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Fostering Competitiveness Through Green Business Practices: A Systematic Literature Review

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ABSTRACT

For companies, implementing green business practices is believed to provide a sustainable organizational competitiveness. Interestingly, there is a lack of systematic literature reviews that encapsulate the various green business practices contributing to business competitiveness. This study applies a systematic literature review approach including scholarly articles on the relationship between green business practices and business competitiveness published between 2014 and 2023. This study utilizes the PRISMA framework to identify various green practices that affect business operations. The findings indicate that green production and operation, innovation, and marketing have become the most discussed aspects. However, the discussions regarding strategic management are limited. These studies indicate the increased role of green business practices in fostering business competitiveness. This study also strengthens evidence that green business practices positively affect business competitiveness in terms of sustainability.

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1. Introduction

Business actors across various industry sectors aim to achieve competitiveness within their organizations. Green practices are among the critical factors that can foster the competitiveness of business organizations by providing access to new market segments, ensuring regulatory compliance, and boosting the corporate image (Sellitto & Hermann, 2019). Green business practices originated from sustainable development, which came to light in 1987 and was initially intended as a strategy to deal with ecological disasters caused by the commercial exploitation of natural resources and environmental degradation (Hajian & Kashani, 2021). Companies consider ecological protection a part of their corporate social responsibility to maximize productivity and reduce waste and emission volumes (Chuang & Huang, 2018). They anticipate an urge for environmental performance by creating corporate ecological strategies that may foster competitiveness (Wagner & Schaltegger, 2004).

Competitiveness is a multidimensional concept across different levels: national, industrial, corporate, and product (Bhawsar & Chattopadhyay, 2015). Competitiveness derives from the Latin word “*competere*,” denoting involvement in a competitive market (Chaudhuri & Ray, 1997). Competitiveness refers to the level of productivity, defined as the output produced by a workforce. Competitiveness represents an individual or business actor’s capacity to continue developing and advancing a business between similar entities in a similar environment (Porter, 1990). Companies may be competitive by utilizing resources, competencies, and capabilities that are difficult for competitors to imitate or modify, such as product quality, services, human resources, and delivery. Porter (1990) further explains that companies can increase their price, quality, marketing, and network competitiveness. Highly competitive companies benefit from greater business growth, favourable brand awareness, customer loyalty, and sustainable business.

Companies have introduced numerous efforts to improve their competitiveness, including the development of new products (Çetindas & Öztürk, 2020; Prasetyo et al., 2020), technology and digitalization (Bacca-Acosta et al., 2023; Boikova et al., 2021; Kolkova, 2020; Leão & da Silva, 2021; Rambe & Khaola, 2022; Sepashvili, 2020), as well as business networks and ecosystems (Contador et al., 2023; Lafuente et al., 2021). In responding to environmental sustainability issues, a commitment to protecting the environment serves as an important initiative that positively affects a company’s image, promotes new markets, and improves competitiveness (Y.-S. Chen & Chang, 2013).

Declining environmental quality has increased the awareness and commitment of green businesses. A green business is an organization committed to environmental sustainability in its operations. It uses renewable resources to minimize the adverse impact of its activities on the environment (Čekanavičius et al., 2014). Green business is associated with an ecosystem-based green economy, society, and environmental planning (Hasan et al., 2019). Hasan et al. (2019) further explained that, apart from maximizing business and profits, environmentally friendly business practices significantly affect the use of natural resources at various activity and production stages.

Green business practices have become essential to business research (Hasan et al., 2019). Global warming caused by environmental damage has motivated businesses to enhance their awareness of and commitment to providing further environmental protection through their business activities. Given their ecological impacts, many companies worldwide have incorporated green strategies. More than 4,000 companies are committed to reducing emissions (Bland et al., 2023). Regardless of company size, utilizing green opportunities is not only beneficial for large companies but also for SMEs (Reyes-Rodríguez, 2016).

Previous studies have empirically demonstrated that green business practices positively affect business competitiveness (e.g., Sellitto & Hermann, 2019). Numerous scholars have carried out such studies using various contexts and methodologies. However, they focus only on specific dimensions and functions, such as green marketing (Aliarabi & Kazemi, 2020; Buswari et al., 2021), green production (Afum et al., 2023; Verkasalo et al., 2023; Zhou et al., 2023), green financing and investments (Istudor et al., 2022; Xie et al., 2023), and green human resource management (Lakshmi, 2020; Liu & Wang, 2022).

Given the lack of a comprehensive study of the impacts of green practices on competitiveness, the current study offers novel research by providing a comprehensive overview of green business practices affecting business competitiveness, which has not yet been covered by previous studies. For instance, a bibliometric analysis of green competitiveness concept development has been conducted

(Chygryn et al., 2021). Other studies have focused on the theoretical framework employed in the studies of green competitiveness (Nassar & Tvaronavičienė, 2021), green innovation, and green awareness of competitiveness (Bintara et al., 2023).

This systematic literature review focuses on identifying green business practices that affect competitiveness. The data source was retrieved from one of four large scholarly information database aggregators (i.e., EBSCOhost), which is a suitable academic search system for systematic reviews (Gusenbauer, 2019), as well as the Google Scholar database. The current study utilizes the PRISMA framework as a common tool to conduct a bibliometric analysis that organizes existing studies in various contexts (i.e., dimensions of green practices, sector/industry, country setting) and methodologies (i.e., theory/model, research typology, research methodology, data analysis technique). The coverage of the current study spans a ten-year period from 2014 to 2023. However, the current study also includes recent research from 2024 to enhance its relevance.

2. Methods

This study applies a systematic literature review (SLR). This research technique allows academics and practitioners to obtain a structured and organized overview of what has been published in the literature throughout the observation years (Milian et al., 2019). The authors identified, evaluated, and interpreted relevant research results on the role of green business practices in developing business competitiveness. This study utilized EBSCOhost, a database portal that provides access to numerous international journal papers (i.e., sub-category academic search complete) for several reasons. Firstly, EBSCOhost is among the four major multidisciplinary bibliographic databases and aggregators, and therefore, it is a suitable academic search system for systematic reviews (Gusenbauer, 2019). Secondly, similar bibliometric studies on green competitiveness have not utilized EBSCOhost as their bibliographic database (e.g., Bintara et al., 2023; Nassar & Tvaronavičienė, 2021). However, the current study complemented the results from EBSCOhost using other popular research databases such as Google Scholar.

Following Francis-Baldesari (Sugiarto et al., 2022), the current study employed a systematic literature review consisting of the following stages:

1. Formulating the review question
2. Conducting the systematic literature search
3. Screening and selecting appropriate research articles
4. Analyzing and synthesizing qualitative findings
5. Maintaining quality control
6. Presenting findings

Furthermore, the current study applied the following criteria to include specific articles in the systematic review: 1. The publications were published between 2014 and 2023 throughout the last decade; 2. The analyzed studies consisted of full-text articles that were peer-reviewed; 3. The keywords used to filter the full-text articles from EBSCOhost and Google Scholar included "competitiveness" and "green."

This study followed the PRISMA framework to conduct a systematic literature review because of its popularity among researchers, particularly in business research (Firmansyah & Umar, 2023; Lim & Rasul, 2022). Figure 1 illustrates the PRISMA framework procedure for screening the articles used for further analysis.

3. Findings

3-1. The Selected Studies

The current study screened scholarly information from the EBSCOhost database within a sub-category academic search and the Google Scholar database, using the keywords "competitiveness" and "green." This study applied a filtering menu (i.e., year of publication, full-text, and peer-reviewed options) to select full-text articles published between 2014 and 2023 that were peer-reviewed. The screening process resulted in sixty-three articles available for further analysis. We subsequently selected articles into a summary table categorized by the dimensions of green business practices, consisting of sector or industry, country setting, theory or model, research typology, research methodology, and data analysis techniques. Table 1 briefly summarizes the studies conducted on green business practices to enhance

business competitiveness. We summarized green practices into seven dimensions: Production and Operation, Innovation, Marketing, Finance and Investment, Human Resource Management, Corporate Social Responsibility, and Strategic Management.

The number of publications on the role of green business in fostering business competitiveness has gradually increased in 2020, reaching its highest quantity by 2022. Nevertheless, the number of publications declined slightly by 2023. Figure 2 presents the overall trends in publications between 2014-2023.

Table 2 presents the distribution of publications based on the dimensions of green business practices. Green business practices were discussed the most in the selected studies, specifically green production and operation (23.8%), green innovation (23.8%), and green marketing (14.3%). In contrast, knowledge management, information technology, and organization culture were the least discussed dimension of green practices in the selected studies.

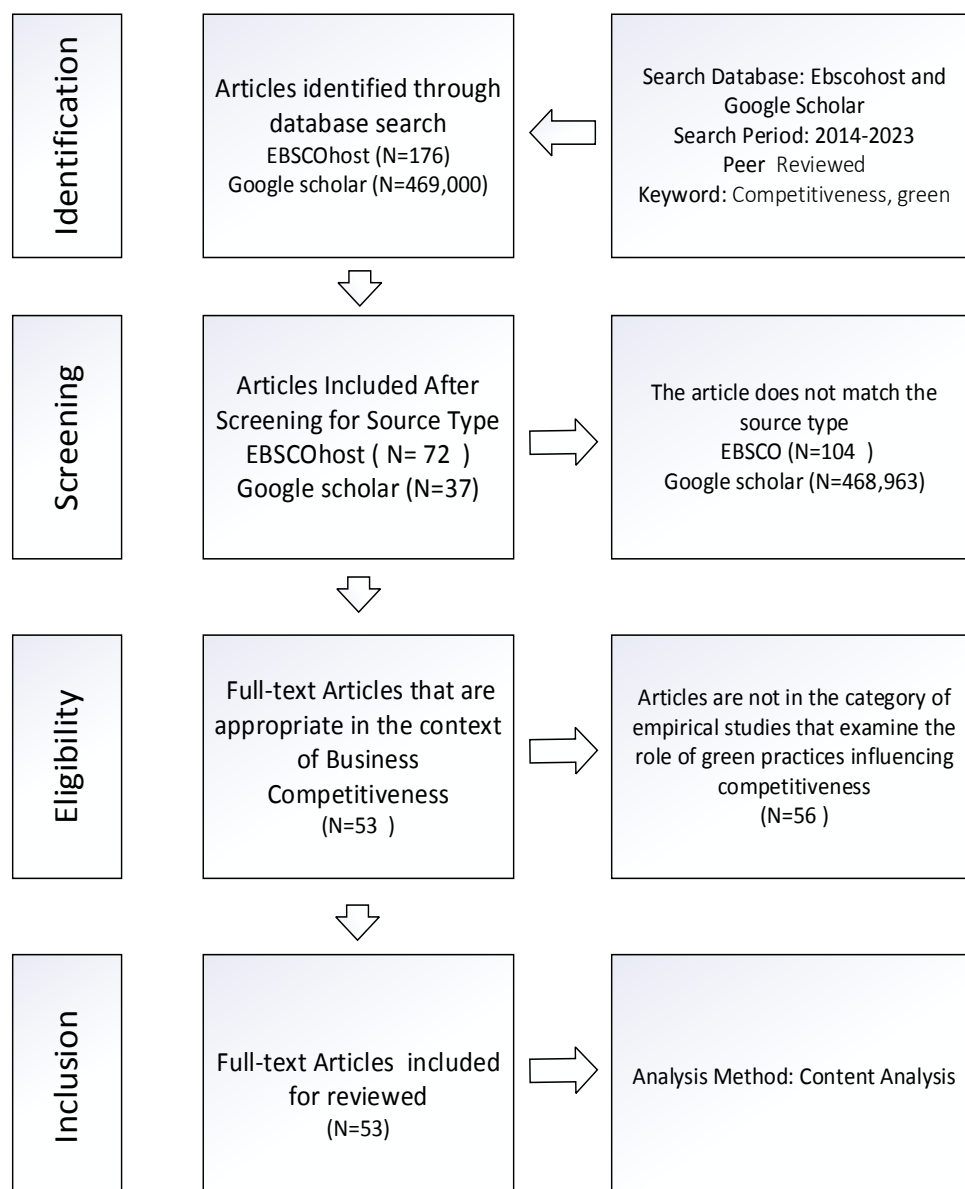


Fig. 1. The PRISMA Framework

Table 1. The Selected Studies on Green Practices for Business Competitiveness from 2014 to 2023

No	Year	Author	Dimensions of Green Practice
1	2014	Battaglia et al.	Corporate Social Responsibility
2	2014	Lee et al.	Human Resource Management
3	2015	Chuang & Huang	Innovation
4	2015	Cosimato & Troisi	Production and Operation
5	2015	Fraj et al.	Innovation
6	2016	Jugović & Vukić	Production and Operation
7	2016	Kanda et al.	Marketing
8	2016	Panmanee & Wiboonpongse	Production and Operation
9	2016	Tan et al.	Production and Operation
10	2017	Lin & Chen	Innovation; Knowledge Management; Strategic Management
11	2017	Moravcikova et al.	Marketing
12	2017	Orlovs'ka et al.	Finance and Investment
13	2018	Chuang & Huang	Corporate Social Responsibility; Information Technology
14	2018	Famiyeh et al.	Production and Operation
15	2018	Gürlek & Tuna	Innovation; Organization Culture
16	2019	Li et al.	Innovation
17	2019	Papadas et al.	Marketing
18	2019	Sellitto & Hermann	Strategic Management; Innovation; Production and Operation
19	2020	Afum et al.	Production and Operation
20	2020	Aliarabi & Kazemi	Marketing
21	2020	Lakshmi	Human Resource Management
22	2020	Udokporo et al.	Production and Operation
23	2020	Yolles et al.	Marketing
24	2021	Ahmed & Streimikiene	Corporate Social Responsibility
25	2021	Buswari et al.	Marketing
26	2021	Fernando et al.	Innovation
27	2021	Hu et al.	Innovation
28	2021	Rokhmawati	Finance and Investment
29	2022	Arshed et al.	Production and Operation
30	2022	Istudor et al.	Finance and Investment
31	2022	Li, J., & Shieh	Marketing
32	2022	Korucuk et al.	Marketing
33	2022	Le	Human Resource Management
34	2022	Li & Song	Innovation
35	2022	Liu & Wang	Human Resource Management
36	2022	Majid et al.	Human Resource Management
37	2022	N. Wang et al.	Innovation
38	2022	Padilla-Lozano & Collazzo	Innovation, Corporate Social Responsibility
39	2022	Szczepaniak & Szajner	Production and Operation
40	2022	Tothova et al.	Production and Operation
41	2022	Zameer et al.	Innovation
42	2022	Zhang et al.	Finance and Investment
43	2023	C. Chen et al.	Finance and Investment; Innovation; Production and Operation
44	2023	Geng & Liu	Production and Operation
45	2023	Khachatryan et al.	Marketing
46	2023	Menéndez-Sánchez et al.	Innovation
47	2023	Nguyen et al.	Human Resource Management
48	2023	Riaz et al.	Innovation
49	2023	Supeková et al.	Corporate Social Responsibility
50	2023	Verkasalo et al.	Production and Operation
51	2023	Wang et al.	Finance and Investment
52	2023	Xie et al.	Finance and Investment
53	2023	Zhou et al.	Production and Operation

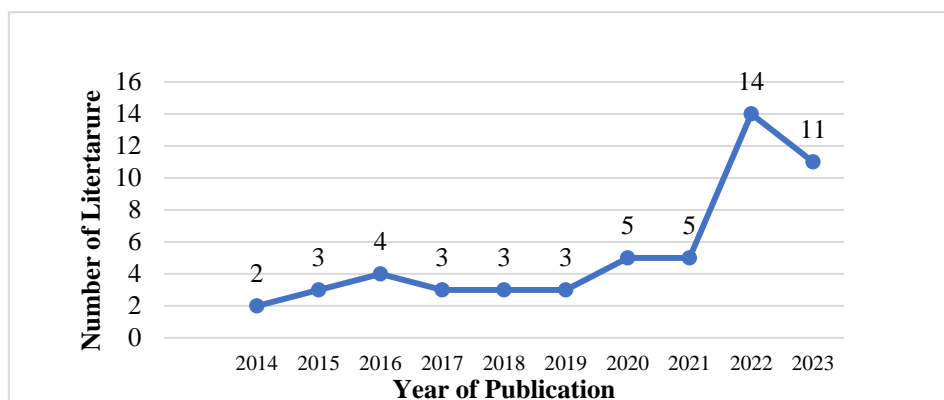
**Fig. 2. The Quantity of Studies on Green Business Practices from 2014 to 2023**

Table 2. Typology of Studies Based on Green Business Dimensions

No.	Dimension	Quantity	Percentage
1	Production and Operation	15	23.8%
2	Innovation	15	23.8%
3	Marketing	9	14.3%
4	Finance and Investment	7	11.1%
5	Human Resource Management	6	9.5%
6	Corporate Social Responsibility	6	9.5%
7	Strategic Management	2	3.2%
8	Knowledge Management	1	1.6%
9	Information Technology	1	1.6%
10	Organization Culture	1	1.6%
Total		63	100.0%

3-2. Research Context and Design

The context of the primary studies for the current systematic literature review varied depending on the nature of the research object. Table 3 indicates that manufacturing settings have become the most utilized by scholars (49%), followed by service settings (21%). Several studies used multiple sectors (11%), whereas others did not focus on specific industry settings (11%). In addition, most studies concentrated on a single scope—i.e., a single country (79%), while other studies expanded their scope to include multiple countries, even more than one hundred countries (i.e., Arshed et al., 2022).

Table 3. Research Context

No.	Sector/Industry	Quantity	Percentage
1	Manufacturing	26	49%
2	Service	11	21%
3	Assorted Sectors	6	11%
4	Other Sectors	4	8%
5	Not Stated	6	11%
Total		53	100%
No.	Country Setting	Quantity	Percentage
1	Single Country	42	79%
2	Multiple Countries	9	17%
3	Not Stated	2	4%
Total		53	100%

Table 4 demonstrates the research design applied in previous studies on the role of green business practices and competitiveness. In terms of research typology, 87% of the selected studies used the quantitative approach, while only 13% utilized the qualitative approach. In addition, survey design served as the most used methodology (66%), while experiment and mixed methods were the least used, along with other methods. The most popular tools for data analysis included CB-SEM and PLS-SEM, accounting for half the techniques employed by researchers.

Table 4. Research Design

No.	Research Typology	Quantity	Percentage
1	Quantitative	46	87%
2	Qualitative	7	13%
Total		53	100%
No.	Research Methodology	Quantity	Percentage
1	Survey	35	66%
2	Case Study	4	8%
3	Experiment	1	2%
4	Mixed method	1	2%
5	Others	12	23%
Total		53	100%
No.	Data Analysis Tool	Quantity	Percentage
1	CB-SEM	16	30%
2	PLS-SEM	12	23%
3	Descriptive	4	8%
4	Regression, Hierarchical Multiple Regression	4	8%
5	Manova	1	2%
6	Chi-square test	1	2%
7	Assorted	9	17%
8	Others	6	11%
Total		53	100%

3-3. Theory or Model in the Primary Studies

Most studies included in the systematic literature review utilize theory(ies) or model(s) to provide a theoretical framework that enables scholars to determine research problems, justify variable domains, and explain nexus logic among variables. Table 5 indicates that scholars use the resource-based view (RBV) theory as the main theory to support the theoretical framework of studies on the role of green business practices in competitiveness (19.2%), followed by institutional theory (8.2%), and stakeholder theory (6.8%).

Table 5. Theory or Model in the Selected Studies

Theory/Model	Frequency	Percentage
The resource-based view (RBV) theory	14	19.2%
Institutional theory	6	8.2%
Stakeholder theory	5	6.8%
Green supply chain management	4	5.5%
Transaction cost theory	2	2.7%
Agency theory	2	2.7%
Market orientation theory	1	1.4%
Theory of international competition	1	1.4%
The socially responsible investment theory	1	1.4%
Social learning theory	1	1.4%
Social exchange theory	1	1.4%
Reputation theory	1	1.4%
Product life cycle (PL)	1	1.4%
Network theory	1	1.4%
Marketing mix	1	1.4%
Information economics theory	1	1.4%
Green marketing	1	1.4%
Green cluster supply chain	1	1.4%
Green altruism theory	1	1.4%
General equilibrium theory's multi-sector model	1	1.4%
Cultural agency theory	1	1.4%
Creating shared value (CSV) theory	1	1.4%
Ability-motivation-opportunity model	1	1.4%
Dynamic capabilities	1	1.4%
Ecological modernization theory	1	1.4%
Knowledge-based theory	1	1.4%
Green competitiveness theory	1	1.4%
Theory of picture fuzzy sets	1	1.4%
Industrial organization theory	1	1.4%
Resource dependence theory	1	1.4%
Schumpeterian innovation theory	1	1.4%
Signal transmission theory	1	1.4%
Legitimacy theory	1	1.4%
National competitive theory	1	1.4%
Not stated	12	16.4%
	73	100.0%

In addition to the studies conducted from 2014 to 2023 as the primary discussion, this study also investigates the latest publications from January to May 2024, utilizing the same procedure, which indicates three studies on the role of green business practices in competitiveness. These studies concern green innovation (Istrițeanu et al., 2024), green production and operations (Y. Chen et al., 2024), and green marketing (Pan et al., 2024).

4. Discussion

4-1. Green Innovation

Green innovation involves the development of new products, processes and environmentally friendly technologies, efficient use of resources, and reduction of negative environmental impacts. Green innovation includes new technologies, products, services, and business models that positively affect the environment and society (Adams et al., 2016; Wicki & Hansen, 2019).

Numerous studies indicated that green innovation is widely used by companies and organizations to enhance business competitiveness. Ahmed and Streimikiene (2021) demonstrated that green innovation (social media marketing applications) significantly mediates (moderate) the relationship between CSR, environmental factors, and organizational competitiveness. Zameer et al. (2022) observed that green innovation mediates the influences of business analysis and environmental orientation on green competitive advantage. The results confirm the mechanism of green innovation regarding the impacts of business analysis and environmental orientation on green competitive advantage. Afum et al. (2020) suggested that lean production systems create efficient conditions for companies to adopt green technology and produce innovative green-based products to improve social sustainability performance and superior green competitiveness. Fernando et al. (2021) argued that eco-innovation based on circular economy principles helps improve business competitiveness in the automotive industry.

A research study in the macro context was conducted by Padilla-Lozano and Collazzo (2022), who demonstrated that green innovation significantly affects manufacturing competitiveness in developing countries. Several studies have demonstrated that green business practices, especially in terms of green innovation, strengthen business competitiveness (Chuang & Huang, 2015; Korucuk et al., 2022; Le, 2022; B. Li & Song, 2022; Riaz et al., 2023). Electric vehicles, sustainable phones, and green architecture are several examples for the implementation of green innovation to foster business competitiveness (Chomsky, 2023).

4-2. Green Production and Operation

Green production is a critical aspect of green business. The Asian Productivity Organization (APO) introduced the concept of green production after the 1992 Rio Earth Summit, defining it as a strategy to improve business productivity and environmental performance while simultaneously improving environmental performance and socioeconomic development. Green production combines appropriate productivity and environmental management tools, techniques, and technologies that reduce the environmental impact of an organization's activities, products, and services while increasing profitability and competitive advantage (Tuttle & Heap, 2008). Green production enables the transformation of natural resources, semi-raw materials, and other materials into green products to meet customers' needs (Önel, 2021).

Recent studies indicate a link between green production and increased business competitiveness. Udokporo et al. (2020) demonstrated that Lean, Agile, and Green (LAG) production practices have significantly contributed to competitive business practices. Their successful implementation is a critical element that leads to competitive advantage. Yang et al. (2013) demonstrated that green supply chain management affects green performance and competitiveness. Similar research has documented that the green procurement system of household appliance production can reduce carbon emissions at the source and improve product competitiveness (Zhou et al., 2023).

Subsequently, Tothova et al. (2022) revealed the impacts of proactive environmental strategies on hotel competitiveness. Other studies also reported the influence of green operations on competitiveness (Afum et al., 2020; Cosimato & Troisi, 2015; Famiyeh et al., 2018; Szczepaniak & Szajner, 2022; Tothova et al., 2022). Several companies have implemented green production and operations to increase their competitiveness. For instance, Walmart promotes energy efficiency and waste reduction through supply chain activities (Richters, 2024), while Unilever is committed to significantly reducing plastics in its supply chains (Swallow, 2024).

4-3. Green Marketing

Green marketing covers activities and trends, including product modification, production processes, packaging and labelling, and advertising strategies (Podvorica & Ukaj, 2019). Fuller (1999, p.4) described sustainable marketing as *"the process of planning, implementing, and controlling marketing mix activities (i.e., product development, pricing, promotion, and distribution) in a way that meets the following three criteria: 1. Meeting customer needs, and 2. Achieving organizational goals, and (3) Complying process compatibility with the ecological system."*

Recent studies have highlighted a link between green marketing and business competitiveness. For example, Jianqing and Shieh (2022) mentioned that green marketing has improved brand image and

maintained competitiveness to achieve sustainable management goals. A previous study found that internal environmentally friendly marketing has a positive influence on the development of sustainable competitive advantages (Papadas et al., 2019). Buswari et al. (2021) concluded that green marketing practices significantly affect business performance and competitive advantage. Several other studies have also demonstrated the role of green marketing practices in improving business performance and competitiveness (Aliarabi & Kazemi, 2020; Giantari & Sukaatmadja, 2021; Yolles et al., 2020).

Several examples of green marketing practices include green product design by IKEA (Mahalakshmi et al., 2024), green packaging by Elopak, Amcor PLC, and Gualapack (Kaleva, 2024), the adoption of uniform pricing by Xiaomi (Q. Zhang & Zheng, 2022), and producing promotional videos for green practice initiatives (Milanesi, 2023).

4-4. Green Human Resource Management

Green HRM refers to all the activities involved in the development, implementation, and ongoing maintenance of a system, aiming to cultivate “green” employees within an organization (Arulrajah & Opatha, 2014). Green HRM seeks to assist organizations in improving environmental performance by increasing positive employee engagement and environmental commitment (Jackson et al., 2011; Renwick et al., 2013). Several studies have indicated that green human resource management practices positively affect the competitiveness of businesses and organizations.

Lakshmi (2020) argued that, in the long run, Green HRM practices offer a competitive advantage, reduce costs, and generate greater returns on investments. Muisyo et al. (2022) highlighted that Green HRM practices, which include recruitment and selection, training and development (green capabilities), performance management, rewards and compensation (green motivation), and employee engagement and leadership (green opportunities), positively affect green competitive advantage (GCA) in companies. Additionally, organizations’ green HRM practices moderate the relationship between environmental ethics and performance in terms of competitive advantage within a company. Several other studies have established that green HRM practices affect and pertain to organizational competitiveness (Lee et al., 2014; Liu & Wang, 2022; Majid et al., 2022).

Companies such as Unilever, IBM, Marks & Spencer, and BASF integrate sustainability into every employee's job responsibilities (Polman & Bhattacharya, 2016). Another example is Walmart, which is committed to supporting the Center for Skills Validation (Education Design Lab, 2023).

4-5. Green Corporate Social Responsibility

Green Corporate Social Responsibility (Green CSR) refers to a company's commitment to protecting the environment by reducing pollution, waste, and the greenhouse effect. A commitment to protect the environment positively impacts a company's image, develops new markets, and improves competitiveness (Y.-S. Chen & Chang, 2013). Green CSR acknowledges companies’ responsibilities of waste reduction practices to maximize the efficiency of their inputs and minimize their operations’ negative impacts on future generations (Rahman & Post, 2012). Green CSR represents a company's responsibility to its local environment through its efforts to balance the natural conditions and minimize the adverse impacts of its activities. If sustained, CSR can improve economic performance, reduce risks, and manage stakeholder relationships (Büchner, 2012).

Recent studies have established a link between environmentally friendly CSR and enhanced business competitiveness. Padilla-Lozano and Collazzo (2022) mentioned that Green CSR improves the manufacturing sector's competitiveness in emerging markets. Ahmed and Streimikiene (2021) voiced a similar opinion, confirming that all environmental CSR factors positively affect organizational performance and competitiveness. Several studies have also indicated that environment-based CSR is associated with a company's competitive advantage and competitiveness (Chuang & Huang, 2015; Le, 2022).

4-6. Green Finance and Investment

Green investment refers to investments designed to mitigate the adverse effects of human activities on the environment and promote a shift toward a sustainable, low-carbon, and resource-efficient economy (Clifton et al., 2020). Green finance and investment relate to assets that are in some way defined as

'green, "for example, a renewable energy company, or a thematic green fund managing assets, or a carbon credit" (Inderst et al., 2012, p.13).

Recent studies underscore a link between green finance and investment as well as increased business competitiveness. However, research on the effects of green finance and investment on competitiveness remains limited. Istudor et al. (2022) suggested that banks investing in green energy and sustainable products will improve their long-term competitiveness, however, not their short-term one. Green finance and investment increase medium- and long-term profitability. A study by Orlovs'ka et al. (2017) indicated that green finance and investment programs are considered a specific mechanism for enhancing international competitiveness. Zhang et al. (2022) highlighted that banks' green activities and financing sources positively affect banks' environmental performance and green financing sources. The following are examples of companies or institutions that support green finance and investments: Stock exchange authorities create green indexes (e.g., the NASDAQ OMX Green Economy Index, S&P Global Clean Energy Index, Luxembourg Green Exchange, and Russell Green America Index) to accommodate investors considering investing in publicly listed green companies. Several investment fund companies create mutual funds to demonstrate their commitments to allocating investment funds to green companies (Friedberg & Katzeff, 2024).

4-7. Green Strategic Management

The impacts of green strategic management on competitiveness remain understudied likely because the impacts of green strategic management cannot be directly measured; however, it can only be operationalized into the dimensions of business functions, such as production and operations, HR management, and marketing. Examples of the application of green strategic management include top management policies and orientation in improving energy efficiency, reducing waste, sourcing materials sustainably, designing eco-friendly products, and adopting renewable energy sources.

4-8. Highlights of Systematic Literature Review

The findings of the systematic literature review indicate the patterns of previous studies based on the typology of green business practices, research context, research design, and the use of theories and models.

4-8-1. Typology of Green Business Practices

This study identified seven dimensions of green business practices that affect competitiveness. Companies tend to focus on production and operation to create competitiveness, likely because these green initiatives are within their control compared with other initiatives. Green innovation and marketing have become the second and third-highest options among companies due to increased business competition, forcing companies to remain relevant in the market. Green businesses can potentially become future businesses (Schaeffer, 2022). Companies must understand their green customers and competitors, who attribute their plans and actions to green market orientation (Tjahjadi et al., 2020).

In contrast, green strategic management has received the least attention in corporate discourse in the literature review, particularly regarding information technology, knowledge management, and organizational culture. Additionally, manufacturing companies play an important role in implementing green business, followed by service companies. Manufacturing companies have a significant environmental impact due to their business operations.

4-8-2. Research Context, Design, and Theory/Model

Most studies have focused on discussing green business practices inside a single country rather than across multiple countries (79%). Previous studies predominantly utilized a quantitative approach focusing on hypothesis testing, whereas the qualitative approach remained limited. Previous studies have applied surveys as the main research methodology, and the most common analysis tools included CB-SEM, PLS-SEM, descriptive statistics, and multiple regression. In addition, several classic theories, such as the resource-based view (RBV) theory, the natural resource-based view (N-RBV), stakeholder theory, and institutional theory, were widely employed in studies of green business initiatives.

4-8-3. Potential Research Gaps Across the Dimensions of Green Business Practices

The critical outcome of this research must involve identifying the research gaps related to the dimensions of green business practices. This mapping was based on an analysis of 53 empirical research articles. Table 6 summarizes the mapping of the research gaps.

Table 6. A Summary of Research Gaps Across Green Business Practice Dimensions

Green Dimension	Potential Research Gap
Production and Operation	The use of AI to increase production and operational efficiency.
Innovation	AI for developing sustainable products to increase competitiveness.
Marketing	The effectiveness of green campaigns in boosting green consumer loyalty based on green consumer profiles.
Finance and Investment	The effect of green cue attachment on investment decision-making among individual investors.
Human Resource Management	The effectiveness of performance metrics in evaluating green human resource behavior and green reward system design.
Corporate Social Responsibility	The CSR program mix design for green competitiveness: A management approach.
Strategic Management	The effectiveness of the Green Key Performance Index in boosting green competitiveness across business functions.

5. Conclusions

Previous studies have demonstrated the effectiveness of green business practices in fostering business competitiveness. This study categorizes green business practices into seven dimensions: production and operation, innovation, marketing, finance and investment, HRM, CSR, and strategic management. The role of green business practices in the green production and operation dimension on business competitiveness has received the most scholarly attention, followed by green innovation and green marketing. In contrast, empirical studies on green strategic management affecting business competitiveness have received the least scholarly attention, particularly on green information technology, green knowledge management, and green organizational culture.

5-1. Managerial Implications

As a practical contribution, the results of this SLR can strengthen the motivation of corporate leaders to engage in green business practices, thereby advancing environmental sustainability as one of the main pillars of the Sustainable Development Goals (SDGs). Additionally, the results of this SLR can serve as a reference for companies in formulating policies to strengthen competitiveness through various green business practices. For instance, companies may consider initiatives for green HRM and leadership (e.g., virtual interviews and online recruitment), green innovation (e.g., electric vehicles and water recycling), green production and operations (e.g., green roofs and walls and product-as-a-service), green CSR (e.g., tree planting and sponsorship for green events), green marketing (e.g., digital marketing and sustainable packaging), green finance and investment (e.g., green bonds issue and carbon credits), and green strategic management (e.g., environmental goals, strategies, and commitment to sustainability).

5-2. Limitations

This study only relied on two databases and an aggregator as the only source of scholarly information. A potential issue with this approach is that the database and aggregator do not include scholarly information from other databases and aggregators. In addition, applying strict terms when searching studies (i.e., using only two keywords without anticipating the potential use of similar keywords) and selecting only full-text sources led to excluding other relevant studies. However, the selection criteria (i.e., full text only) acknowledged the possibility that not all abstracts provided details about the content (e.g., detailed research design).

5-3. Future Studies

The number of studies on the roles of green business practices in fostering business competitiveness has increased during the last ten years (2014-2023). The results of this SLR contribute to and validate

the theory of sustainability, namely, the Triple Bottom Line theory, which emphasizes that companies should not only focus on profits in running a business, but also on societal contributions (humans) and environmental protection (planet). Therefore, the results of this SLR also provide support and validation for the Triple Bottom Line theory in the context of green business practices, which can enhance a company's sustainable competitiveness.

Future studies may further investigate green practices by focusing on the research gaps across various green practice dimensions, such as the following:

- *Production and Operation*: A systematic literature review on the use of AI in production and operations from several aspects, such as production and operation stages, the typologies of production and innovation issues, and AI technologies was use.
- *Innovation*: The extent of AI adoption among industries at different size levels to develop sustainable products or services, the identification of the driving and restraining forces of AI adoption in innovation, their perceived benefit and risk, and willingness to continue AI adoption to increase competitiveness.
- *Marketing*: The adoption of Frederick Herzberg's motivation-hygiene theory framework in explaining green consumer behaviours. Scholars may identify green hygiene factors (dissatisfiers) and green motivators (satisfiers), particularly for consumers with high green involvement profiles.
- *Finance and Investment*: The effect of green misclassification of listed companies on green individual investors' attitudes and investment preferences.
- *Human Resource Management*: The evaluation of the impact of green human resource management practices on employee and organizational performance, the evaluation of environmentally friendly employee behaviours, and the design of environmentally friendly reward systems.
- *Corporate Social Responsibility*: The design of Corporate Social Responsibility to increase environmentally friendly competitiveness.
- *Strategic Management*: The effectiveness of the green key performance index (KPPI) in enhancing green competitiveness across business functions.

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