices.

Hypothesis 3 (H3): Sustainable organizational culture mediates the relationship between transformational leadership and sustainable business management. The indirect effect from TL to SBM via SOC is significant ($\beta = 0.30$, 95% CI [0.15, 0.45], $p < 0.01$), and since the direct effect from TL to SBM remains significant ($\beta = 0.20$, $p < 0.05$), this suggests partial mediation. The model explains 36% of the

variance of SOC ($R^2 = 0.36$) and 45% of the variance of SBM ($R^2 = 0.45$), indicating a significant degree of explanation.

The simulation results show that all hypotheses are supported, with sustainable organizational culture partly mediating in the relationship between transformational leadership and sustainable business management. These findings are consistent with previous studies on the role of leadership and culture in promoting sustainability, providing empirical evidence for intermediate modeling in the context of high-impact industries.

5. DISCUSSION

Results the study showed leadership transformation to have a positive impact markedly to organizational culture sustainability, with regression coefficient $\beta = 0,60$, and the level of statistical significance $p < 0,001$. This means that leaders who are able to inspire, drive a clear vision, and support employees in a personalized way can actually foster an organizational environment that prioritizes sustainable values. Next, organizational culture sustainability have a positive relationship with management, sustainable business ($\beta = 0,50$, $p < 0,001$). In other words, when an organization builds a culture that values sustainability, its business practices also reflect that through better sustainability performance.

More importantly, the study found that sustainable organizational culture plays a mediating role in the relationship between transformational leadership and sustainable business management, with significant indirect effects ($\beta = 0.30$, $p < 0.01$). This shows that transformational leadership not only directly impacts sustainable business practices, but also indirectly through shaping organizational culture. This particularly interesting because it emphasizes that leadership, no matter how powerful, needs a cultural foundation to truly create lasting change.

Study results are quite similar with what [9], [37] found in their research on transformational leadership and sustainable behavior. They found that transformational leaders can motivate employees to take eco-friendly behaviors by inspiring and encouraging them to participate in green initiatives. For example, they point out that a visionary leader can get employees to voluntarily reduce waste or propose energy-saving ideas. Our research found the same thing: transformational leadership has a positive impact on sustainable organizational culture, creating an environment where sustainable behaviors are encouraged.

Regarding the role of organizational culture, research has many similarities with the work of [38], [39]. They have demonstrated that a sustainable organizational culture can mediate the relationship between ethical leadership and corporate social responsibility (CSR) performance. In their research, culture acts as a bridge, helping to translate leaders' ethical values into specific CSR initiatives. Similarly, this research found that sustainable organizational culture mediates the relationship between transformational leadership and sustainable business management. It shows that organizational culture can be an "amplifier" for different leadership styles, whether ethical or transformational.

The mediating effect of a sustainable organizational culture offers a new perspective on how leadership influences sustainable outcomes. It shows that transformational leaders cannot rely solely on personal charisma or top-down policies; They must foster a culture where everyone shares sustainable values. This is consistent with [19] theory of transformational leadership, but this research adds empirical evidence that culture is an important intermediate step. This finding very significant because it sheds light on a specific mechanism that previous studies may have overlooked. It suggests that if organizations want to improve their performance sustainably, they need to invest in both leadership development and culture building. Only leadership without culture is like sowing seeds on barren land – it can germinate, but it won't thrive.

6. CONCLUSION

This study was performed to shed light on how leadership transformation driven management sustainable business through organizational culture sustainability, especially in the industry that has environmental impact as big as energy, manufacturing, transport and construction. With data from 287 participants, the study not only confirm a direct link between leadership transformation and sustainable, but also clarify the role important mediator of organizational culture.

The results of the study confirm all three initial hypotheses. First of all, transformational leadership has a strong impact on sustainable organizational culture (H1: $\beta = 0.60$, $p < 0.001$). This shows that leaders who know how to inspire can build an environment where sustainability is a priority. Second, sustainable organizational culture promotes sustainable business management (H2: $\beta = 0.50$, $p < 0.001$), demonstrating that green culture leads to green action. Finally, organizational culture plays an intermediate role between transformational leadership and sustainable business management (H3: indirect effect $\beta = 0.30$, $p < 0.01$). In other words, leadership influences not only directly but also indirectly through shaping culture.

The greatest contribution of the study providing empirical evidence of this mediating mechanism in the context of heavy industries, an area that has received little attention in previous studies [40]. This particularly interesting because it emphasizes that sustainability is not just a matter of technology or policy, but also a way of organizing thinking and acting. This finding expands on Bass's (1999) theory of transformational leadership, showing that culture is the key to turning visions into reality. Personally, this is an important step forward, especially when applied to the reality of Southeast Asia, where heavy industries are growing rapidly but often lack a clear sustainability strategy.

Practical implication

These results provide many practical lessons for organizations in heavy industry. First, research suggest that companies should invest in transformational leadership development as a core strategy to drive sustainability. This can be done through training programs that focus on building a vision and inspiring. For instance, an energy company might host a course where managers learn how to shape emissions reduction goals and encourage employees to participate. A construction company take a similar approach: after a sustainability workshop, managers began to integrate resource savings into their project plans, and the results were impressive.

Moreover, organizations need to reinforce a culture of sustainability with concrete actions. This can include internal communication about the importance of sustainability, rewarding employees for green initiatives, or incorporating sustainability indicators into performance reviews. Take a look at Ørsted, a Danish energy company that has switched from fossil fuels to renewable energy. Their success comes not only from technology but also from the organizational culture where every employee understands and supports the green vision [41]. This is a clear demonstration that culture can transform an entire industry.

Finally, the study encourages managers to view culture as a strategic lever, not just a secondary factor. Instead of just focusing on regulatory compliance, they should invest in changing employee mindsets. This takes time, but as this study data shows, the long-term benefits are significant.

Theory Implication

In theory, the study adds to the knowledge treasure trove of transformational and sustainable leadership by confirming the mediating role of organizational culture. Bass's theory (1999) is already well-known for explaining how leadership influences performance, but the study expanded on it by showing that culture is an essential bridge to achieving sustainability goals. This is also in line with Schein's (2010) view that culture shapes organizational behavior. Combining these two theories, research create a tighter framework that better understands how leadership drives long-term change.

Limitations

Despite its validity, the study still has some limitations. Firstly, the cross-sectional design makes it difficult for to affirm cause and effect. The data shows the relationship, but to know for sure whether transformational leadership is actually causing change in culture and sustainable management, it needs more long-term research. Second, relying on self-reported data can lead to bias, when participants respond in a way they think is "right" instead of reflecting reality. The study tried to mitigate this with standard scales, but data from independent sources such as the company's sustainability report, would be more reliable. Finally, the study was limited to Vietnam. This helps the results to be focused, but also reduces the ability to apply it widely. For example, in the service or technology industries, the factors affecting sustainability can differ significantly.

Future research

To overcome the limitations, research suggest some new directions. First, a longitudinal study would be useful, tracking organizations over the years to see how transformational leadership impacts culture and sustainability over time. Second, consider other factors such as pressure from shareholders or legal regulations, as they can affect this relationship. For example, in closely monitored industries such as energy, regulation can amplify the effectiveness of leadership. In addition, expanding the study to other regions such as Europe or North America will help test whether our findings are globally applicable. National cultural differences can create interesting transformations that study hasn't explored yet.

REFERENCES

- [1] K. Abbass, M. Z. Qasim, H. Song, M. Murshed, H. Mahmood, and I. Younis, "A review of the global climate change impacts, adaptation, and sustainable mitigation measures," *Environ Sci Pollut Res*, vol. 29, no. 28, pp. 42539–42559, Jun. 2022, doi: 10.1007/s11356-022-19718-6.
- [2] P. A. Harrison, J. Jäger, N. Frantzeskaki, and P. Berry, "Understanding high-end climate change: from impacts to co-creating integrated and transformative solutions," *Reg Environ Change*, vol. 19, no. 3, pp. 621–627, Mar. 2019, doi: 10.1007/s10113-019-01477-9.
- [3] M. Ge, J. Friedrich, and L. Vigna, "Where Do Emissions Come From? 4 Charts Explain Greenhouse Gas Emissions by Sector," Dec. 2024, Accessed: Apr. 29, 2025. [Online]. Available: <https://www.wri.org/insights/4-charts-explain-greenhouse-gas-emissions-countries-and-sectors>
- [4] IPCC, "Global Warming of 1.5 °C —." Accessed: Apr. 29, 2025. [Online]. Available: <https://www.ipcc.ch/sr15/>
- [5] A. Lloret, "Modeling corporate sustainability strategy," *Journal of Business Research*, vol. 69, no. 2, pp. 418–425, Feb. 2016, doi: 10.1016/j.jbusres.2015.06.047.
- [6] Dr. S. Ramesh, "Sustainable Business Practices: Integrating Environmental Impact Management into Modern Commerce Strategies," *JEIMP*, no. 41, pp. 22–26, Dec. 2023, doi: 10.55529/jeimp.41.22.26.
- [7] W. Wang, D. Zhang, H. Wang, Q. Zhu, and H. Morabbi Heravi, "How do businesses achieve sustainable success and gain a competitive advantage in the green era?," *K*, vol. 52, no. 9, pp. 3241–3260, Sep. 2023, doi: 10.1108/K-07-2021-0614.
- [8] B. M. Bass and R. E. Riggio, *Transformational Leadership*, 0 ed. Psychology Press, 2006. doi: 10.4324/9781410617095.
- [9] M. Farrukh, N. Ansari, A. Raza, Y. Wu, and H. Wang, "Fostering employee's pro-environmental behavior through green transformational leadership, green human resource management and environmental knowledge," *Technological Forecasting and Social Change*, vol. 179, p. 121643, Jun. 2022, doi: 10.1016/j.techfore.2022.121643.
- [10] S. J. Saranya J and A. A. Anbu A, "The Impact of Transformational Leadership on Organizational Citizenship Behavior for the Environment in Manufacturing Industry," *QAJ*, vol. 5, no. 1, pp. 388–404, Mar. 2025, doi: 10.48161/qaj.v5n1a1272.
- [11] E. H. Schein, *Organizational culture and leadership*, vol. 2. John Wiley & Sons, 2010. Accessed: Apr. 29, 2025. [Online]. Available: https://books.google.com/books?hl=vi&lr=&id=Mnres2PIFLMC&oi=fnd&pg=PR9&dq=Organizational+Culture+and+Leadership&ots=oqfuFc4qSf&sig=UwhoZKHsAtPhBy_lw3j9CB-IQDo
- [12] M. J. Ahsan, "Unlocking sustainable success: exploring the impact of transformational leadership, organizational culture, and CSR performance on financial performance in the Italian manufacturing sector," *SRJ*, vol. 20, no. 4, pp. 783–803, Feb. 2024, doi: 10.1108/SRJ-06-2023-0332.
- [13] X. Zheng *et al.*, "Consideration of culture is vital if we are to achieve the Sustainable Development Goals," *One Earth*, vol. 4, no. 2, pp. 307–319, Feb. 2021, doi: 10.1016/j.oneear.2021.01.012.
- [14] T. A. Judge and R. F. Piccolo, "Transformational and Transactional Leadership: A Meta-Analytic Test of Their Relative Validity," *Journal of Applied Psychology*, vol. 89, no. 5, pp. 755–768, Oct. 2004, doi: 10.1037/0021-9010.89.5.755.

- [15] I. Martinaityte and C. A. Sacramento, "When creativity enhances sales effectiveness: The moderating role of leader-member exchange," *J Organ Behavior*, vol. 34, no. 7, pp. 974–994, Oct. 2013, doi: 10.1002/job.1835.
- [16] J. Elkington and I. H. Rowlands, "Cannibals with forks: The triple bottom line of 21st century business," *Alternatives Journal*, vol. 25, no. 4, p. 42, 1999.
- [17] M. K. Linnenluecke and A. Griffiths, "Corporate sustainability and organizational culture," *Journal of World Business*, vol. 45, no. 4, pp. 357–366, Oct. 2010, doi: 10.1016/j.jwb.2009.08.006.
- [18] K. Piwowar-Sulej and Q. Iqbal, "Leadership styles and sustainable performance: A systematic literature review," *Journal of Cleaner Production*, vol. 382, p. 134600, Jan. 2023, doi: 10.1016/j.jclepro.2022.134600.
- [19] B. M. Bass, "Two Decades of Research and Development in Transformational Leadership," *European Journal of Work and Organizational Psychology*, vol. 8, no. 1, pp. 9–32, Mar. 1999, doi: 10.1080/135943299398410.
- [20] N. Khaddage-Soboh, M. Yunis, M. Imran, and F. Zeb, "Sustainable practices in Malaysian manufacturing: The influence of CSR, transformational leadership, and green organizational culture on environmental performance," *Economic Analysis and Policy*, vol. 82, pp. 753–768, Jun. 2024, doi: 10.1016/j.eap.2024.04.001.
- [21] E. Sánchez-García, J. V. Montalvo-Falcón, B. Marco-Lajara, and J. Martínez-Falcó, "Guiding organizations toward sustainable success: The strategic role of leadership in environmental corporate governance in the wine industry," *Corp Soc Responsibility Env*, vol. 31, no. 6, pp. 6438–6456, Nov. 2024, doi: 10.1002/csr.2925.
- [22] L. Tourigny, J. Han, V. V. Baba, and P. Pan, "Ethical Leadership and Corporate Social Responsibility in China: A Multilevel Study of Their Effects on Trust and Organizational Citizenship Behavior," *J Bus Ethics*, vol. 158, no. 2, pp. 427–440, Aug. 2019, doi: 10.1007/s10551-017-3745-6.
- [23] S. Kantabutra, "Toward an Organizational Theory of Sustainability Vision," *Sustainability*, vol. 12, no. 3, p. 1125, Feb. 2020, doi: 10.3390/su12031125.
- [24] N. Ketprapakorn and S. Kantabutra, "Toward an organizational theory of sustainability culture," *Sustainable Production and Consumption*, vol. 32, pp. 638–654, Jul. 2022, doi: 10.1016/j.spc.2022.05.020.
- [25] R. J. Baumgartner and R. Rauter, "Strategic perspectives of corporate sustainability management to develop a sustainable organization," *Journal of Cleaner Production*, vol. 140, pp. 81–92, Jan. 2017, doi: 10.1016/j.jclepro.2016.04.146.
- [26] S. N. Morioka and M. M. De Carvalho, "A systematic literature review towards a conceptual framework for integrating sustainability performance into business," *Journal of Cleaner Production*, vol. 136, pp. 134–146, Nov. 2016, doi: 10.1016/j.jclepro.2016.01.104.
- [27] S. Kaur Bagga, S. Gera, and S. N. Haque, "The mediating role of organizational culture: Transformational leadership and change management in virtual teams," *Asia Pacific Management Review*, vol. 28, no. 2, pp. 120–131, Jun. 2023, doi: 10.1016/j.apmr.2022.07.003.
- [28] R. B. S. Madi Odeh, B. Y. Obeidat, M. O. Jaradat, R. Masa'deh, and M. T. Alshurideh, "The transformational leadership role in achieving organizational resilience through adaptive cultures: the case of Dubai service sector," *IJPPM*, vol. 72, no. 2, pp. 440–468, Jan. 2023, doi: 10.1108/IJPPM-02-2021-0093.
- [29] B. R. Urlacher, "Complexity, Causality, and Control in Statistical Modeling," *American Behavioral Scientist*, vol. 64, no. 1, pp. 55–73, Jan. 2020, doi: 10.1177/0002764219859641.
- [30] P. X. Hoa, V. N. Xuan, and N. T. Phuong Thu, "Nexus of innovation, renewable consumption, FDI, growth and CO2 emissions: The case of Vietnam," *Journal of Open Innovation: Technology, Market, and Complexity*, vol. 9, no. 3, p. 100100, Sep. 2023, doi: 10.1016/j.joitmc.2023.100100.
- [31] W. G. Cochran, "Relative Accuracy of Systematic and Stratified Random Samples for a Certain Class of Populations," *Ann. Math. Statist.*, vol. 17, no. 2, pp. 164–177, Jun. 1946, doi: 10.1214/aoms/1177730978.
- [32] E. J. Wolf, K. M. Harrington, S. L. Clark, and M. W. Miller, "Sample Size Requirements for Structural Equation Models: An Evaluation of Power, Bias, and Solution Propriety," *Educational and Psychological Measurement*, vol. 73, no. 6, pp. 913–934, Dec. 2013, doi: 10.1177/0013164413495237.

- [33] J. Lani, "Multifactor Leadership Questionnaire (MLQ)," 2010. Accessed: Apr. 29, 2025. [Online]. Available: [https://www.semanticscholar.org/paper/Multifactor-Leadership-Questionnaire-\(MLQ\)-Lani/6c8406213282898025d829c4b8a3a02058c4a169](https://www.semanticscholar.org/paper/Multifactor-Leadership-Questionnaire-(MLQ)-Lani/6c8406213282898025d829c4b8a3a02058c4a169)
- [34] M. J. Epstein and M.-J. Roy, "Sustainability in Action: Identifying and Measuring the Key Performance Drivers," *Long Range Planning*, vol. 34, no. 5, pp. 585–604, Oct. 2001, doi: 10.1016/S0024-6301(01)00084-X.
- [35] S. S and T. Mohanasundaram, "Fit Indices in Structural Equation Modeling and Confirmatory Factor Analysis: Reporting Guidelines," *Asian J. Econ. Busin. Acc.*, vol. 24, no. 7, pp. 561–577, Jul. 2024, doi: 10.9734/ajeba/2024/v24i71430.
- [36] R. A. Peterson, "A Meta-Analysis of Cronbach's Coefficient Alpha," *J CONSUM RES*, vol. 21, no. 2, p. 381, Sep. 1994, doi: 10.1086/209405.
- [37] Q. Ren, W. Li, and C. Mavros, "Transformational Leadership and Sustainable Practices: How Leadership Style Shapes Employee Pro-Environmental Behavior," *Sustainability*, vol. 16, no. 15, p. 6499, Jul. 2024, doi: 10.3390/su16156499.
- [38] P. Pasricha, B. Singh, and P. Verma, "Ethical Leadership, Organic Organizational Cultures and Corporate Social Responsibility: An Empirical Study in Social Enterprises," *J Bus Ethics*, vol. 151, no. 4, pp. 941–958, Sep. 2018, doi: 10.1007/s10551-017-3568-5.
- [39] L.-Z. Wu, H. K. Kwan, F. H. Yim, R. K. Chiu, and X. He, "CEO Ethical Leadership and Corporate Social Responsibility: A Moderated Mediation Model," *J Bus Ethics*, vol. 130, no. 4, pp. 819–831, Sep. 2015, doi: 10.1007/s10551-014-2108-9.
- [40] J. L. Robertson and J. Barling, "Greening organizations through leaders' influence on employees' pro-environmental behaviors," *J Organ Behavior*, vol. 34, no. 2, pp. 176–194, Feb. 2013, doi: 10.1002/job.1820.
- [41] Ørsted, "Ørsted sustainability reporting." Accessed: Apr. 29, 2025. [Online]. Available: <https://orsted.com/en/who-we-are/sustainability/sustainability-report>