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Implementation of Green Business Strategy in Increasing Competitiveness of Manufacturing Companies

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Business management is becoming crucial for manufacturing companies looking to increase their competitiveness in a market that is increasingly focused on sustainability. Climate change and the negative impact of industrial activities on the environment have pushed companies to adopt more sustainable business practices. The purpose of this study is to analyze environmentally friendly businesses in improving competency in the manufacturing sector. This research method uses qualitative descriptive itself providing a framework that allows researchers to understand and describe the social context and behavior of individuals or groups, data collection techniques with observation, and analysis of documentation studies, data analysis techniques using data reduction, data presentation and data verification through Nvivo 12 software. The results of the data analysis identified that consistency in implementing green marketing practices contributed greatly to positive results in marketing. The implementation of green business strategies in the manufacturing industry not only contributes to environmental sustainability. Therefore, implementing environmentally friendly business management encourages the creation of good competence in the business sector.
Keywords: implementation of green business strategy, manufacturing companies.

I. INTRODUCTION

The implementation of green business strategies in increasing the competitiveness of manufacturing companies is very important to understand because it involves various aspects, ranging from consumer demands that are increasingly concerned about the environment to increasingly stringent government regulations. Climate change and the negative impacts of industrial activities on the environment have prompted companies to adopt more sustainable business practices [1]. This is evident in the increasing attention to the importance of internalizing external costs in business models, as explained showing that proactive strategies in business design can yield benefits for sustainability [2].

Adoption of green business practices through easier and lower-cost strategies, such as recycling and waste reduction, which directly impacts the profitability of the company [2] . Business management is crucial for manufacturing companies that want to increase their competitiveness in a market that is increasingly focused on sustainability. In addition, the importance of considering flexibility and cost as competitive priorities, green business strategy is not only about environmental compliance, but also about achieving efficiency and competitive advantage [3] .

The use of green business strategies can contribute significantly to a company's export performance. Companies that implement green business strategies are able to reduce their environmental footprint, which in turn increases their attractiveness in the global market [4] . The integration of a green business strategy into the operational frameworks of manufacturing companies has emerged as a critical avenue for enhancing competitiveness, particularly in sustainability and environmental stewardship. The literature indicates that adopting green initiatives is not merely a trend; instead, it forms the cornerstone of a comprehensive competitive strategy that can significantly influence a company's market positioning and operational efficiency.

One crucial aspect of implementing a green business strategy is its ability to foster operational efficiency, thereby reducing production costs. According to [5] the effects of green manufacturing strategies directly correlate with increased organizational performance, indicating that such practices can increase productivity while simultaneously lowering production costs. Similarly,

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[6] asserts that environmental orientation and organizational innovation catalyze competitive advantages, enabling firms to cultivate an eco-centric culture that promotes sustainability and economic success. Companies that embrace these practices are often viewed as industry leaders, thereby enhancing their reputational capital and attracting environmentally conscious consumers [6] .

Moreover, research highlights that firms that operationalize their environmental strategies are better positioned to meet evolving consumer demands for sustainability. There is an argument that corporate environmental performance can enhance a company's market presence and drive sales through establishing a positive environmental reputation, which is crucial for competitiveness [7] . The identifies the interplay between environmentally friendly practices and competitive advantage as significantly contributing to overall business performance [8] . In this context, companies not only comply with regulatory requirements but also align their operational models with consumer expectations, yielding a dual benefit of compliance and competitive differentiation.

Furthermore, the ability to innovate and adapt in response to green initiatives contributes to maintaining a sustainable competitive advantage. Emphasize that innovative improvements in manufacturing processes can yield both cost savings and enhanced market efficiency [9] . This adaptability is essential in navigating the intense competition inherent in the manufacturing sector, where companies must respond to rapid technological advancements and changing consumer preferences [10] . For example, findings from [11] suggest that organizations integrating digital and environmental strategies experience improved sustainable business performance, highlighting the necessity of a multifaceted approach to strategy formulation.

The link between corporate social responsibility (CSR) and competitive advantage further underscores the importance of a green strategy. Some research indicates that CSR initiatives significantly impact employee commitment and customer satisfaction, which are critical drivers of competitive advantage in manufacturing environments [12] . By fostering a corporate culture that prioritizes environmental and social performance, companies can enhance internal engagement while simultaneously meeting external expectations.

In summary, the implementation of green business strategies not only aids in improving operational efficiency and reducing costs but also plays a crucial role in shaping competitive advantage within manufacturing companies[2]. Firms that actively engage in sustainable practices are likely to benefit from enhanced reputation, customer loyalty, and operational performance, marking a distinct edge over competitors who fail to adapt to the environmental paradigms shaping today's marketplace.

Table 1. National waste accumulation

Waste Criteria	Total (million tons)	In Percentage
Managed Waste	20.5	64.3%
Unmanaged Waste	11.4	35.7%

Source : [13]

Based on the table above, the national waste piles originating from 209 districts/cities amount to 31.9 million tons, as much as 35% of that amount, namely 11.4 million tons of waste, have not been managed properly. The problem will get worse if no efforts are made to improve and prevent the problem from getting bigger. Of course, the piles of waste also come from business activities in Indonesia.

Efforts to prevent pollution due to company waste must be carried out starting from the business institution itself, starting from within the company. A framework that integrates green business practices into the general business strategy is essential to achieving sustainability goals [13] . The successful implementation of this strategy also depends on how well the company can manage its internal capabilities to adopt more environmentally friendly practices, as explained [14] .

Thus, the implementation of green business strategies offers great potential in enhancing the competitiveness of manufacturing companies by meeting stakeholder expectations regarding sustainability and economic efficiency. In an era where consumers and regulations increasingly demand environmental responsibility, companies that adopt this strategy not only gain a competitive advantage but also contribute to the sustainability of our planet. Therefore, research and implementation of green business strategies need to be accelerated in the manufacturing sector to ensure a more sustainable and competitive future.

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II. LITERATURE REVIEW

2.1 Green Business Strategy

Green business strategy has emerged as an important area of research in recent years because of its potential to align corporate operations with sustainability principles. One definition states that green business strategy integrates environmental considerations into core business functions, driving sustainable growth and increasing competitive advantage for organizations [1] . Environmental challenges are central to business strategy formulation, thus encouraging companies to adopt practices that minimize ecological damage [2] . Furthermore, green business also includes stakeholder engagement and responsible resource management, aiming for practices that create environmental, social, and economic benefits [3] . Ensuring that staff and stakeholders are aligned with this strategy is critical, as collective commitment can significantly impact the success of implementing sustainable business practices [4] .

To effectively measure the efficacy of a green business strategy, several indicators can be identified. First, the level of stakeholder engagement reflects how well a business incorporates various interests in its environmental strategy [5] . Second, the existence of green supply chain practices serves as an important indicator, as these practices ensure that not only products but also production processes comply with sustainability criteria [6] . Finally, the impact of green strategies on financial performance highlights how green initiatives can increase profitability while contributing to environmental conservation [7] . These indicators collectively provide a framework for evaluating green business strategies, revealing their importance in driving organizational success and sustainability goals.

2.2 Competitiveness of Manufacturing Companies

The current definition of manufacturing company competitiveness refers to various dimensions that shape a company's ability to compete in local and global markets. First, competitiveness is measured through manufacturing transcription which is considered a key element in gaining competitive advantage [8] . This flexibility includes the ability to adapt to changing market demands, as well as production speed that can improve the company's response to customer needs. Furthermore, a study showed that international competitiveness indicators in the manufacturing industry in China included data and analysis from various provinces, resulting in a comprehensive index to assess competitive position in the global market [9] . Finally, another study emphasizes the importance of desire and innovation as determining factors in achieving competitive advantage, where companies must go beyond just running efficient operations to survive and grow in a competitive industrial climate [10] .

Indicators that are generally used to broadcast the competitiveness of manufacturing companies consist of three main categories. First, the export index that measures the ability of companies to globalize their products, developed by UNIDO and used to assess competitiveness in international markets [11] . Second, innovation capacity and technical skills, where research shows that the ability of companies to innovate and improve the technical skills of employees has a significant impact on their export performance [12] . Third, sustainability strategy, which includes the application of innovation in business practices to increase efficiency and reduce environmental impact. This becomes increasingly important in the industrial context where companies need to balance productivity with social and environmental responsibility [13] .

In the contemporary discourse around competitive advantage in the manufacturing sector, the role of green business strategy remains increasingly important. Several studies conducted between 2018 and 2024 have highlighted the research gap regarding the effective integration and implementation of sustainable manufacturing practices tailored to local contexts and market conditions. Other studies emphasize that green manufacturing practices contribute significantly to the economic, social, and environmental performance of organizations, but they observe limited empirical backbone detailing local applications in diverse manufacturing landscapes [14] . The interaction between Industry 4.0 technologies and sustainable practices, stating that while these innovations are important, there is no comprehensive examination of how regional industry contexts shape the adoption of these technologies in promoting sustainability [15] . A comprehensive understanding of the factors linking green manufacturing, organizational reputation, and performance metrics, an area worthy of further exploration in various industry settings [16] .

Gaps in understanding the specific contextual nuances that influence the successful implementation of green strategies present opportunities for further research. Government regulations can act as important facilitators or barriers to eco-innovation, suggesting that the alignment of policymaking with

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sustainable development goals is inconsistent across regions [17] . These inconsistencies highlight the need for studies that address not only the operational mechanisms of sustainable practices but also the socio-political frameworks that shape these strategies. Systemic issues such as resource efficiency may remain overlooked, leading to suboptimal outcomes [18] . Finally, sustainable dynamic capabilities demonstrate the vital reciprocal relationship between these capabilities and their translation into sustainable competitive advantage across diverse industry contexts [19] . Thus, a comprehensive approach that blends theoretical exploration with practical implementation insights remains critical to bridge the existing research gap.

III. RESEARCH METHODS

The use of qualitative descriptive methods with NVivo software is the recommended approach. This method allows researchers to collect, analyze, and synthesize narrative-based data more effectively, thus producing in-depth insights into the phenomena being studied. NVivo, as an analysis tool, functions to organize qualitative data in various formats, including text, audio, and video, so that it can help researchers find relevant patterns or themes from the data collected [15] , [34] .

The qualitative descriptive method itself provides a framework that allows researchers to understand and describe the social context and behavior of individuals or groups. This is especially important when exploring how manufacturing companies implement green business strategies in their daily practices. Qualitative research can help in understanding the attitudes, perceptions, and motivations of company managers in adopting these strategies [35] , [36] . Using this approach, researchers can explore various aspects that influence the implementation of green business strategies, such as organizational culture and management commitment to sustainability.

The existence of findings from this qualitative research can be sharpened through data analysis organized in NVivo, so that researchers can explore the relationships between themes or categories that emerge in the analysis process [37] . A holistic qualitative method for exploring complex issues such as this, where in-depth understanding is needed to understand not only the implementation process, but also the dynamics within the organization that may influence the success of the strategy.

IV. RESULT AND DISCUSSION

The results of this study identify that green business plays an important role in supporting flexibility and costs as competitive priorities, green business strategy is not only about environmental compliance. Green business strategies in improving environmental and financial performance have been widely proven. This strategy is defined as the recognition and integration of environmental challenges into the main business strategy to drive corporate growth and profits.

Implementing green marketing practices, including effective communication about sustainability, can improve marketing performance for small and medium enterprises (SMEs). Research shows that consistency in implementing green marketing practices contributes greatly to positive results in marketing [38]. Green business strategies and green marketing systems are crucial to increase competitiveness.

Environmentally friendly practices in distribution and supply chain. Research shows that implementing green supply chain management can improve competitive advantage and overall organizational performance [33]. By integrating strategies such as Lean and Green, companies can be more efficient in their operations while reducing their environmental impact [23]. The implementation of green business strategies in the manufacturing industry not only contributes to environmental sustainability but can also increase the competitiveness of companies.

The results of the data analysis from NVivo 12, the results of the descriptive analysis of this study were identified through the following data processing results:

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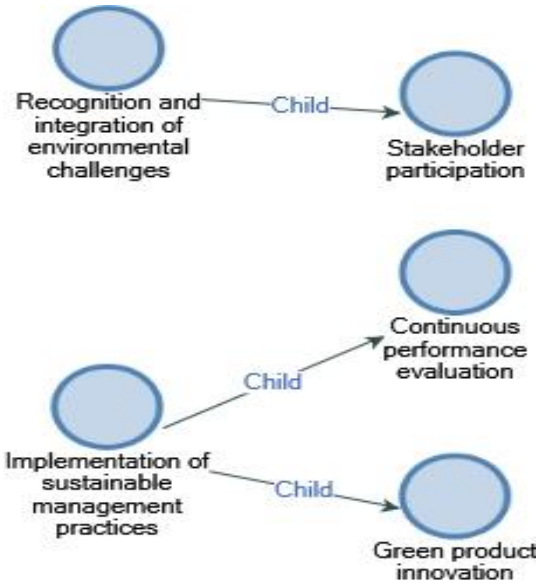

Source: NVivo pro 12 analysis results, 2025.
Figure 1. Implementation of green business strategies

Based on the data above, there are 5 main indicators in green business as an effort to implement sustainable business practices, support from management, and good development and understanding in green marketing, companies can achieve financial and social goals simultaneously. The combination of strategic and sustainability approaches can produce significant benefits for companies operating in an increasingly stringent context.

The implementation of green business strategies should also be considered. Companies implementing green innovation strategies must be prepared to face the associated risks, including high costs and complexity in implementation [38] . Investments in innovation in the field of sustainability can yield positive results in financial performance and corporate reputation.

Green business strategy is an important step for manufacturing companies to ensure competitiveness in an increasingly global and sustainability-oriented market. Green business innovation management and sustainable strategies have been proven to have a positive impact on corporate image, improved business performance, and consumer loyalty.

Thus, through the implementation of strategic business management as the main opportunity and potential that provides good exploration towards the progress of an environmentally friendly business system. Eco-friendly businesses in all fields can create eco-friendly products too. Therefore, good business management enhances structured performance patterns.

V. CONCLUSION AND SUGGESTION

Based on the research results above, it can be concluded that green business management is closely related to the strategic patterns of sustainable business management practices. Consistency in implementing green marketing practices contributes greatly to positive results in marketing. This is an effort to encourage environmental integration and challenges in the main business strategy to provide improvements to existing business growth in an environmentally friendly manner. This is oriented towards business progress by seeing opportunities and remaining focused on sustainable and environmentally friendly businesses. As for suggestions for further research, hopefully it can analyze more deeply regarding environmentally friendly and sustainable research.

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