GREEN INNOVATIVE WORK BEHAVIOR AND SMES' BUSINESS SUSTAINABILITY: A CONCEPTUAL FRAMEWORK

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Abstract. Given the aggravation of global environmental problems and the promotion of sustainable development strategies, corporate green innovation has become an important way to enhance corporate competitiveness and promote social responsibility. Through a systematic analysis of 131 high-quality scholarly publications in the field, this study found that although green innovation behaviors have been widely applied in many large enterprises, insufficient research has been conducted on small and medium-sized enterprises (SMEs). The purpose of this paper is to present a theoretical framework exploring how green innovative work behaviors influence the business sustainability of SMEs, particularly through two moderating variables (resource orchestration and organizational historical path dependence), to reveal their roles in the relationship between green innovation and business sustainability. This paper aims to provide directions for future empirical research and contribute to the theoretical discussion on the relationship between green innovation and sustainability in SMEs. In addition, this study offers new perspectives for policymakers and business managers developing strategies to promote green innovation, helping them consider how resource orchestration and historical path dependence affect the innovation process.
Keywords: *business sustainability, green innovative work behavior, historical path dependence, resource orchestration*

Introduction

As global progress toward decarbonization gathers momentum, governments have established pertinent environmentally friendly targets that demand that industries pursue sustainable business practices (Brief, 2018; Lenzen et al., 2018). Consumers increasingly prefer to consider companies' support for corporate social responsibility and their devotion to environmental conservation while making purchases (Yadav et al., 2019). And keeping up with this transformation, numerous firms have integrated green innovation as part of their core management and operational activities (Kim et al., 2020). Green innovation has also attracted a lot of controversy with some evidence indicating that it is seen as a necessary measure to increase efficiency, drive market competition, and minimize environmental footprints (Tariq et al., 2023; Bhatia, 2021). But it demands more intensive resource inputs (Xie et al., 2019), runs counter to existing strategic goals, and even undermines a firm's core competitiveness (Opazo-Basáez et al., 2024; Zhang et al., 2020). These concerns have motivated many studies on how and under what circumstances green innovation contributes to enterprise commercial sustainability. There is still little research on circumstances under which green innovation is economically beneficial to SMEs (Achi et al., 2022). The perception is that SMEs generally lack resources and too little incentives for innovative change in this manner (Dijk, 2022). Further, senior SME managers worry about whether, and when, an investment in green innovation will pay returns (Tariq et al., 2023; Xie et al.,

2019). These concerns have prompted the research community to pay more attention to circumstances under which green innovation investment is likely to bring long-term and sustained advantages to SMEs.

Early studies on green innovation addressed the organizational level, including green innovation and creativity (Arici and Uysal, 2022), green human resource management (Tanova and Bayighomog, 2022), green brand equity (Ishaq et al., 2022), corporate social responsibility (Tian and Robertson, 2019), organizational policies (Norton et al., 2014), and leadership practices (Jang et al., 2017), highlighting its ability to increase competitive advantage and guarantee long-term growth. Nevertheless, as studies have evolved over time, researchers now consider that managers play a vital role in initiating green innovation among firms (Chen and Chang, 2013). An increasing amount of evidence indicates that a manager's green innovative work behavior (GIWB) is one crucial factor in promoting green transformation within an enterprise. Thus, it is especially essential to investigate motivators for managers' adoption of green behavior as an intrinsic factor. In the current research, a novel theoretical framework explaining the relationship between green innovative work behavior and business sustainability was created and tested. According to the path dependence theory and resource coordination theory, differences in how organizations decentralize their markets have been implied to affect their paths of resource and knowledge accumulation and thus induce various path dependence effects (Tang and Wang, 2025). At the same time, an organizational fit with the operating environment is implied to be able to foster technology adoption while an organizational mismatch with its operating environment is an obstacle. Therefore, on this context, the moderating roles played by resource orchestration and historical path dependence in green innovative work behavior and business sustainability are proposed and tested in an attempt to prove their influence on firms' innovation practices and their long-term growth.

The aim of this research is to examine how manager green innovative work behavior affects the business sustainability of firms in various circumstances of organizational resource coordination and organizational historical path dependence. A critical theoretical model is presented to enrich green innovative behavior research. Firstly, an in-depth examination of how manager behavior interacts with organizational resource coordination enhances an understanding of how green innovation impacts long-term corporate sustainability. Secondly, based on organizational historical path dependence perspectives, a novel framework is developed to frame the boundary conditions surrounding how green innovation behavior affects firm business sustainability. At its contextual level, this research overcomes the confines of ordinary green innovation research by being specific and less commonly examined contextually in its focus on resource-constrained small and medium-sized firms (e.g., Chinese local SMEs). The evidence associated with green innovation is enriched in relation to various firm contexts and green innovation theory extended to real-world business contexts.

Literature review

A systematic literature review (SLR) method was applied to systematize existing empirical literature for answering the research questions. Systematic review is a rigorous and transparent analytical method aiming to critically evaluate existing articles in a specific research field (Cronin et al., 2008). Denyer and Tranfield (2009) asserted that the method stresses strictly objective interpretation of results at search stage and thus diminishes research bias and increases research quality. This research deals with a

specific question addressing how green innovative work behavior contributes to an organization's business sustainability while considering further the moderating role of resource orchestration and path dependency. The objectives of the study were to synthesize empirical findings in the area, clarify existing trends and recommend further research directions. To obtain comprehensive research results, several authoritative databases were systematically searched, including Science Direct, Web of Science, Emerald, and Scopus, and these were combined with Boolean logic to construct keywords for the search. In terms of literature screening, firstly, the primary selection was made based on the keywords to retain empirical studies that met the inclusion criteria. Secondly, duplicate records and non-peer-reviewed literature were excluded. Subsequently, studies unrelated to the topic were screened out by reading the full-text abstracts and conclusions. Finally, eligible articles were read in full and analyzed in depth to identify their contributions to the study. Through this process, 131 high-quality articles were identified for systematic analysis and synthesis to answer the research questions.

Business sustainability

Business sustainability refers to meeting economic and social demands while minimizing negative environmental impacts. Research has shown that sustainability applies to the economic, social, and environmental fields (Liu et al., 2023). In the process of pursuing economic benefits, enterprises must consider the impacts of their operations on society and ecosystems. Therefore, companies should not only maximize shareholder value but also fulfill their environmental responsibilities and improve the welfare of their managers to achieve a multi-win situation (Kim and Thapa, 2018). According to Mousa and Othman (2020) as well as Singh et al. (2020), green innovation is a key approach to enhancing organizational sustainability. As the core driving force for the long-term development of enterprises, green innovation can not only reduce resource consumption and environmental pollution but also enhance market competitiveness and profitability by optimizing production processes, improving management models, and developing environment-friendly products. These benefits allow enterprises to fulfill their social responsibilities while achieving stable growth in business value (Li et al., 2020). Chen et al. (2018) indicated that green innovation contributes to increase firm competitiveness and promote enterprise sustainable development. Findings by Huang and Li (2017) indicated that firms that invested in green innovation enhanced their productivity and further expanded their sustainability by minimizing industrial wastes. Green innovation further minimizes production costs and polluting emissions and gives greater support towards enterprise long-term development (Saunila et al., 2018). Thus, firms that implement green innovation practices would minimize their environmental influences as well as improve their business sustainability (Fernando et al., 2019).

Studies on green innovation have primarily been directed towards the organizational level, highlighting its role in furthering enterprise competitive advantages and guaranteeing their survival over an long-term duration. Nonetheless, due to the intensity of studies, scholars have increasingly identified the significant role played by managers in organizational green innovation. Studies have increasingly begun to focus on the green innovation behavior (GIWB) of managers, arguing that they are indispensable in this process and important drivers of corporate green innovation (Chen and Chang, 2013).

Green innovative work behavior

For managers to engage in green innovative work behaviors refers to their suggesting, introducing, and implementing unique environmental ideas or solutions in their workplace (Aboramadan, 2022; Aboramadan et al., 2022; Aboramadan et al., 2021; Scott and Bruce, 1994). As a proactive step, green innovation work behavior relies on a manager's creativity to identify environmental issues and opportunities that can benefit the organization or a team (Zhang et al., 2022). Therefore, it is a type of extra-role behavior in which managers exercise discretion in an eco-friendly context to contribute to the sustainable development of the organization. Given the growing concern for sustainable management in organizations, academic research now emphasizes the need to determine how to motivate managers to engage in green innovation (Aboramadan, 2022; Aboramadan et al., 2022; Rongbin et al., 2022; Aboramadan et al., 2021; Wang et al., 2021; Li et al., 2019). Green innovative work behaviors are considered an essential factor in promoting the sustainable development of enterprises (Ali et al., 2023; Aboramadan et al., 2022; Wang et al., 2021). Greening and Turban (2000) indicated that firms should emphasize the green behaviors of their managers because this not only enhances competitiveness but also fulfills social responsibility requirements and promotes economic development. Therefore, companies need to recognize and motivate their managers to practice green innovation in order to achieve long-term sustainable goals. Green innovative work behaviors emphasize the incorporation of eco-friendly concepts in product design, production, and processing to reduce environmental impacts and achieve ecological sustainability (Wang et al., 2021). Compared to other behaviors, the concept involves various non-traditional environmental innovations, which are risky but simultaneously critical in enhancing a company's competitive advantage (Zhang et al., 2022).

However, studies have demonstrated that green innovation practices usually require substantial resources (Xie et al., 2019), which may conflict with other strategic business objectives and even influence a firm's core competitiveness (Opazo-Basáez et al., 2024; Zhang et al., 2020). Especially for small and medium-sized enterprises (SMEs) with limited resources and low incentives for green innovation (Dijk, 2022), the return cycle of green innovation investments remains uncertain (Tariq et al., 2023; Xie et al., 2019). Therefore, when promoting green innovation, firms must balance short-term investment against long-term improvements in competitiveness to ensure sustainable development.

Resource orchestration

Resource orchestration (RO) refers to how an enterprise dynamically manages, integrates, and utilizes its resources to achieve a competitive advantage and realize its strategic goals (Sirmon et al., 2011). This is built on the resource-based view (RBV), which focuses on how firms combine, allocate and use their resources, and three crucial aspects specifically: structuring, bundling and leveraging (Sirmon et al., 2011; 2007). Structuring requires acquiring, aggregating and divesting resources; bundling is enhancing existing skills or creating new skills; and leveraging includes effective mobilization of resources to create greater value. For this research, resource orchestration as a process for resource management in firms was used. The application of resource orchestration can foster green innovation through the optimal integration and coordination of resources (Sirmon et al., 2007). In particular, RO heightens

organizational learning capability and adaptive capacity; assists in identifying, securing, and maximizing access to new resources; enhances managerial capability; and increases a firm's capacity to address environmental issues (Kristoffersen et al., 2021). Murong et al. (2024) suggested that firms can reduce uncertainty associated with green innovation using resource orchestration and by maximizing internal and external knowledge resource integration. Accordingly, they are able to better understand resource distribution and increase the viability of their green innovation. Moreover, RO acts as an essential moderating factor in how managers' green innovative work behavior affects firms' business sustainability. Firstly, it helps in increasing efficiency in resource distribution and fostering green innovation and business model changing (Zhang et al., 2024). Secondly, resource orchestration helps firms in acquiring external knowledge at various structural levels, constructing green knowledge structures, and accelerating green product innovation and adaptation to markets (Arfi et al., 2018).

Historical path dependence

Path dependence refers to organizational founding characteristics, reflecting the nature of the external environment during the founding of an organization. These characteristics leave imprints on the organization's decision-making process, regardless of any subsequent major environmental interruptions (Marquis and Tilcsik, 2013). Developed by Arthur (1994) and David (1985), path dependence theory emphasizes that early decisions have profound impacts on future development (Bergek and Onufrey, 2014). Path dependence is driven by the imprinting effect and organizational inertia, which collectively reinforce a firm's historical development path. In green investment, path dependence is a specific barrier to green innovation. Green investment includes local pollution control, green insurance, and green loans, symbolizing local government and enterprise efforts to exhibit green innovation and governance (Kurdyukov and Ovcharenko, 2023). However, there is an existing mismatch between many cities' evolutionary patterns and requirements of sustainable development, attributed primarily to historical decision making that is costly to change technology and industry systems (Li et al., 2024). The high cost means that governments and firms lack incentive to change existing industrial structures. Local governments are more concerned with GDP growth and tax revenues, while energy-intensive industries usually provide essential support for the local economy and fiscal revenues. Therefore, although green innovation is consistent with long-term sustainable development goals, it may damage economic growth in the short term, making governments more inclined to maintain the existing development model. In considering their short-term gains, many companies select conservative strategies, further weakening the incentive for regions with high energy consumption to promote green innovation under environmental pressures and energy challenges (Xing, 2024). At the organizational level, path dependence is reflected in the solidification of a firm's strategy and resource allocation. This path dependence makes companies more hesitant to promote green innovation, thus delaying the overall sustainable development process.

Extensive research has focused on matching resources to the technological environment (Chesbrough, 2010; Sosna et al., 2010; Depietro et al., 1990); however, researchers have neglected to explore how resource orchestration mechanisms can enhance the adaptive capacity of firms in different path-dependent situations by dynamically allocating resources. As organizations decentralize their markets in various ways, they accumulate resources and knowledge differently, leading to path dependence

having different impacts (Tang and Wang, 2025). Nevertheless, few studies have explored how the synergy between path dependence and resource orchestration affects green innovation or business sustainability. By introducing resource orchestration and path dependence as moderating variables, the current study aimed to reveal how enterprises can balance the dynamic allocation of resources and historical inertia to achieve business sustainability.

Conceptual framework

Stimuli-Organism-Response theory

The Stimulus-Organism-Response (S-O-R) theory was developed by Mehrabian and Russell (1974) as a theoretical extension of the traditional stimulus-response model. The theory suggests that individual behavior is not a direct response to external stimuli but is influenced by internal mental states (Su and Swanson, 2017). The S-O-R model divides the behavior generation process into three parts: external stimuli (S), individual mental and cognitive processing (O), and final behavioral performance (R). External stimuli usually include the physical environment, social settings, and institutional factors. This three-stage structure emphasizes the individual's subjective responsiveness to environmental impacts (Su and Swanson, 2017). Initially, the theory was widely used to explore consumer behavior, especially in analyzing how shopping environments and service experiences influence customer behavior through emotional regulation. Subsequent studies have continued to expand the applicability of the S-O-R model to include factors such as offline space and online interfaces, system performance, and user content. With the expansion of these research perspectives, the S-O-R model has been adopted in the organizational management field and become an important instrument for understanding the relationship between manager behaviors, emotional responses, and organizational contexts, especially in exploring how managers make behavioral choices in organisationally or culturally supportive environments (Zhou et al., 2018; Attiq et al., 2017; Zhu et al., 2014).

Based on this theoretical framework, a logical path for "manager green innovative work behaviors influencing corporate business sustainability" was developed, with the central variables attributed to the S-O-R model. First, resource orchestration and historical path dependence can be considered sources of "Stimulus". The two factors act as inputs at the environmental level, providing managers with behavioral triggers. Second, "Organism" refers to the cognitive, emotional, and subjective attitudes of managers. After receiving stimuli from resource allocation methods and organizational paths, managers conduct internal processing based on their understanding of green strategy, responsibility awareness, and psychological perception. This psychological mechanism determines whether individuals are willing to accept, respond to, and engage in green innovation efforts (Obeidat, 2016; Cheng and Shiu, 2015). Therefore, a manager's environmental awareness, values, and perception of organizational support are key motivations in forming their behaviors. Finally, the green innovative work behavior of managers belongs to the "Response" level, which is the concrete manifestation of the previous stimulus through the internal mechanism. This behavior on the part of a manager leads to resource-saving, environmental improvement, and social reputation enhancement, thus promoting the realization of the enterprise's business sustainable goals. Therefore, corporate business sustainability can be regarded as the result of the external effect of manager behavioral responsiveness, which is a

further organizational extension of the "Response" level (Xie et al., 2019; Chang, 2011). *Figure 1* illustrates the conceptual framework in this study.

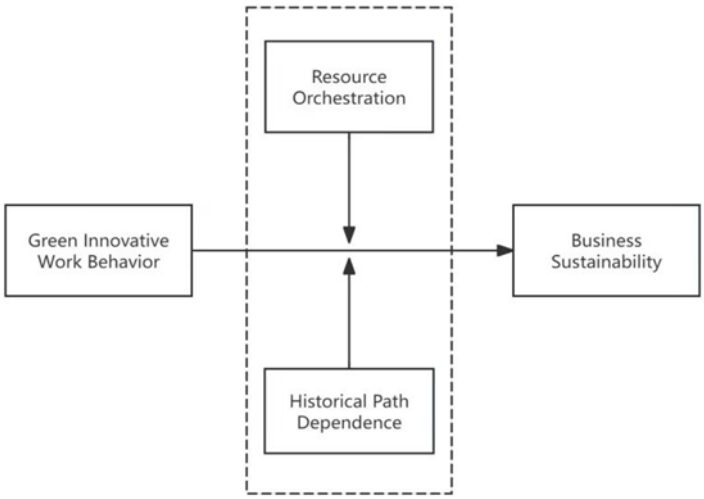

Figure 1. *Conceptual framework.*

Green innovative work behavior and business sustainability

"Organism" refers to the cognitive, emotional, and subjective attitudes of managers. After receiving stimuli from resource allocation methods and organizational pathways, managers process these internally based on their understanding of green strategies, sense of responsibility, and psychological perceptions. This psychological mechanism determines an individual's willingness to accept, respond to, and participate in green innovation efforts (Obeidat, 2016; Cheng and Shiu, 2015). Therefore, the environmental awareness, values, and perceptions of managers with regard to organizational support are key motivators in forming their behaviors. The green innovation work behaviors of managers belong to the "reaction" level, which is a concrete manifestation of previous motivational factors through internal mechanisms. These behaviors lead to resource conservation, environmental improvement, and social reputation enhancement, thus contributing to the achievement of corporate sustainability goals. Therefore, an enterprise's sustainability can be regarded as the outcome of the responsive external results of employee behavior, which is a further organizational extension of the "response" dimension (Xie et al., 2019; Chang, 2011).

In this study, the theoretical foundations of the main effects were the resource-based view (RBV) and dynamic capability theory (DCT). The RBV theory explores the relationship between organizational internal resources and capabilities, as well as the competitive advantage this can bring (Ray et al., 2004; Peteraf, 1993; Barney, 1991). The resource-based view (RBV) theory states that integrating green management practices, green innovation, and competitive advantage can improve environmental performance (Ozdemir et al., 2023). The implementation of green management practices helps businesses attract and retain environmentally conscious employees, thus driving their contribution to the environmental performance of the organization (Aftab et al., 2023). The dynamic capability theory (DCT), as an extension of the resource-based view (RBV), emphasizes that organizations must be able to adapt to changes in the environment and adjust their resource allocation in order to maintain a competitive

advantage (Teece et al., 1997). Within the dynamic capability theory, green training and development programs can be flexibly adapted to enhance the skills of employees and their ability to promote sustainable practices with limited resources (Liboni et al., 2023). The application of the DCT can help to reveal the dynamic adaptive mechanisms of knowledge acquisition, innovation engagement, and operational optimization in order to more effectively achieve sustainability goals (Tsou and Chen, 2020). By building dynamic capabilities, firms can strengthen their sustainable coping strategies and their performance (Ahmed et al., 2024).

The moderating role of resource orchestration

Resource orchestration refers to the integration and optimization of human, technological, institutional, and other resources by an enterprise, which reflects its willingness and ability to support green innovation. It also generates external stimuli for the behavior of managers, influencing their motivation to innovate and their behavioral choices (Feng and Chen, 2024). Therefore, it acts as input at the environmental level, providing emotional stimulation for managers. Resource orchestration theory (ROT) is based on the resource-based view (RBV), which suggests that firms must have strategic resources that are scarce, valuable, and inimitable in order to obtain a competitive advantage (Wernerfelt, 1984). However, resources and capabilities cannot directly realize the competitive advantage to which the RBV refers unless they are rationally integrated and dynamically managed. To resolve this problem, the resource orchestration theory was developed. It emphasizes that enterprises dynamically manage resources by systematically selecting, constructing, combining, and configuring them to generate a synergistic effect, thus obtaining a competitive advantage. Based on changes in the external market environment, resource orchestration can help enterprises optimize their resource allocation and improve their operational efficiency and organizational adaptive capacity. These are achieved by bundling, integrating, and utilizing resources, thus enhancing business sustainability (Sirmon et al., 2011).

Meanwhile, resource orchestration can help firms break geographical and resource allocation limitations, strengthen the information exchange within different organizations, and effectively expand the boundaries of green innovation (Tang et al., 2023). Through cross-regional and cross-system resources (Li et al., 2023), enterprises can realize the synergistic effect of green innovation, which not only enhances the innovation efficiency of managers in terms of green practices but also helps eliminate structural industry barriers that inhibit sustainable performance improvement (Li et al., 2024).

The moderating role of historical path dependence

Path dependence theory suggests that original choices have long-term impacts that shape future development results (Bergek and Onufrey, 2014). Stinchcombe (2013) argued that the performance of a new organization is profoundly influenced by contemporary conditions and incidents at the time of their founding. Supporters of path dependence theory claim that current economic patterns are influenced by historical economic activities, thus shaping future economic paths (Martin and Sunley, 2006). As stated by Boschma and Martin (2010), path dependence theory suggests that the economic landscape does not converge to a particular equilibrium but that it is an open system that evolves gradually under the influence of historical development paths. The

theory provides a systematic explanation for understanding why organizations find it difficult to change the mechanisms and barriers behind them. This view is further supported by researcher such as Gunarathne et al. (2021) and Wang et al. (2019). Path dependence theory suggests that firms' decisions are permanently shaped by their historical experience and available resources. If a firm has previously emphasized green innovation or taken environment-related actions, these historical experiences and accumulated resources will significantly influence their future decisions. Under the influence of historical paths, managers often incorporate environmental concepts into a long-term business strategy, thereby driving organizational development in an environmentally friendly direction. Within firms, their previous environmental beliefs affect managers' choices concerning green innovation practices, which is consistent with the theory of path dependence (Wang et al., 2022). In the field of green innovation, the historical path not only determines whether enterprises select green innovation but also affects their approaches and the effects of innovation implementation.

Theoretical contributions and managerial implications

This research focuses on the link between managers' green innovative work behavior and corporate business sustainability. Based on the Stimulus-Organism-Response theory, the former positively affects the latter significantly. At the same time, resource orchestration is able to strengthen the positive influence of green innovation work behavior on corporate business sustainability. However, in a context with higher historical path dependence, green innovative work behavior damages corporate business sustainability.

Theoretical contribution

Firstly, this study reveals the inconsistent impact of managers' green innovative work behavior on corporate business sustainability. Researchers have argued that green innovative work behavior is an essential factor in promoting corporate sustainability (Ali et al., 2023; Aboramadan et al., 2022; Wang et al., 2021; Greening and Turban, 2000). Others believe that green innovative practices usually require substantial resources (Xie et al., 2019), which may conflict with other strategic goals of the enterprise and even affect their core competitiveness (Opazo-Basáez et al., 2024; Zhang et al., 2020). Therefore, in-depth analysis was undertaken of the diversity and complexity of the impact of managers' green innovative work behavior on corporate business sustainability. This exploration revealed the various factors affecting this relationship, such as resource orchestration and historical path dependence. This study provides a theoretical basis for further exploration in this field. In addition, this study bridges the research gap concerning green innovation in the field of small and medium-sized enterprises. For small and medium-sized enterprises with limited resources and insufficient motivation for green innovation (Dijk, 2022), the payback period for investment of this type remains uncertain. This study makes important contributions to the theoretical development of this field by systematically exploring the operation mode and effects of green innovation in small and medium-sized enterprises, bridging the gap in the existing literature and identifying new directions for future research.

Furthermore, in this study, the S-O-R theory was applied to enterprises. Originally, the theory was widely used to explore consumer behavior. With the expansion of research perspectives, the S-O-R model has been introduced into the field of

organizational management and become an important tool for understanding the relationship between managers' behavior, emotional reactions, and organizational context (Zhou et al., 2018; Attiq et al., 2017; Zhu et al., 2014). Finally, this study broadens the research on the synergy of resource allocation and historical inertia in enterprises. Most studies focus on the matching of resources and the technological environment (Chesbrough, 2010; Sosna et al., 2010; Depietro et al., 1990) but ignore how resource synergy mechanisms can improve the adaptability of enterprises in different path dependence scenarios by dynamically allocating resources. Since organizations disperse the market in different ways, their resource and knowledge accumulation methods also vary, resulting in different effects of path dependence (Tang and Wang, 2025). However, few studies have explored the impact of path dependence and resource synergy on green innovation or corporate sustainability. This study introduces resource orchestration and path dependence from the perspective of corporate sustainability, filling this research gap. The study shows that resource orchestration and path dependence have important impacts on the effectiveness of managers' green innovative work behavior, providing a new perspective for the theoretical framework of corporate sustainability and expanding the application of historical inertia in business sustainability.

Managerial implications

The results of this study imply clear and effective strategic recommendations for managers in various industries, especially those who rely on green innovation to promote sustainable development. By optimizing the green innovative work behaviors of managers, enterprises can more effectively promote green innovation and enhance business sustainability. This study emphasizes the core role of these behaviors in achieving corporate business sustainability, indicating that enterprises can enhance their competitiveness and brand value in different markets by actively adopting green innovation measures. For small and medium-sized enterprises with limited resources, reasonable resource orchestration and appropriate path dependence adjustment can help them better implement green innovation and enhance their market competitiveness. In addition, this study reveals the moderating roles of resource orchestration and historical path dependence in the green innovation implementation process, pointing out that these factors have important impacts on the effectiveness and sustainable development of green innovation strategies. Enterprises can enhance the implementation effect of green innovation by optimizing resource allocation and adjusting historical path dependence, thereby better promoting their sustainable development. Finally, these findings provide a theoretical basis for policymakers and industry regulators, which will help them to formulate and improve relevant policies; promote the benign interaction between green innovation and corporate sustainable development; and further promote the health and sustainable development of the industry. This is hugely significant to the development of small and medium-sized enterprises.

Conclusion

This study has important theoretical and practical significance, but it is also subject to certain limitations that need to be overcome and improved in future research. First, in examining historical path dependence, this factor is treated as a single variable for the purposes of discussion. However, it can be divided into two types: positive and

negative. Positive path dependence refers to the further promotion of innovation and sustainable development by enterprises through the accumulation and utilization of existing experience, resources, and technological advantages; meanwhile, negative path dependence refers to the lack of motivation for innovation and transformation due to excessive reliance on existing technologies and management models. Therefore, future research should explore in depth the various impact mechanisms of different types of historical path dependence on green innovative work behavior, which should more accurately reveal its impact on corporate business sustainability. Second, despite proposing a theoretical framework based on conceptual analysis, this study lacks empirical research. Although this study proposes hypotheses on how green innovation work behavior, resource orchestration, and historical path dependence jointly affect corporate business sustainability, these have not yet been widely verified by empirical data. Therefore, future research should verify the effectiveness of this framework through empirical research; adopt a variety of data collection methods, such as questionnaires, in-depth interviews, or case studies; and combine quantitative and qualitative analysis to further verify the interactive relationship between different factors. This would provide a more solid empirical basis for the theoretical framework and enhance both the credibility and applicability of the research results.

Finally, future researchers should consider other possible influencing factors, such as policy environment, industry characteristics, and market demand, which may play important roles in green innovation and its impact on corporate sustainability in different contexts. Therefore, future research could explore the interactive relationship between these factors in a broader context; further enrich and improve green innovation theory; and more comprehensively explore the roles of other factors in the relationship between green innovation work behavior and business sustainability. Despite these limitations, this study represents an important theoretical and practical basis for the relationship between green innovation work behavior and business sustainability. It not only emphasizes the important role of green innovation work behavior in improving business sustainability but also highlights the importance of factors such as resource orchestration and historical path dependence. These findings provide a solid foundation that could be used by enterprises to optimize green innovation strategies and improve their business sustainability. This study also identifies potential directions of subsequent research, augmenting the theoretical development and practical innovation in this field.

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Conflict of interest

The authors confirm that there is no conflict of interest involved with any parties in this research study.

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