

Determinants of Environmental Practices with the mediating effect of Environmental Culture

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Abstract: *This paper examines the relationships between distinct environmental strategies - Renewable Energy Usage (REU), Recycled Materials Procurement (RMP), and Eco-friendly Production (EP) - and the resultant environmental practices within organizations, emphasizing the mediating function of environmental culture. Applying robust theoretical models, including Institutional Theory and the Resource-Based View, the study sheds light on the intricate interplay between these strategies and improved environmental practices. The concept of 'environmental culture' is proposed as a pivotal construct that shapes how an organization responds and adapts to environmental practices. By doing so, this paper enriches the existing literature, revealing that the efficacy of environmental strategies in promoting improved environmental practices is significantly magnified by fostering a potent environmental culture within the organization. This insight provides valuable guidance for corporate leaders aiming to enhance their organization's performance regarding environmental, social, and governance (ESG) principles. Although this research's conceptual nature may inherently contain some limitations, it breaks new ground in ESG research, laying the foundation for further empirical and longitudinal studies. The study concludes with an appeal for more research to identify other potential mediators and moderators that could influence environmental practices in the multifaceted, evolving landscape of sustainable business practices.*

Keywords: Environmental practices, Environmental culture, renewable energy usage, eco-friendly production, recycled material procurement

Introduction

The ever-increasing environmental challenges coupled with escalating societal expectations have intensified the need for sustainable business practices. Consequently, businesses today are pivoting towards robust environmental practices incorporating renewable energy usage (REU),

recycled materials procurement (RMP), and eco-friendly production (EP). The adoption and implementation of these strategies are not merely technical changes but involve fundamental shifts in organizational values, beliefs, and norms - a shift towards an 'environmental culture' (Bansal & Roth, 2000).

This paper ventures into this critical yet relatively unexplored terrain of environmental culture as a mediating variable between the aforementioned environmental strategies (REU, RMP, EP) and enhanced environmental practices within firms. Drawing upon the extensive body of literature on corporate sustainability and the emergent discourse on environmental culture, this paper aims to deepen the understanding of the mechanisms through which these environmental strategies influence organizational practices.

In the theoretical domain, the paper introduces and defines 'environmental culture,' a construct that weaves the dimensions of organizational culture with environmental values and norms. The construct enables a nuanced examination of the role of organizational culture in shaping environmental practices, thereby contributing to the advancement of theory in the sustainability domain (Epstein, 2018). The paper also presents a unique theoretical framework by analyzing the mediating effect of environmental culture, providing a more complex, holistic understanding of the relationship between environmental practices and their outcomes (Fernando et al., 2017).

The significance of this paper lies in both its theoretical and practical implications. On a theoretical level, the research augments the discourse on environmental sustainability by unveiling the intricate role of organizational culture in shaping environmental practices. Practically, the research offers critical insights for businesses striving for environmental sustainability by highlighting the imperative role of culture.

Background of study

In recent years, there has been a significant shift in the approach towards corporate responsibility, with a greater emphasis placed on the role of businesses in addressing environmental challenges (Carroll & Shabana, 2010). A growing body of literature has highlighted the imperative for organizations to incorporate Environmental, Social, and Governance (ESG) standards into their operational and strategic framework. Among these, the environmental aspects have attracted substantial attention, as firms strive to mitigate their ecological footprint and align with the global sustainability agenda (Fernando et al., 2017).

The strategies under investigation in this study include Renewable Energy Usage (REU), Recycled

Materials Procurement (RMP), and Eco-friendly Production (EP). The urgency of adopting these strategies cannot be overstated in the face of pressing environmental issues such as climate change, resource depletion, and environmental degradation (Endrikat et al., 2014).

Renewable Energy Usage (REU) has been established as a crucial component of sustainable business practices. Renewable energy sources such as solar, wind, hydro, and bioenergy offer environmentally benign alternatives to fossil fuels and contribute to the reduction of greenhouse gas emissions (Sovacool & Drupady, 2012). Organizations that adopt renewable energy strategies are often seen as environmentally responsible, which enhances their corporate image and could lead to competitive advantages (Wüstenhagen & Bilharz, 2006).

Recycled Materials Procurement (RMP) is another essential strategy within the ESG framework. The efficient use and re-use of materials have significant implications for environmental sustainability, notably through waste reduction and conservation of natural resources (Zhu & Sarkis, 2004). Companies engaging in RMP can demonstrate their commitment to the circular economy principles, strengthening their corporate reputation and potential market positioning (Kirchherr et al., 2017).

Eco-friendly Production (EP) encompasses strategies aimed at reducing the environmental impact of production processes. This may include the use of cleaner technologies, reduction of emissions and waste, and optimization of resource use (DeSimone & Popoff, 2000). Adopting eco-friendly production strategies can lead to cost savings, improved operational efficiency, and increased market competitiveness (King & Lenox, 2001).

In this context, the culture within an organization can play a crucial mediating role. The term 'environmental culture' is used to describe the integration of environmental values and norms within an organization's culture (Bansal & Roth, 2000). Companies with a strong environmental culture are likely to be more committed to environmental management practices, leading to better environmental performance (González-Rodríguez et al., 2015). Therefore, the exploration of the mediating role of environmental culture in the relationship between REU, RMP, EP, and environmental practices offers a unique contribution to the academic discourse on environmental sustainability in business.

Renewable Energy Usage (REU)

Renewable Energy Usage (REU) is crucial in driving a sustainable future, offering an environmentally friendly alternative to fossil fuel consumption, a major contributor to global warming (Jacobson & Delucchi, 2011). It is becoming an essential part of corporate environmental

responsibility, with numerous studies examining the impact of REU on environmental practices.

Various organizations worldwide are shifting towards REU, a shift that bolsters their sustainability while reducing operational costs and environmental impact (Popp et al., 2011). REU also enhances corporate reputation, influencing stakeholder perceptions positively (Flammer, 2013). An organization's engagement in REU reflects its environmental commitment, aligning with the broader environmental culture and influencing environmental practices significantly (Delmas et al., 2013).

Recycled Materials Procurement (RMP)

Recycled Materials Procurement (RMP) is another significant variable underpinning corporate environmental responsibility. The drive towards a circular economy is gaining momentum, with RMP as a cornerstone (Zhu & Sarkis, 2007). RMP reduces waste generation, decreases raw material extraction, and lowers energy consumption during production, reducing environmental harm (Eltayeb et al., 2011).

The influence of RMP on environmental practices is noteworthy. Not only does it result in environmental benefits but also leads to cost savings and innovation (King & Lenox, 2001). Furthermore, RMP aligns with an environmental culture that values resource efficiency and sustainability. The commitment to RMP reflects an organization's proactive approach towards environmental responsibility, positively affecting environmental practices (Walker & Jones, 2012).

Eco-friendly Production (EP)

Eco-friendly Production (EP) is an organizational approach that emphasizes reducing environmental impact throughout the production process. EP includes energy-efficient production methods, waste reduction, and the minimization of harmful emissions (Hart, 1995).

EP, like REU and RMP, is an integral component of corporate environmental responsibility, influencing environmental practices substantially. By incorporating EP, organizations not only reduce their environmental footprint but also increase their operational efficiency and market competitiveness (Porter & Van der Linde, 1995). Additionally, the commitment to EP can strengthen an organization's environmental culture, leading to improved environmental practices (Russo & Fouts, 1997).

Environmental Culture

Environmental culture, characterized by shared values, beliefs, and norms related to environmental responsibility, plays a pivotal role in shaping an organization's environmental practices (Schneider et al., 2013). A strong environmental culture can encourage REU, RMP, and EP, while fostering innovative approaches to environmental management (Naranjo-Valencia et al., 2011).

Environmental culture can also mediate the relationship between REU, RMP, EP, and environmental practices. As per the insights of Bansal (2003), an organization's environmental culture can enhance or weaken the impact of these environmental initiatives on environmental practices. Thus, investigating the mediating role of environmental culture in this relationship is of considerable academic and interest practical.

Environmental Practices

Environmental practices are actions and policies that organizations adopt to reduce their environmental impact. The degree to which REU, RMP, and EP influence environmental practices has been examined extensively (Hart & Milstein, 2003). These practices can range from waste reduction and energy efficiency to proactive environmental management and strategy formulation.

A robust environmental culture can facilitate the translation of these initiatives into effective environmental practices (Zhang et al., 2016). Given the significant environmental challenges facing the globe, understanding how these variables interact and contribute to improved environmental practices is of paramount importance.

In conclusion, the literature suggests that Renewable Energy Usage (REU), Recycled Materials Procurement (RMP), and Eco-friendly Production (EP) significantly impact environmental practices, with the potential for environmental culture to mediate these relationships. Therefore, this paper examines these relationships in greater depth, contributing to our understanding of these critical variables and their influence on environmental practices.

Underpinning Theories

This section addresses three theoretical frameworks that serve as a basis for understanding the factors that influence the environmental practices, as well as the mediating role of environmental culture. Stakeholder Theory, Institutional Theory, and the Resource-Based View are among these theories.

Hofstede's Cultural Dimensions Theory

The theoretical framework propounded by Hofstede, delineating national cultures across various dimensions including power distance, individualism contra collectivism, masculinity contra femininity, uncertainty evasion, long-term orientation juxtaposed with short-term orientation, and indulgence in opposition to restraint, has emerged as an eminent paradigm in the domain of cross-cultural examination (Hofstede, 2001). This paradigm, with its systematic classification, has profoundly influenced the landscape of this research field, demonstrating its profound analytical potency. This theory can provide valuable insights into understanding the variations in Renewable Energy Usage (REU), Recycled Materials Procurement (RMP), and Eco-friendly Production (EP), as well as the role of environmental culture in shaping these practices.

According to Hofstede's theory, cultures with high power distance are more likely to accept hierarchical order and unequal power distribution, which could influence how environmental strategies are implemented within organizations. For instance, in high power distance cultures, decisions regarding REU, RMP, and EP may be concentrated among top management, and the effectiveness of these strategies could depend on the environmental orientation of these decision-makers (Eiadat et al., 2008).

Cultures characterized by individualism tend to prioritize individual goals and personal freedom, which could foster innovation and flexibility in implementing environmental strategies. On the other hand, cultures with high collectivism emphasize group harmony and conformity, which could promote collective commitment to environmental culture and facilitate the implementation of REU, RMP, and EP (Tsui et al., 2007).

Masculine cultures, valuing competitiveness and achievement, might push organizations towards ambitious environmental goals, adopting advanced technologies for REU, or sourcing recycled materials to outperform competitors. In contrast, feminine cultures, focusing on caring for others and quality of life, might nurture an environmental culture that encourages the consistent application of eco-friendly practices, such as EP (Hofstede, 1984).

Uncertainty avoidance is another important cultural dimension that might affect organizations' willingness to adopt new environmental strategies and foster an environmental culture. Cultures with high uncertainty avoidance may be less willing to implement new and unproven environmental strategies, such as advanced REU technologies, while cultures with low uncertainty avoidance might be more open to experimenting with these strategies (Shane, 1995).

Long-term orientation and indulgence versus restraint could also influence environmental practices. Cultures with a long-term orientation might be more likely to invest in REU, RMP, and

EP strategies, recognizing that the benefits of these strategies may not be immediate. Cultures characterized by indulgence might be more focused on immediate gratification, which could be at odds with the long-term perspective often required for effective environmental practices (Hofstede, 2011).

In conclusion, Hofstede's cultural theory provides a valuable lens through which we can understand the influence of cultural values on the adoption of REU, RMP, EP, and the fostering of an environmental culture. As we navigate the complexities of sustainable business practices, it becomes essential to consider these cultural dimensions, not just at the national level, but also within the organizational context.

Resource-Based View (RBV)

The Resource-Based View (RBV) theory, initially proposed by Wernerfelt (1984), suggests that a firm's sustained competitive advantage stems from its ability to develop and utilize its unique resources and capabilities. RBV posits that a firm's resources, which are valuable, rare, inimitable, and non-substitutable, are the primary determinants of its competitive advantage and performance (Barney, 1991). Renewable Energy Usage (REU), Recycled Materials Procurement (RMP), and Eco-friendly Production (EP) can be seen as strategic resources. These practices enable organizations to minimize environmental impact, reduce operational costs, enhance efficiency, and create positive stakeholder perceptions, contributing to their overall competitive advantage (Hart, 1995).

In the context of this research paper, REU, RMP, and EP can be seen as unique resources and capabilities an organization might develop and possess. According to the RBV, these resources and capabilities must be valuable, rare, imperfectly imitable, and non-substitutable to yield a competitive advantage (Barney, 1991). The emphasis of RBV on internal resources aligns well with the focus of this paper on a firm's environmental practices.

Moreover, Hart (1995) extended the RBV theory and proposed a natural-resource-based view (NRBV), arguing that firms can gain competitive advantage by adopting sustainable practices, like REU, RMP, and EP. A firm's culture is seen as a key element in this process as it affects how these resources are developed, used, and managed within the organization.

Institutional Theory

Institutional Theory emphasizes the role of societal pressures in shaping organizational behavior.

DiMaggio and Powell (1983) proposed that organizations are driven to homogeneity by coercive, mimetic, and normative pressures.

Relating this to our research, the adoption of REU, RMP, and EP could be seen as responses to these institutional pressures. Coercive pressures could come from regulations requiring firms to adopt such practices. Mimetic pressures might arise from firms imitating industry leaders who have successfully implemented these practices. Normative pressures could come from societal expectations for firms to engage in sustainable practices.

Moreover, the Institutional Theory also acknowledges the importance of organizational culture in mediating the response to these pressures. A firm with a strong environmental culture might be more likely to respond proactively to these pressures.

Stakeholder Theory

The Stakeholder Theory, as put forth by Freeman (1984), posits that organizations have responsibilities towards various stakeholders including employees, customers, society, and the environment, not just shareholders. It posits that addressing stakeholders' interests can lead to enhanced organizational performance. The environmental practices under study—REU, RMP, and EP—are not just about reducing environmental impact but also about considering the interests of a wide range of stakeholders who are affected by the firm's environmental footprint (Freeman, 1984).

In the context of our research paper, the Stakeholder Theory could explain why firms adopt REU, RMP, and EP. Firms that adopt these practices acknowledge their responsibility to various stakeholders and the environment. Moreover, the Stakeholder Theory also stresses the role of the firm's culture in shaping its actions towards stakeholders.

Thus, this theory provides a theoretical underpinning for the mediatory role of environmental culture in our research framework, by suggesting that a firm's culture can influence its commitment to sustainable practices and its engagement with stakeholders.

Research Framework

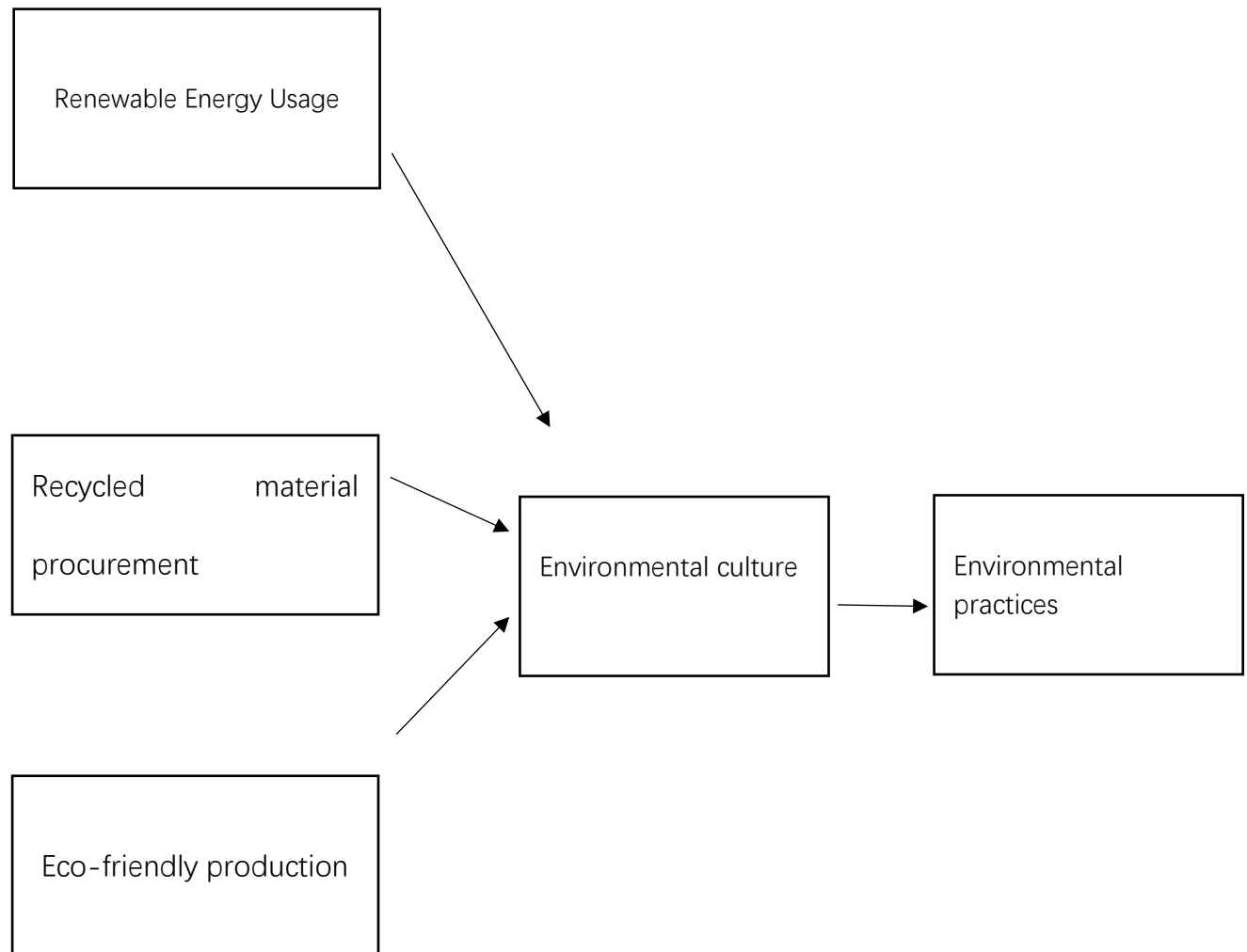


Figure 1: Conceptual Framework

The conceptual framework of this paper is designed to explore the relationships between the independent variables (renewable energy usage, recycled materials procurement, and eco-friendly production), the mediator (Environmental culture), and the dependent variable (Environmental practices). Figure 1 is the theoretical framework of this paper. Based on the literature review and the theoretical foundations of stakeholder theory, institutional theory, and the resource-based view of the firm, the following hypotheses are proposed:

H1a: Renewable energy usage is positively related to Environmental culture.

H1b: Recycled materials procurement is positively related to Environmental culture.

H1c: Eco-friendly production is positively related to Environmental culture.

H2a: Renewable energy usage is positively related to Environmental practices.

H2b: Recycled materials procurement is positively related to Environmental practices.

H2c: Eco-friendly production is positively related to Environmental practices.

H3a: Environmental culture mediates the relationship between renewable energy usage and Environmental practices.

H3b: Environmental culture mediates the relationship between recycled materials procurement and Environmental practices.

H3c: Environmental culture mediates the relationship between eco-friendly production and Environmental practices.

H4: Environmental culture is positively related to Environmental practices.

The framework suggests that companies with higher levels of renewable energy usage, recycled materials procurement, and eco-friendly production are more likely to have a strong environmental culture, which in turn, positively influences their environmental practices. These variables are expected to have both direct effects on environmental practices and indirect effects through their impact on the environmental culture.

Significance of this paper

The significance of this paper is two-fold, encompassing both theoretical and practical realms in the study of Environmental practices.

Theoretical Significance

This study advances theoretical understanding in the literature on environmental practices frameworks. The fundamental theoretical contribution of this study lies in the introduction and conceptualization of environmental culture as a vital mediating variable that underpins the relationship between Renewable Energy Usage (REU), Recycled Materials Procurement (RMP), Eco-friendly Production (EP) and overall environmental practices.

Firstly, this research enriches the theoretical landscape by defining and incorporating the construct of environmental culture. The concept intertwines organizational culture with the norms and values inherent in environmental stewardship, offering a more profound understanding of how internal organizational dynamics influence the enactment of environmental practices. This construct is a significant addition to the theoretical apparatus, fostering a deeper comprehension of the internal mechanisms that drive environmental sustainability within organizations, thus bridging a gap identified by Hoffman and Bazerman (2007).

Secondly, this research contributes a novel theoretical framework by assessing the mediating role of environmental culture on the relationships between REU, RMP, EP, and environmental

practices (Endrikat et al., 2014). This study transcends that level of analysis. By introducing a mediating variable, the research offers a more nuanced understanding of how environmental practices are not only significant in their existence but also in how they are embedded within an organization's culture, thereby profoundly influencing environmental performance.

By integrating these elements, this study helps extend theories in the environmental field, particularly those related to how internal cultural dynamics interact with specific resource strategies to shape environmental practices. In doing so, it addresses a gap in the literature and provides a foundation for further research into the intricate interplay of internal cultural factors and environmental strategy in driving environmental performance.

Practical Significance

From a practical perspective, this research offers several tangible implications for firms, policymakers, and stakeholders alike.

For firms, the research underscores the strategic importance of investing in green resources, namely REU, RMP, and EP. By demonstrating their direct influence on environmental practices, this study provides a robust justification for firms to redirect their strategies towards sustainable resource allocation. Moreover, by establishing the mediating role of environmental culture, this study advocates for a cultural shift within organizations towards embracing sustainability. This shift could foster a collective organizational identity around environmental stewardship, which, in turn, could enhance a firm's reputation, stakeholder relationships, and competitive advantage (Hart, 1995).

For policymakers, the research provides empirical evidence to support the formulation of policies that encourage firms towards sustainable resource allocation. Policies encouraging REU, RMP, and EP could catalyze a systemic shift towards sustainability in the business sector. Additionally, by underscoring the role of environmental culture, this study could inspire policies that incentivize firms to foster a pro-environmental organizational culture (DiMaggio & Powell, 1983).

For stakeholders – including investors, customers, employees, and communities – this study could serve as an evaluative framework to assess a firm's commitment to environmental sustainability. By linking specific resource allocation practices (REU, RMP, EP) to environmental practices, this study provides stakeholders with an empirical basis for evaluating a firm's environmental performance. This evaluation could empower stakeholders to make informed decisions that align with their environmental values.

Conclusion

In conclusion, this research elucidates the imperative role of environmental culture in mediating the relationship between environmental strategies (REU, RMP, EP) and enhanced environmental practices in firms. Through a comprehensive analysis and critical evaluation, the study underscores the importance of ingraining environmental values and norms within the organization's culture to successfully implement and benefit from environmental strategies.

The research's theoretical contribution lies in the introduction of 'environmental culture,' a construct interweaving organizational culture dimensions with environmental values and norms. This construct enriches our understanding of how the integration and embodiment of these practices within organizational culture significantly influence environmental practices. Thus, the study contributes to building and advancing the sustainability discourse (Epstein, 2018).

Furthermore, the research develops a novel theoretical framework examining the mediating effect of environmental culture, suggesting a more complex, nuanced understanding of the relationship between environmental practices and their outcomes. While previous studies have predominantly focused on direct relationships between environmental practices and ESG outcomes, the inclusion of a mediator offers a more holistic understanding (Fernando et al., 2017).

The practical implications of this research are equally critical. For organizations striving for sustainability, the findings highlight the importance of fostering an environmental culture to effectively leverage environmental strategies. The study also offers insight into how organizations can integrate environmental practices within their existing organizational culture, thereby significantly influencing their sustainability practices.

Future research could further explore the interactions among other factors such as leadership, organizational structure, and employee engagement in shaping environmental culture. Additional empirical evidence from diverse industrial sectors would enrich our understanding of how these interactions might vary across different contexts.

Overall, this study illuminates the significant yet intricate role of environmental culture in enhancing environmental practices, presenting a more profound understanding of the path towards corporate sustainability. By focusing on environmental culture, the study underscores the necessity of an all-encompassing cultural shift, rather than merely technical changes, towards a sustainable future.

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