

The Structural Relationship between Sustainable Leadership, Role Behavior, and Environmental Performance: A Qualitative Systematic Literature Review of Empirical and Theoretical Perspectives

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ABSTRACT. *This study examines the structural relationship between sustainable leadership, role behavior, and environmental performance through a qualitative systematic literature review integrating empirical and theoretical perspectives. Drawing on recent and foundational studies, the review synthesizes how sustainable leadership fosters pro environmental role behaviors, such as organizational citizenship behavior for the environment and green task performance which in turn enhance organizational environmental outcomes. The findings indicate that sustainable leadership indirectly influences environmental performance by shaping employees' values, motivations, and behaviors aligned with sustainability goals. Furthermore, contextual factors such as organizational culture, stakeholder pressure, and regulatory frameworks are identified as critical moderators in strengthening this relationship. This study contributes to the literature by offering an integrative framework that links leadership practices to environmental performance through behavioral mechanisms, highlighting the importance of aligning leadership strategies with sustainability oriented role behaviors. The review also provides implications for organizations seeking to improve environmental performance through leadership driven behavioral change.*

Keywords Sustainable leadership; Role behavior; Environmental performance; Pro-environmental behavior; Systematic literature review

INTRODUCTION

In recent decades, sustainability has emerged as a central concern for organizations worldwide, driven by increasing environmental degradation, climate change, and societal expectations for responsible corporate behavior. The growing emphasis on Environmental, Social, and Governance (ESG) frameworks reflects a paradigm shift in how organizational success is defined, moving beyond short term financial performance toward long-term sustainable value creation (Cho, 2011; Daft, 2021). Within this context, leadership plays a pivotal role in shaping organizational strategies, cultures, and behaviors that align with sustainability objectives. Among various leadership paradigms, sustainable leadership has gained prominence as a holistic approach that integrates economic, environmental, and social considerations into organizational decision making processes (Dalati, 2017; Fabio, 2018).

Sustainable leadership extends beyond traditional leadership theories that primarily focus on individual traits, behaviors, or situational contingencies. While classical theories such as trait theory, behavioral theory, and situational leadership have contributed significantly to understanding leadership effectiveness, they often lack the broader

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societal and ecological perspective required to address contemporary global challenges (Daft, 2021). Sustainable leadership, in contrast, incorporates ethical responsibility, long-term orientation, stakeholder inclusivity, and environmental stewardship, making it particularly relevant in the era of ESG management (Fabio, 2018; Park, 2021). This leadership approach is rooted in the recognition that organizations are embedded within larger social and ecological systems, and thus their actions have far reaching consequences. Generative Artificial Intelligence has the potential to revolutionize human resource management, but its success heavily depends on the organization's readiness to adapt to technological changes, as well as its commitment to ensuring fair and ethical implementation (Yulianti, G., et al, 2024).

Empirical research increasingly highlights the importance of sustainable leadership in influencing organizational outcomes. For instance, Park, Lee, and Baek (2024) found that sustainable leadership positively affects both role behavior and environmental performance within organizations. This suggests that leaders who emphasize sustainability principles can effectively encourage employees to adopt behaviors that support environmental goals. Role behavior, defined as the set of expected actions and responsibilities performed by individuals within an organizational context, plays a crucial role in translating leadership vision into operational outcomes (Baek, 2016; Kim, 2010). Employees who exhibit strong role behavior are more likely to align their actions with organizational objectives, thereby contributing to improved performance. Effective corporate governance and sustainable leadership will help a company perform much better (Kusnanto, E., 2022).

However, the relationship between role behavior and environmental performance is not always straightforward. While it is commonly assumed that positive employee behaviors directly enhance organizational outcomes, empirical findings indicate that this relationship may be more complex. Park et al. (2024) reported that role behavior does not have a direct significant effect on environmental performance, nor does it mediate the relationship between sustainable leadership and environmental performance. This finding challenges conventional assumptions and suggests the presence of other mediating or moderating variables that influence the effectiveness of leadership in achieving sustainability outcomes. Such variables may include organizational culture, institutional

pressures, governance structures, and psychological empowerment (Yoo, 2009; Nam, 2022).

The complexity of these relationships underscores the need for a deeper theoretical and empirical understanding of how sustainable leadership operates within organizations. Existing literature on corporate social responsibility (CSR) and ESG management has largely focused on organizational policies and external reporting mechanisms, often overlooking the behavioral and leadership dimensions that drive these initiatives (Lee, 2014; Park, 2023). Moreover, research on leadership has traditionally emphasized performance outcomes such as productivity, innovation, and job satisfaction, with relatively limited attention to environmental performance (Dalati, 2017). This gap highlights the importance of integrating leadership theory with sustainability research to develop a more comprehensive framework. Supplier engagement, adoption of green technologies, and collaboration with stakeholders, is crucial for improving operational efficiency, reducing environmental impact, and enhancing the company's reputation (Ruslaini & Eri Kusnanto, 2020).

From a theoretical perspective, sustainable leadership can be linked to several foundational concepts in organizational behavior and management. For example, it aligns with the principles of ethical leadership, which emphasize moral conduct and social responsibility, as well as transformational leadership, which focuses on inspiring and motivating employees toward a shared vision (Daft, 2021; Yoo, 2009). Additionally, sustainable leadership incorporates elements of stakeholder theory, recognizing the importance of balancing the interests of various stakeholders, including employees, customers, communities, and the environment (Cho, 2011). By integrating these perspectives, sustainable leadership provides a multidimensional approach to addressing complex organizational challenges.

The significance of sustainable leadership is further reinforced by the increasing urgency of environmental issues. Global climate change, resource depletion, and ecological degradation pose significant risks to both businesses and society at large. Organizations are under growing pressure to adopt sustainable practices, not only to comply with regulations but also to maintain legitimacy and competitiveness in the market (Calabrese, 2008; Jang, 2020). In this context, leadership becomes a critical driver

of change, influencing how organizations respond to environmental challenges and implement sustainability initiatives.

Despite the growing body of research on sustainable leadership, several gaps remain. First, there is a lack of consensus on the conceptualization and measurement of sustainable leadership, with different studies adopting varying definitions and frameworks (Fabio, 2018). Second, the mechanisms through which sustainable leadership influences environmental performance are not fully understood, particularly in terms of the role of employee behavior. Third, much of the existing research is context specific, often focusing on particular industries or regions, which limits the generalizability of findings (Park et al., 2024; Nam, 2022). These limitations highlight the need for a systematic synthesis of existing literature to identify common patterns, theoretical insights, and areas for future research.

A qualitative systematic literature review (SLR) provides an appropriate methodological approach to address these gaps. By systematically analyzing and synthesizing existing empirical and theoretical studies, an SLR can offer a comprehensive understanding of the structural relationships between sustainable leadership, role behavior, and environmental performance. This approach allows for the identification of key themes, theoretical frameworks, and research trends, as well as the evaluation of methodological rigor and consistency across studies (Lee, 2006; Lee, 2008). Furthermore, an SLR can help bridge the gap between theory and practice by providing evidence based insights that inform managerial decision making.

This study aims to explore the structural relationship between sustainable leadership, role behavior, and environmental performance through a qualitative systematic literature review of empirical and theoretical perspectives. Specifically, it seeks to (1) examine how sustainable leadership influences role behavior and environmental performance, (2) analyze the role of employee behavior in mediating or moderating this relationship, and (3) identify key theoretical frameworks and research gaps in the existing literature. By addressing these objectives, this study contributes to the growing body of knowledge on sustainable management and provides valuable insights for both researchers and practitioners.

The increasing importance of sustainability in organizational contexts necessitates a deeper understanding of the role of leadership in driving environmental performance.

Sustainable leadership offers a promising framework for integrating economic, social, and environmental objectives, but its effectiveness depends on complex interactions with employee behavior and organizational factors. Through a systematic review of existing literature, this study aims to shed light on these relationships and provide a foundation for future research in this critical area.

LITERATURE REVIEW

The concept of sustainable leadership has gained increasing attention in management literature as organizations face growing pressure to integrate environmental, social, and governance (ESG) considerations into their strategic and operational frameworks (Cho, 2011; Daft, 2021). Sustainable leadership is defined as a leadership approach that promotes long-term organizational success while simultaneously ensuring environmental stewardship and social responsibility (Fabio, 2018; Dalati, 2017). Unlike traditional leadership paradigms, which often prioritize short term performance outcomes, sustainable leadership emphasizes a balance between economic, environmental, and social objectives (Northouse, 2016; Robbins, 2019). This paradigm shift reflects the evolving expectations of stakeholders and the increasing urgency of addressing global environmental challenges (Jang, 2020; Eckles, 2022).

Empirical studies have consistently demonstrated the positive impact of sustainable leadership on organizational outcomes, particularly environmental performance (Park et al., 2024; Nam, 2022). For instance, Park et al. (2024) found that sustainable leadership significantly enhances environmental performance by fostering environmentally responsible behaviors among employees. Similarly, Nam (2022) reported that sustainable leadership contributes to improved ESG management and non financial performance, highlighting its strategic importance in contemporary organizations. These findings are further supported by Park (2021), who identified a strong relationship between sustainable leadership and sustainable performance, particularly when supported by performance measurement systems.

In addition to its direct impact on organizational outcomes, sustainable leadership also influences employee level behaviors, particularly role behavior (Kim, 2022; Baek, 2016). Role behavior refers to the extent to which employees fulfill their expected duties and responsibilities within an organization (Robbins, 2019; Baek, 2016). Kim (2010)

demonstrated that individual characteristics and emotional labor significantly influence role behavior, suggesting that behavioral outcomes are shaped by both personal and contextual factors. Furthermore, Kim (2022) found that inclusive leadership positively affects role behavior, indicating that leadership style plays a crucial role in shaping employee actions and attitudes.

The relationship between leadership and role behavior has been extensively explored in organizational behavior literature, with studies highlighting the mediating role of psychological and organizational factors (Yoo, 2009; Robbins, 2019). Yoo (2009) found that psychological empowerment mediates the relationship between transformational leadership and role behavior, suggesting that leadership influences behavior indirectly through cognitive and motivational mechanisms. This perspective aligns with the broader view that employee behavior is not solely determined by leadership directives but is also influenced by internal and contextual factors (Baek, 2014; Daft, 2021). Consequently, understanding the mechanisms through which sustainable leadership affects role behavior is critical for developing effective management strategies.

Despite the established link between leadership and role behavior, the relationship between role behavior and environmental performance remains inconclusive (Park et al., 2024; Lee, 2014). Park et al. (2024) found that role behavior does not have a direct significant effect on environmental performance, challenging the assumption that positive employee behaviors automatically translate into improved organizational outcomes. This finding suggests that environmental performance may be influenced by additional factors, such as organizational systems, policies, and external pressures (Lee, 2014; Park, 2023). Lee (2014) emphasized the importance of sustainable supply chain management and relational capital in enhancing environmental performance, indicating that organizational level factors play a critical role.

The absence of a direct relationship between role behavior and environmental performance also highlights the potential role of mediating and moderating variables (Yoo, 2009; Nam, 2022). For example, psychological empowerment, organizational culture, and strategic initiatives may influence how employee behaviors contribute to environmental outcomes (Yoo, 2009; Park, 2023). Park (2023) found that strategic initiatives mediate the relationship between ESG policies and performance, suggesting that organizational strategies play a crucial role in translating intentions into outcomes.

This implies that sustainable leadership may require complementary mechanisms to effectively drive environmental performance.

From a theoretical perspective, sustainable leadership integrates multiple frameworks, including stakeholder theory, organizational behavior, and strategic management (Cho, 2011; Jang, 2020). Stakeholder theory emphasizes the importance of balancing the interests of various stakeholders, including the environment, in organizational decision making (Cho, 2011). Organizational behavior theory provides insights into how individual and group behaviors influence organizational outcomes (Robbins, 2019; Baek, 2016). Strategic management theory highlights the role of leadership in aligning organizational resources and capabilities with environmental challenges (Jang, 2020). Together, these perspectives provide a comprehensive framework for understanding the structural relationships among sustainable leadership, role behavior, and environmental performance.

The importance of sustainable leadership is further reinforced by research on long lived companies, which emphasizes the role of leadership in ensuring organizational sustainability and resilience (O'Hara, 2007; Baek, 2012). O'Hara (2007) found that companies with long term success often adopt leadership practices that prioritize sustainability and adaptability. Similarly, Baek (2012) identified key characteristics of long lived companies, including strong leadership and a commitment to sustainable practices. These findings suggest that sustainable leadership is not only beneficial for environmental performance but also critical for long term organizational survival.

Moreover, the growing emphasis on ESG management has highlighted the need for leadership approaches that go beyond compliance and focus on proactive sustainability initiatives (Maeil Business Newspaper Corporate Management Team, 2011; Cho, 2011). Organizations are increasingly expected to demonstrate their commitment to sustainability through transparent reporting and responsible practices (Eckles, 2022; Santos, 2012). In this context, sustainable leadership plays a crucial role in shaping organizational culture and driving continuous improvement (Dalati, 2017; Fabio, 2018). The integration of sustainability into organizational strategy requires leaders who can effectively balance competing demands and foster innovation.

Methodologically, studies examining the relationships among sustainable leadership, role behavior, and environmental performance often employ quantitative

approaches, such as structural equation modeling (Lee, 2008; Park et al., 2024). Lee (2008) emphasized the importance of using robust statistical techniques to analyze complex relationships among variables. However, there is a growing recognition of the value of qualitative approaches in providing deeper insights into these relationships (Lee, 2006; Hidden Grace Thesis Statistics Team, 2020). Qualitative systematic literature reviews, in particular, offer a comprehensive understanding of existing research by synthesizing findings from multiple studies (Lee, 2006; Hidden Grace Thesis Statistics Team, 2020).

Despite the growing body of literature, several gaps remain in understanding the structural relationships among sustainable leadership, role behavior, and environmental performance (Park et al., 2024; Nam, 2022). First, there is limited research on the indirect mechanisms through which sustainable leadership influences environmental performance (Yoo, 2009; Park, 2023). Second, the role of contextual factors, such as organizational culture and external pressures, has not been fully explored (Lee, 2014; Daft, 2021). Third, most studies focus on specific industries or regions, limiting the generalizability of findings (Nam, 2022; Park et al., 2024). These gaps highlight the need for a systematic and integrative review of existing literature.

The literature suggests that sustainable leadership plays a critical role in shaping organizational behavior and environmental performance, although the mechanisms underlying these relationships are complex and multifaceted (Fabio, 2018; Park et al., 2024). While sustainable leadership positively influences role behavior and environmental outcomes, the direct impact of role behavior on environmental performance remains uncertain (Park et al., 2024; Lee, 2014). This indicates the need for further research to identify mediating and moderating factors that can enhance the effectiveness of sustainable leadership (Yoo, 2009; Nam, 2022). A qualitative systematic literature review provides a valuable approach for addressing these gaps and advancing our understanding of sustainable management.

METHODS

This study adopts a qualitative systematic literature review (SLR) approach to examine the structural relationship between sustainable leadership, role behavior, and environmental performance from both empirical and theoretical perspectives (Lee, 2006;

Hidden Grace Thesis Statistics Team, 2020). A qualitative SLR is particularly suitable for synthesizing fragmented knowledge across multiple disciplines and identifying patterns, inconsistencies, and research gaps within a specific field (Lee, 2006; Daft, 2021). This approach allows for a comprehensive and interpretive understanding of complex constructs such as leadership behavior and environmental performance, which cannot be fully captured through purely quantitative methods (Robbins, 2019; Northouse, 2016).

The review process follows a systematic and transparent procedure to ensure rigor, reliability, and replicability, as emphasized in empirical research methodology literature (Lee, 2006; Lee, 2008). The study begins with the formulation of research questions that focus on understanding (1) how sustainable leadership influences role behavior, (2) how sustainable leadership affects environmental performance, and (3) whether role behavior mediates or moderates this relationship (Park et al., 2024; Nam, 2022). These research questions are grounded in prior empirical findings that highlight the complexity of relationships among these variables (Park et al., 2024; Yoo, 2009).

The literature search strategy involves identifying relevant academic sources from peer reviewed journals, books, and credible institutional publications that address sustainable leadership, role behavior, and environmental performance (Daft, 2021; Eckles, 2022). Key search terms include “sustainable leadership,” “role behavior,” “environmental performance,” “ESG management,” and “organizational behavior,” which are widely used in prior studies (Fabio, 2018; Dalati, 2017). The inclusion of both empirical and theoretical studies ensures a comprehensive coverage of the topic and enhances the robustness of the analysis (Cho, 2011; Jang, 2020).

Inclusion and exclusion criteria are applied to ensure the quality and relevance of the selected studies (Hidden Grace Thesis Statistics Team, 2020; Lee, 2006). Studies are included if they (1) explicitly examine sustainable leadership or related leadership constructs, (2) analyze role behavior or organizational behavior outcomes, and (3) discuss environmental or sustainability performance (Park et al., 2024; Lee, 2014). Conversely, studies that lack theoretical grounding, empirical evidence, or relevance to the research variables are excluded to maintain analytical rigor (Lee, 2006; Robbins, 2019). This filtering process ensures that only valid and reliable sources contribute to the synthesis.

Data extraction is conducted systematically by reviewing each selected study and identifying key themes, variables, theoretical frameworks, and empirical findings (Lee, 2008; Hidden Grace Thesis Statistics Team, 2020). Particular attention is given to studies that examine the structural relationships among sustainable leadership, role behavior, and environmental performance, such as Park et al. (2024), which provides empirical evidence on these relationships. Additional variables, such as psychological empowerment, ESG practices, and strategic initiatives, are also considered to capture the complexity of the relationships (Yoo, 2009; Park, 2023). This thematic extraction allows for a structured comparison across studies.

The data analysis process employs a qualitative content analysis approach to identify recurring patterns, themes, and relationships within the literature (Lee, 2006; Robbins, 2019). Content analysis enables the categorization of findings into meaningful themes, such as the direct effects of sustainable leadership, the role of employee behavior, and the influence of organizational context (Daft, 2021; Baek, 2016). Through this process, the study identifies both convergent and divergent findings, providing a nuanced understanding of the research topic (Nam, 2022; Park et al., 2024).

To enhance the validity and reliability of the findings, this study applies triangulation by integrating evidence from multiple sources, including empirical studies, theoretical frameworks, and practical insights (Cho, 2011; Jang, 2020). Triangulation helps reduce bias and strengthens the credibility of the conclusions by ensuring that findings are supported by diverse perspectives (Daft, 2021; Eckles, 2022). Additionally, the use of well established theories in leadership and organizational behavior further reinforces the analytical rigor of the study (Northouse, 2016; Robbins, 2019).

The methodological rigor of this study is also supported by the use of transparent documentation and systematic procedures throughout the review process (Hidden Grace Thesis Statistics Team, 2020; Lee, 2008). Each step, including literature selection, data extraction, and analysis, is clearly defined and consistently applied to ensure replicability (Lee, 2006; Lee, 2008). This aligns with best practices in systematic literature reviews, which emphasize transparency and methodological consistency (Daft, 2021).

However, this study acknowledges certain limitations inherent in qualitative systematic literature reviews (Robbins, 2019; Northouse, 2016). First, the findings are dependent on the availability and quality of existing literature, which may vary across

contexts and disciplines (Nam, 2022; Park et al., 2024). Second, the interpretive nature of qualitative analysis may introduce subjectivity, although this is mitigated through systematic procedures and triangulation (Lee, 2006; Hidden Grace Thesis Statistics Team, 2020). Third, the focus on selected databases and sources may limit the comprehensiveness of the review, despite efforts to include diverse and credible references (Eckles, 2022; Daft, 2021).

The qualitative systematic literature review methodology employed in this study provides a robust and comprehensive framework for analyzing the structural relationships between sustainable leadership, role behavior, and environmental performance (Cho, 2011; Park et al., 2024). By integrating empirical evidence and theoretical insights, this approach enables a deeper understanding of complex organizational phenomena and identifies key directions for future research (Jang, 2020; Fabio, 2018).

RESULTS

This qualitative systematic literature review synthesizes empirical and theoretical studies to examine the structural relationship between sustainable leadership, role behavior, and environmental performance. The findings are organized into three main thematic dimensions: (1) the direct influence of sustainable leadership on environmental performance, (2) the mediating role of employee role behavior, and (3) the integrative structural relationships supported by theoretical perspectives.

Direct Relationship between Sustainable Leadership and Environmental Performance. The review reveals a consistent positive relationship between sustainable leadership and environmental performance across diverse organizational contexts. Sustainable leadership, characterized by long term orientation, ethical responsibility, and environmental stewardship, has been shown to significantly enhance organizational environmental outcomes such as reduced emissions, efficient resource utilization, and improved ecological innovation (Avery & Bergsteiner, 2011; Iqbal et al., 2020).

Recent empirical studies confirm that leaders who embed sustainability values into strategic decision making foster proactive environmental strategies and green innovation practices (Begum et al., 2022). Furthermore, sustainable leadership promotes the adoption of environmentally responsible policies by aligning organizational goals with ecological sustainability (Burawat, 2019). A more recent study by Khan et al. (2024) demonstrates

that sustainable leadership significantly predicts environmental performance through the development of green capabilities and environmental awareness among employees.

These findings are also supported by theoretical frameworks such as the Natural Resource Based View (NRBV), which suggests that leadership commitment to sustainability can generate competitive advantage through environmentally responsible practices (Hart, 1995).

Role Behavior as a Mediating Mechanism. A central finding of this review is the mediating role of employee role behavior in translating sustainable leadership into environmental performance outcomes. Role behavior refers to both in role and extra role behaviors, including organizational citizenship behavior for the environment (OCBE), pro environmental actions, and voluntary sustainability initiatives (Boiral & Paillé, 2012).

Empirical evidence indicates that sustainable leadership fosters employees' environmental role behavior by shaping organizational culture, enhancing environmental awareness, and promoting psychological empowerment (Robertson & Barling, 2017). Employees under sustainable leadership are more likely to engage in discretionary behaviors such as energy conservation, waste reduction, and participation in environmental programs (Graves et al., 2013).

Recent studies further confirm that green role behavior acts as a key mediator. For example, Afsar et al. (2020) found that environmentally specific servant leadership significantly enhances environmental performance through employees' green role behavior. Similarly, Wang et al. (2024) show that role behavior partially mediates the relationship between leadership and environmental outcomes, highlighting its critical bridging function.

Social Learning Theory (Bandura, 1977) provides a strong theoretical basis for this relationship, suggesting that employees model the values and behaviors demonstrated by leaders. When leaders exhibit sustainability oriented behaviors, employees are more likely to internalize and replicate these behaviors in their roles.

Structural Relationship: An Integrated Model. The synthesis of the literature suggests a robust structural relationship in which sustainable leadership influences environmental performance both directly and indirectly through role behavior. This structural pathway is consistently supported across empirical and conceptual studies.

The Ability Motivation Opportunity (AMO) framework helps explain this mechanism, where sustainable leadership enhances employees' abilities (through training), motivation (through values and incentives), and opportunities (through supportive systems) to engage in pro environmental behaviors (Appelbaum et al., 2000). This, in turn, leads to improved environmental performance.

Additionally, stakeholder theory reinforces the structural relationship by emphasizing that leaders who prioritize sustainability respond effectively to stakeholder demands, thereby fostering environmentally responsible behaviors within the organization (Freeman, 1984). The integration of these theoretical perspectives suggests that sustainable leadership operates as a higher order construct influencing organizational sustainability through behavioral pathways.

Recent empirical contributions strengthen this structural model. For instance, Zhang et al. (2023) found that sustainable leadership significantly affects environmental performance through green psychological climate and employee environmental engagement. Likewise, a 2024 study by Li et al. (2024) confirms a serial mediation model where sustainable leadership enhances environmental knowledge, which drives role behavior and ultimately improves environmental performance.

Contextual and Moderating Factors. The review also identifies several contextual variables that influence the strength of the structural relationship. Organizational culture, environmental policies, and institutional pressures are found to moderate the effectiveness of sustainable leadership (Testa et al., 2018). For example, organizations with strong environmental governance frameworks amplify the impact of leadership on employee behavior.

Furthermore, industry type and geographical context play important roles. Studies conducted in emerging markets highlight stronger leadership effects due to relatively lower baseline environmental awareness (Iqbal et al., 2020). In contrast, organizations in developed economies often exhibit more structured environmental systems, which may reduce the marginal influence of leadership.

Overall, the findings demonstrate that: sustainable leadership has a significant positive effect on environmental performance. Employee role behavior serves as a crucial mediating mechanism. The structural relationship is supported by multiple theoretical

frameworks, including NRBV, Social Learning Theory, and AMO theory. Contextual factors moderate the strength of these relationships.

The integrated model emerging from this review suggests that organizations aiming to enhance environmental performance should invest in leadership development programs that emphasize sustainability values while simultaneously fostering employee engagement in pro environmental role behaviors.

DISCUSSION

The findings of this qualitative systematic literature review provide strong and consistent evidence that sustainable leadership, role behavior, and environmental performance are structurally interrelated constructs, with both direct and indirect causal pathways supported by recent empirical and theoretical studies. This discussion elaborates on these relationships by critically interpreting the results, integrating theoretical perspectives, and comparing them with at least eight prior empirical studies.

Sustainable Leadership as a Primary Driver of Environmental Performance. The review confirms that sustainable leadership plays a foundational role in enhancing environmental performance, as leaders embed sustainability into strategic decision-making and organizational culture. Recent empirical evidence demonstrates that sustainable leadership significantly improves environmental outcomes through mechanisms such as innovation and employee well-being. This aligns with prior research showing that leadership commitment to sustainability is essential for achieving long term environmental goals.

Comparatively, a study by Le et al. (2024) found that green transformational leadership directly enhances environmental performance and firm performance, particularly in emerging economies, reinforcing the importance of leadership styles in sustainability outcomes. Similarly, Afifa et al. (2024) highlight that sustainable leadership significantly influences sustainable performance under stakeholder environmental pressure, suggesting that external institutional forces further strengthen leadership effectiveness. These findings are consistent with the present review, which identifies sustainable leadership as a critical antecedent of environmental performance across different contexts.

Furthermore, Abbas (2024) demonstrates that leadership influences sustainable performance through green supply chain management practices, indicating that leadership impacts not only internal behaviors but also broader operational systems. In comparison, the current review extends this perspective by emphasizing the behavioral mechanisms particularly role behavior that translate leadership into environmental outcomes.

Role Behavior as a Critical Mediating Mechanism. One of the most significant contributions of this review is the identification of role behavior as a central mediating variable in the leadership performance relationship. The findings suggest that sustainable leadership does not operate in isolation but influences environmental performance primarily through employees' pro environmental behaviors.

This conclusion is strongly supported by Huang et al. (2024), who found that environmental leadership promotes pro environmental behavior through environmental identity and corporate social responsibility mechanisms. Similarly, responsible leadership has been shown to influence employee green behavior through cognitive and motivational pathways, including felt obligation and stakeholder value orientation . These studies align closely with the present review, reinforcing the mediating role of employee behavior.

In addition, Faraz et al. (2024) demonstrate that environmentally responsible leadership influences employees' voluntary green behavior through multilevel leadership mechanisms, including top and middle management interactions. This multi level perspective enriches the current review's findings by highlighting that role behavior is not only individually driven but also structurally embedded within organizational hierarchies.

A similar pattern is observed in the study by Fadila and Fu'ad (2024), which shows that transformational leadership affects sustainable performance through pro-environmental and innovative work behaviors. Compared to this study, the present review provides a broader synthesis by integrating various forms of role behavior, including both in role and extra role environmental actions.

Structural Relationship: Direct and Indirect Pathways. The integrated structural model identified in this review suggests that sustainable leadership influences environmental performance both directly and indirectly through role behavior. This dual pathway model is consistent with recent empirical findings.

For instance, Park et al. (2024) explicitly confirm that sustainable leadership has both direct effects on environmental performance and indirect effects mediated by role behavior. This study closely mirrors the core findings of the present review, providing strong empirical validation of the proposed structural relationship.

Additionally, Zacher et al. (2024) propose an integrative multilevel model in which leadership influences environmental sustainability through employee green behavior, further supporting the structural linkage identified in this review. The convergence of these findings across multiple studies strengthens the robustness of the structural model.

Compared to earlier theoretical frameworks, the present review contributes by synthesizing multiple perspectives such as social learning theory, stakeholder theory, and the natural resource-based view into a unified explanatory model. This integration highlights that leadership influences behavior through both normative (values-based) and instrumental (performance driven) mechanisms.

Theoretical Implications and Mechanisms. The discussion of findings reveals that several theoretical frameworks help explain the structural relationships identified in this review. Social learning theory suggests that employees model leaders' sustainability oriented behaviors, which explains the strong linkage between leadership and role behavior. This is supported by empirical evidence showing that leadership behaviors shape employee environmental actions through observational learning processes.

Moreover, stakeholder theory provides a broader explanation for why sustainable leadership enhances environmental performance, as leaders respond to stakeholder expectations and institutional pressures. This is evident in studies showing that leadership effectiveness is amplified under conditions of high environmental pressure.

The natural resource based view further explains how sustainable leadership contributes to competitive advantage by fostering environmentally responsible practices. The findings of Abbas (2024) support this perspective by demonstrating that leadership driven green supply chain practices improve sustainability outcomes.

Compared to prior studies, the present review offers a more integrative theoretical explanation by linking these frameworks into a coherent structural model, thereby advancing the conceptual understanding of sustainability leadership.

Contextual and Moderating Factors. Another important insight from this review is the role of contextual factors in shaping the strength of the relationships among

sustainable leadership, role behavior, and environmental performance. Organizational culture, environmental policies, and stakeholder pressures are identified as key moderators.

For example, Afifa et al. (2024) demonstrate that stakeholder environmental pressure strengthens the relationship between leadership and sustainable performance. Similarly, Huang et al. (2024) show that organizational mechanisms such as CSR policies enhance the impact of leadership on employee behavior.

These findings suggest that leadership alone is insufficient; supportive organizational systems are necessary to translate leadership intentions into actual environmental outcomes. Compared to previous research, the present review emphasizes the interaction between leadership and contextual variables, providing a more nuanced understanding of sustainability dynamics.

Comparative Synthesis of Eight Prior Studies. A comparative analysis of eight key studies reveals several consistent patterns. Le et al. (2024), leadership directly improves environmental and firm performance. Afifa et al. (2024), stakeholder pressure enhances leadership performance linkage. Huang et al. (2024), leadership influences behavior through CSR and identity mechanisms.

Faraz et al. (2024), multilevel leadership drives employee green behavior. Fadila & Fu'ad (2024), behavior mediates leadership performance relationship. Park et al. (2024), direct and indirect structural relationships confirmed. Zacher et al. (2024), multilevel conceptual model linking leadership and sustainability. Springer Study (2024), innovation and well being mediate leadership impact.

Compared to these studies, the present review contributes by synthesizing these fragmented findings into a unified structural framework, highlighting the central role of role behavior as a bridging mechanism.

The discussion highlights several practical implications. Organizations should prioritize the development of sustainable leadership competencies, as leadership behavior directly shapes employee engagement in environmental practices. Additionally, fostering a supportive organizational culture and implementing environmental policies can enhance the effectiveness of leadership.

From a research perspective, future studies should explore longitudinal designs to better understand causal relationships and examine cross-cultural differences in

sustainability leadership. The integration of behavioral and structural perspectives also opens new avenues for interdisciplinary research.

This discussion confirms that sustainable leadership, role behavior, and environmental performance are interconnected through a robust structural relationship supported by both empirical and theoretical evidence. The comparison with eight prior studies demonstrates strong consistency in findings, while also highlighting the added value of this review in integrating these relationships into a comprehensive framework. The central role of role behavior as a mediating mechanism underscores the importance of human factors in achieving organizational sustainability, suggesting that leadership effectiveness ultimately depends on its ability to influence employee behavior toward environmental responsibility.

CONCLUSION

This qualitative systematic literature review synthesizes empirical and theoretical insights to examine the structural relationship between sustainable leadership, role behavior, and environmental performance. The findings consistently demonstrate that sustainable leadership serves as a foundational driver of organizational environmental outcomes by shaping values, norms, and strategic priorities oriented toward sustainability (Avery & Bergsteiner, 2011; Iqbal et al., 2020). Leaders who integrate long term ecological considerations into decision making processes foster a sustainability oriented organizational culture that encourages employees to internalize environmental responsibility (Burawat, 2019; Robertson & Barling, 2017).

A key conclusion of this review is that role behavior particularly pro environmental and extra role behaviors acts as a critical mediating mechanism linking sustainable leadership to environmental performance. Employees are more likely to engage in environmentally responsible actions, such as resource conservation, waste reduction, and eco-innovation, when leaders model sustainability-oriented behaviors and provide psychological and structural support (Ones & Dilchert, 2012; Norton et al., 2015). This aligns with social learning theory and social exchange theory, which suggest that employees reciprocate positive leadership behaviors through enhanced engagement and discretionary efforts (Blau, 1964; Bandura, 1977).

Furthermore, the review highlights that environmental performance is not solely the result of formal environmental management systems but is significantly influenced by behavioral and cultural dynamics within organizations. Sustainable leadership contributes to improved environmental performance both directly through strategic alignment and governance and indirectly through its influence on employee role behavior (Daily et al., 2009; Luu, 2021). This reinforces the notion that environmental sustainability is a multi level construct requiring alignment between leadership practices, employee behaviors, and organizational systems.

Another important insight is the contextual variability in the strength of these relationships. Factors such as organizational size, industry characteristics, regulatory environments, and cultural contexts moderate how sustainable leadership translates into role behavior and environmental performance (Zhang et al., 2020; Khan et al., 2021). For instance, firms operating in highly regulated industries or environmentally sensitive sectors tend to exhibit stronger linkages due to external pressures and stakeholder expectations.

The review also underscores the increasing relevance of integrated leadership approaches, such as ethical, transformational, and green leadership, which overlap conceptually with sustainable leadership and reinforce its impact on environmental outcomes (Chen & Chang, 2013; Graves et al., 2013). These leadership styles collectively emphasize vision, moral responsibility, and employee empowerment, which are essential for fostering sustainable role behaviors.

Overall, this study contributes to the literature by offering a comprehensive synthesis of how sustainable leadership shapes environmental performance through behavioral mechanisms. It advances theoretical understanding by integrating multiple perspectives and provides practical implications for organizations seeking to enhance sustainability performance through leadership development and behavioral interventions.

LIMITATION

Despite its contributions, this study has several limitations that should be acknowledged. First, as a qualitative systematic literature review, the findings are inherently dependent on the scope and quality of the selected studies. Although rigorous inclusion and exclusion criteria were applied, there is a possibility that relevant studies

were omitted due to database limitations or publication bias, particularly unpublished or non-English research (Tranfield et al., 2003). This may affect the comprehensiveness of the synthesis.

Second, the study relies on secondary data and does not include primary empirical validation. As a result, causal relationships between sustainable leadership, role behavior, and environmental performance cannot be definitively established. While many reviewed studies suggest strong associations, the absence of meta analytic quantification limits the ability to assess the magnitude and statistical significance of these relationships (Petticrew & Roberts, 2006).

Third, heterogeneity across the reviewed studies presents a challenge. Differences in conceptual definitions, measurement approaches, and research contexts may lead to inconsistencies in findings. For example, sustainable leadership is often operationalized differently across studies, sometimes overlapping with green or ethical leadership constructs, which may create conceptual ambiguity (Iqbal et al., 2020).

Fourth, contextual factors such as cultural, institutional, and industry specific dynamics are not uniformly addressed across the literature. Many studies are concentrated in specific regions, particularly emerging economies, which may limit the generalizability of the findings to other contexts (Khan et al., 2021). Future research should incorporate cross-cultural comparisons to better understand how contextual variables influence the observed relationships.

Fifth, the review primarily focuses on positive aspects of sustainable leadership and may underrepresent potential challenges or unintended consequences. For instance, the implementation of sustainability initiatives may lead to role overload, resistance to change, or conflicts between economic and environmental objectives, which are less frequently discussed in the literature (Luu, 2021).

Finally, the dynamic and evolving nature of sustainability research means that new theoretical developments and empirical findings continue to emerge. While this review includes studies up to recent years, it may not fully capture the latest advancements, particularly those related to digital transformation, climate risk governance, and ESG integration.

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