

Drivers of Green Industry Growth: A Systematic Review

¹Nitesh Kumar and ²Dr. Bimal Debnath,

¹Research Scholar, Department of Management, North Eastern Hill University, Meghalaya,
India

ORCID iD: 0009-0002-6656-8187

²Assistant Professor, Department of Management, North Eastern Hill University, Meghalaya,
India

Submission: 30.10.2025; Acceptance: 15.12.2025; Publication: 15.03.2026

Abstract:

To achieve economic growth and environmental protection and maintenance, sustainable use of resources, energy efficiency, waste and carbon management and low-carbon energy sources are crucial in the development of the green industry. The aim of this systematic review is to define and analyze the factors that affect the growth of the green industry. A detailed search strategy was conducted using PRISMA guidelines using databases including Emerald, Science Direct, Scopus and Web of Science as well as Google Scholar. The review comprised papers from peer-reviewed empirical studies involving green industry businesses, published in English, from 2010 to 2023. The review highlights the importance of sustainable business practices in order to succeed in a competitive market in the long run. Prominent challenges include stakeholder engagement, regulatory compliance and the incorporation of green practices within corporate strategies, all of which are essential to the development of a green industry. The study comprehensively analyses the literature on green industry and determines the most significant factors driving the evolution of the green industry, which can be useful for policymakers, business leaders and researchers interested in sustainable development. The importance of green innovation and firm performance in supporting sustainable development is emphasized, and it is noted that green practices have a positive effect on cost efficiency, the speed of response to customers and environmental impact. Sustainable business practices are crucial for the long-term competitiveness of businesses in a rapidly changing business environment. Factors influencing the development of businesses in the green industry, highlighting the need to develop the economic, environmental and social aspect of the business.

Keywords: Green Industry, Sustainability, Green Growth, Sustainable Business Practices, Green Innovation, Environmental Management, Firm Performance.

1. Introduction

Problems such as environmental degradation, climate change and resource depletion have become serious issues in the world in recent decades. Industrialization and economic development have played a major role in the development of problems like increasing carbon emissions, production of excessive wastes and consumption of non-sustainable resources etc. The challenges have increased the pressure on sustainable development practices which must consider both economy and environment. Consequently, sustainable industrial systems are the

growing interest of governments, industries and international organizations. Therefore, there is a growing interest in promoting sustainable industrial systems by governments, industries and international organizations. In this regard, one of the most important strategies is the concept of the “green industry”, which is based on the merging of economic growth and the environmental dimension and social responsibility.

Green industry focuses on eco-friendly production processes, on resource use efficiency, on a dimensionization of lower environmental impacts and on the use of clean and innovative technologies. It encourages the leveraging of sustainable resources, energy efficiency, waste management and carbon management, sustainable mobility and low carbon energy sources. Green industry seeks to improve the efficiency and effectiveness of the use and management of resources, while ensuring the economic development and environmental protection. (infoDev, 2014). Green industrial practices help to minimize waste, optimize energy usage and reduce pollution, thereby enhancing productivity and environmental sustainability. These practices not only are beneficial for ecological systems, but they also increase the competitiveness of industry both nationally and globally. Going green has become growingly important in the current business landscape. The current business environment is highly competitive and dynamic, requiring organizations to be sustainable, innovative, and practice responsible business. It is expected that businesses will be considering both short term and long term goals. Environmental and social responsibility are growing in importance to stakeholders such as consumers, investors, governments and international institutions. It is emphasized by Chabowski et al. (2011) that stakeholder expectations are evolving towards sustainable development approaches, incorporating economic, environmental and social aspects in corporate decision-making.

Now sustainable development is an integral part of the modern industrial strategy and of corporate strategies in general. It is a concept of development in such a way that does not affect the ability of future generations to meet their needs. The concept was introduced by the World Commission on Environment and Development (WCED) and it is a concept that focuses on the responsibility to manage the use of the resources and on conservation of the environment and equitable economic growth. At the industrial level, sustainable development is promoted to companies to adopt production processes that minimize environmental damage and maximize economic and social benefits. Increasingly, sustainability has become a major trend, which has also resulted in the rise of corporate sustainability as an important management paradigm. Corporate sustainability is a process of incorporating environmental, social and economic goals into a company's strategies and actions. On the firm level, it's about achieving profitability while being environmentally responsible and socially responsible. This is a way for organisations to grow and support the environment and social wellbeing, Tien et al. (2020) noted. Incorporating sustainability into business models can improve company's reputation, build better relationships with stakeholders, and create long-term competitive advantage.

Even though the importance of sustainability has been raised, there are still challenges for many industries to practice sustainable practices. In some developing countries, fast industrial expansion has been at the cost of environmental sustainability. Certain organisations focus on

short-term economic benefit and neglect environmental obligations. In order to achieve sustainable industrial development, it is important to ensure a balance between economic growth and environmental protection, so that industrial development is viable for the long term and is not only for the benefit of the current generation but also for generations to come (Loen, 2018). Thus, the key to deploying green industry practices is the capacity of the firms to combine economic efficiency and environmental responsibility. Green industry practices are also economically advantageous, apart from the environmental advantages. Improved resource efficiency, minimized energy usage and effective waste management can help lower the operational costs that can be achieved using sustainable production methods. Moreover, the implementation of green technologies creates innovation, improves productivity and creates new market opportunities. According to Patel et al. (2020), sustainable practices can help businesses generate more revenue in the context of financial and operational limitations. Organisations that adopt sustainable strategies will also stand to benefit from better market positioning by promoting their products to consumers with environmental interests, investing in them and building partnerships with such companies.

Sustainability in business is usually defined using the Triple Bottom Line (TBL) framework suggested by Elkington (1997). The framework places emphasis on three areas of economic performance, environmental protection and social equity. It recommends that businesses should not just consider monetary results, but also the effects on their environment and the impacts on the social world around them. The TBL is a holistic way to assess the sustainability of industrial activities in the context of the green industry. These dimensions can be combined with each other to create long-term value and also help in sustainable development. Organizations are key enablers in promoting the growth of green industry through the development of environmentally-responsible practices and technologies. Companies implementing green strategies become part of sustainable supply chains, eco-friendly products and efficient resource management systems. These efforts not only help to lower the environmental footprint, but they also drive innovation and market growth. Furthermore, sustainable industrial practices generate trust among stakeholders, boost brand reputation and increase financial results in the long-term.

However, there is a need to have appropriate resources, technological capabilities and institutional support for the transition towards the green industry. Knowledge is not enough, it is also important for the organisations to have the financial, human and technological resources to make sustainability work. The development of green industries is highly dependent on policies, regulations, technology and market motivations. If there is no proper institutional support and strategic planning, the use of green practice could be restricted. Researchers and policy makers have more recently been interested in uncovering the main drivers of the development of the green industry. Technological innovation, access to green finance, environmental regulations, government policies, and consumer awareness and organisational commitment to sustainability are some of these. Also, the institutional structures, market conditions and economic factors play a significant role in the growth of green industries. It is

crucial to know about these determinants to encourage sustainable industrial transformation and help speed up transition to a green economy.

1.1 Economic growth of Green Industry

Economic growth typically refers to the growth of an economy's output of goods and services over a given time period. The OECD (2011) defines economic growth as an increase in productive activity, measured by the production of goods and services for individuals and society, by efficient utilization of the factors of production, which are labor, capital, technology, innovation and resources. Economic growth has been traditionally gauged by the Gross Domestic Product (GDP), Gross National Income (GNI), employment and inflation rates and industrial productivity. In the face of escalating environmental pressures, however, it is becoming more obvious that economic development should be coupled with environmental sustainability. In this context, the idea of green growth has come to the fore as an important development strategy. UNESCAP (2006) defines green growth as the process of shifting from traditional economic systems to environmentally sustainable economic models which generate economic prosperity and ecological sustainability. Green growth supports efficient use of resources, use of clean technologies and the minimization of environmental degradation without compromising economic growth. It stresses the need to incorporate environmental concerns into economic planning and industrial development. Industries tend to innovate and technologically advance as the economy grows. This positive trend of GDP growth opens opportunities for research and development and thus for technical innovation and competitiveness of industries. The expansion of industry drives companies to use the latest production technologies and innovative business models that increase efficiency and productivity. Industrial growth also brings down costs and drives innovation – through economies of scale. Foreign Direct Investment (FDI) has also been a great contributor to the promotion of technological progress and industrial development. During the past few decades, FDI has played a role in the transfer of advanced technologies, management knowledge and capital resources to the host countries. Researchers Sharma, Singh and Singh (2011) indicate that the growth of high-tech industries and economic development of several nations have been promoted by FDI. Likewise, the authors Sivalogasthasan and Wu (2014) assert that FDI plays an important role in technological advancement in the host countries by fostering innovation and knowledge transfer. Sharma (2011) also suggests that FDI and policies of export-led growth plays a great role in the process of GDP growth.

There are several macroeconomic indicators that affect the economic development of green industries. Examples of such indicators are GDP, GNI, employment, inflation rates, exchange rates, wholesale price index (WPI), consumer price index (CPI), bank rates and balance of payments. Of these indicators, GDP per capita is among the most popular indicators of the economic welfare level and economic development of a nation. A higher GDP per capita means a higher productivity of the economy and a higher standard of living. The use of green technology and environmentally sustainable innovations is found to have a positive impact on GDP growth as part of the improvement of productivity in industries and with less costs of the environment (Samad, 2015).

Green Infrastructure/ Green Building projects also contribute to the economic development through generating environmental, social and economic benefits. Green buildings are more energy efficient, lower operating costs and create healthier living environments. Over the years, such efforts help the economy and sustainable development. The Asian Development Bank (ADB) Inclusive Green Growth Index was constructed to take GDP per capita into account as a key indicator of economic growth, but also to recognize the need for jobs creation and sustainable demand in a process of economic growth. Investment policies are also crucial in supporting the development of the green industry. Zaib (2018) recommends creation of investment policies by the economies, especially, SAARC region, to attract Foreign Direct Investment, and also to promote local industries. Such policies can have a positive impact on technological innovation, competition and industrial development. The other important macroeconomic factor that affects industrial growth is stability. Monetary and fiscal policies have a large influence on inflation, government expenditures, investment and the balance of payments. Economic instability may result from high levels of inflation, which can also lead to a decline in investment due to uncertainty in the financial markets. High levels of inflation volatility can diminish the functioning of market pricing mechanisms and limit economic growth. Moreover, there is a problem of investment returns because of the fluctuation in monetary value, which makes it unlikely for investors to make long-term investments in industry. There are multiple macroeconomic parameters that affect industrial development and growth. Industrial expansion is determined by many factors, among them Patrick (2013) mentions fuel costs, exchange rate fluctuations, import policies and government spending. Labour market conditions also are important for the performance of the economy. Unemployment is one of the most important measures of the performance of the labour market and the health of the economy. Good employment structure allows for income distribution and economic stability. There are opportunities for resources to flow between income groups and social classes via the jobs and so a decrease in economic inequality. The NITI Aayog (2016) states that policies that can boost employment generation and workforce re-distribution can help the economy be sustainable in the long term. The creation of green jobs and environmentally-friendly employment opportunities can be a key contribution to sustainable economic growth within a green industry context.

1.2 Role of Green Accounting in Economic Improvement

Environmental accounting, or green accounting, is an important instrument for sustainable economic development. It means the inclusion of the costs of environmental resources and environmental effects in the existing accounting systems. Green accounting facilitates the measurement, monitoring and management of the environmental impacts of economic activities.

Environmental accounting assists organisations to enhance the economic performance of their operations, whilst maintaining environmental sustainability. Incorporating environmental factors into financial analysis will establish a better management of resources, reduce waste and improve long-term profitability. Aminah & Noviani (2014) indicate that now environmental pollution has become a primary concern of the world and organizations have

become environmentally responsible. Economic activities that cause air, water and soil pollution can have a detrimental impact on environmental quality and economic performance. Businesses may also have operational challenges due to environmental degradation. Pollution issues can lead to fines for regulations, higher operating costs and damage to reputation. Abdullah and Amiruddin (2020) have stated that environmental pollution caused by industrial activities may affect the functioning of an organization, in terms of production processes and profitability. While industrial development is likely to create job opportunities and productivity, there is still a lack of attention to environmental responsibility in many companies, as shown by studies like Winarno et al. (2016). Green accounting is one approach to tackling these environmental issues. According to Grey (2010), green accounting is a crucial means to tackle the environmental concerns of human's activities and industrial development. Including environmental costs in financial reporting helps companies to make better decisions for responsible business practices and minimise environmental risks. Green accounting involves multiple concepts like carbon accounting, energy accounting and resource utilization accounting. These methods are designed to measure the effects of the environment and to enhance the management of resources in organizations. The adoption of environmental accounting practices is becoming more common in environmental management systems in a bid to enhance their sustainability (Qian et al. 2012).

The use of environmental management accounting has become popular because organizations have been aware of the importance of sustainable use of resources. These accounting methods allow businesses to identify the environmental costs of their production processes and help to promote improved resource use. Green accounting fosters the linking of environmental protection to corporate development and economic efficiency. According to Marota (2017) awareness about the environment in organizations has a significant influence on the achievement of sustainability. Companies that embrace eco-friendly bookkeeping can more effectively manage resources, minimize waste production and enhance efficiency in their operations. Likewise, Nakajima (2015) notes that the concept of resource efficiency is popular today in business structures, underscoring the significance of considering the environment in business decisions.

Green accounting also enables organizations to formulate strategies to minimise environmental costs of manufacturing processes. Ratulangi et al. (2018) suggest that firms that are implementing Green Accounting can find opportunities to reduce waste, pollution and to improve the efficiency of using resources. Effective control of industrial waste is fundamental to the sustainability of the environment and compliance with relevant rules.

But, a lot of organizations still encounter difficulties in using green accounting systems. According to Fakoya (2014), there are some enterprises that fail to pay attention to the correct measurement of Natural resources usage and waste management. Environmental information and monitoring is often not precise, which reduces the effectiveness of environmental accounting practices. In spite of these problems, green accounting has great potential to assist sustainable industrial development. The use of environmental information in financial and managerial decision making can enhance economic performance and minimise environmental

impacts. Green accounting practices can, therefore, play a significant role for the development and sustainability of the green industry.

Table 1: Economic Growth of Green Industry and the Role of Green Accounting in Economic Improvement: Comparison Study

Reference	Focus	Key Findings	Objectives	Limitations	Method	Country
OECD (2011)	Economic growth definition	Economic growth involves production benefiting society through multiple inputs	Define economic growth comprehensively	Broad definition, lacks green focus	Conceptual Report	Global
UNESCAP (2006)	Green growth concept	Integrates economic growth with ecological sustainability	Describe green growth	Lacks practical application	Policy Report	Asia-Pacific
Sharma, Singh, & Singh (2011)	FDI and growth	FDI boosts GDP growth	Study FDI role in GDP	Limited green focus	Empirical Study	India

Sivalogasthas anand & Wu (2014)	FDI and technology	FDI promotes innovation	Analyze FDI contribution	Limited scope	Empirica l Analysis	China
Samad (2015)	Green technology	Green tech improves GDP	Highlight economic benefits	Limited economic metrics	Quantitat ive Study	Malay sia
Patrick (2013)	Macroecon omic drivers	Fuel price, exchange rates influence growth	Identify growth factors	Less green focus	Econom etric Analysis	USA
AAYOG (2016)	Labour and inequality	Employment affects inequality	Analyze labor indicators	Limited green link	Govern ment Report	India
Aminah & Noviani (2014)	Pollution impact	Pollution affects profitability	Examine environmen tal impact	Limited accounting focus	Case Study	Indone sia
Abdullah & Amiruddin (2020)	Industrial impact	Industrial growth harms sustainability	Assess environmen tal impact	Narrow scope	Empirica l Study	Malay sia

Winarno et al. (2016)	Industrial expansion	Growth ignores environment	Balance growth & environment	Limited scope	Survey Study	Indonesia
Grey (2010)	Green accounting	Promotes sustainability	Advocate green accounting	Lacks application	Conceptual Study	UK
Qian et al. (2012)	Green accounting aspects	Differentiates accounting types	Clarify accounting concepts	Limited economic linkage	Analytical Study	China
Marota (2017)	Resource efficiency	Improves corporate sustainability	Promote efficiency	Limited scope	Case Study	Indonesia
Nakajima (2015)	Environmental awareness	Awareness improves sustainability	Promote eco-consciousness	Lacks economic depth	Conceptual Study	Japan
Aniela (2012)	Environmental accounting	Reduces environmental cost	Integrate accounting systems	Limited performance link	Conceptual Study	Romania

Ratulangi et al. (2018)	Cost reduction strategies	Minimizes environmental cost	Develop strategies	Manufacturing focus	Case Study	Indonesia
Fakoya (2014)	Resource management	Efficient waste/resource use	Promote resource management	Lacks implementation detail	Empirical Study	South Africa

2. Research Gap

There is a considerable amount of literature on green industry, sustainable development and environmental management but some important gaps in the understanding of the overall dynamics of the growth of green industry still exist. The existing research has mainly centered on green technologies, the adoption of renewable energy, and policy interventions as the drivers of sustainable industrial transformation. These contributions offer key lessons, but a holistic view of the determinants that affect the growth of the green industry is missing. One of the key literature gaps is the number of systematically identified key factors that affect the growth of green industry. While technological innovation, regulations, and investments in sustainability have been mentioned, there is not enough integration in one analytical framework. There is a lack of an in-depth understanding of the economic, environmental, institutional and organizational factors, which makes it difficult to be clear about what factors lead to or speed up green industry development in different contexts. Likewise, there is a lack of knowledge regarding the impact of green accounting on economic performance. Although green accounting is well acknowledged as a method to integrate environmental aspects in corporate decision-making, most studies have focused on the conceptual development and environmental reporting norms and roles of green accounting. There is very little empirical study about the direct effects of green accounting on the indicators of economic performance like cost efficiency, productivity, profitability and competitiveness for green industries. This leaves a gap between the environmental accounting practices and measurable economic effects. Moreover, there is a lack of research in the literature on barriers to the development of green industries. Some studies mention difficulties of implementation implementation cost, lack of support from the regulators, lack of environmental data and limited managerial awareness, but the constraints are not analyzed in depth. It is important to systematically analyse these barriers across industries and regions and their effect on the uptake of sustainable practices and green accounting systems. Furthermore, most of the previous literature focuses on specific elements like environmental policies, green innovation, and corporate sustainability, respectively. Studies that look at the interaction between determinants of growth of the green industry,

economic performance and green accounting practices are lacking. This division makes it difficult to build up a comprehensive picture that is needed for sound policy making and strategic planning. Hence, this study aims to fill these gaps by conducting a systematic review to: (2) discuss the factors that may shape the growth of the green industry and how they are interrelated. (2) study the effects of green accounting on economic performance. (3) discuss the obstacles to the development of green industries. This study is an attempt to give an all-encompassing and systematic analysis of green industry development, which will help the scientific community as well as policy formulation in practice.

3. Research Methodology

The methodology followed for the systematic review was based on the recommendations of the PRISMA, which are available on. The approach that was chosen enables conducting a proper research search and selecting important pieces of scientific literature on the given topic while also formulating research objectives and providing a proper analysis of the scientific progress of a specific field of knowledge. The next section will further cover the document search and screening process from determining eligibility criteria to recognizing relevant documents for further study.

3.1 Inclusion and Exclusion Criteria for Selecting Studies

Table 2: Exclusion and Inclusion Principles for Systematic Review

Inclusion Criteria	Exclusion Criteria
I1: The paper should be peer-reviewed.	E1: Non-peer-reviewed publications
I2: The paper should be in the English language.	E2: Grey literature
I3: No time limit for publication	E3: Duplicate research and publications
I4: Papers should be published research or full-article publication.	E4: Ph.D. Theses, working papers and project deliverables
I6: Empirical studies on green industry-listed companies.	E6: Studies not focused on green industry-listed companies.

3.2 Search Strategy and Databases Used

A comprehensive search strategy was adopted to ensure all the relevant literature was extensively explored in order to systematically review and identify the factors influencing the growth of companies listed in the green industry. The main objective was the collection of a wide range of papers covering different aspects of green sector firms' growth. The databases used included the key databases (Emerald, Science Direct, Scopus and Web of Science) and Google Scholar and the search engine was used across a wide range of academic disciplines. The search terms included the combination of terms such as "Green industry", "firms" and "sustainability". The goal of this systematic approach was to provide an overview of the available literature and provide useful insights into the factors affecting the development pathways of firms in the green industry. The online literature search was conducted between January 2010 and August 2023 using Scopus WOS and Google Scholar database restricted to the English language from January 2010 to August 2023. PRIMO is a modern search

framework that enables the user to do a rapid and simple search across several digital pieces of information utilizing one search window with results on one platform as a condensed list. Data may be filtered and narrowed down using PRIMO, one of its primary roles. Therefore, the writers took advantage of the features available in their preferred multi-search tool throughout the selection process. On the other hand, the writers' expertise impacted their choice of standards. At first, used the search phrase "Green industry", "firms", "sustainability", "Green Growth" to find relevant articles. In the initial phase of the search process, 145,488 potentially useful records were located. Next, searches were restricted to articles published within the previous 13 years, from 2010 to 2023 to zero down on relatively recent applications, issues and technology.

Table 3: Search keywords

Keywords
Green Industry
Firms
Sustainability
Green Growth

3.3 Data Extraction and Analysis Methods

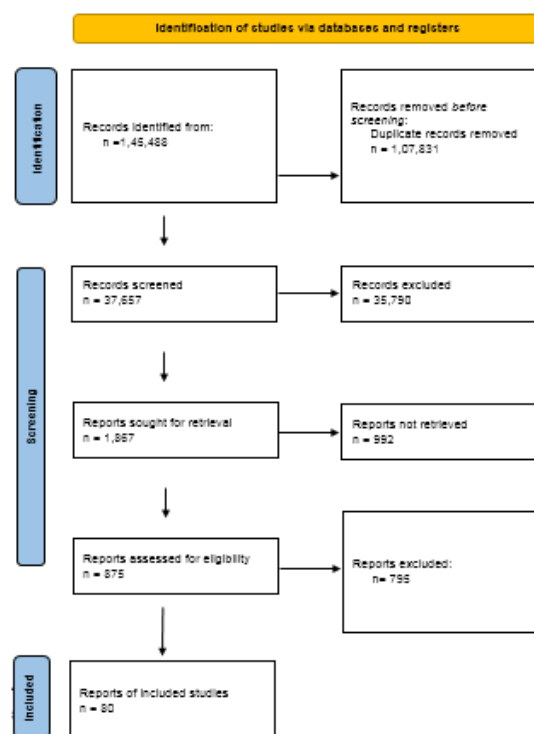


Fig. 1 Data Extraction and Analysis Methods

The data extraction and analysis process in this study was conducted in a systematic and structured manner to ensure reliability, consistency and comprehensiveness of the findings. After applying the PRISMA framework, the last 80 studies were thoroughly reviewed for detailed analysis. To ensure standardized data extraction and eliminate bias, a standardized data extraction form was created for uniformity across all selected studies. Some key information that was extracted comprised bibliographic details (authors, year of publication), study goals, research design, data sources and analysis technique. Likewise, particular variables as determinants of the development of green industries, the role played by green accounting practices and sustainability indicators were systematically recorded. Key findings and limitations of each study were also taken to cover all aspects of the literature to provide an overall understanding of the research. A qualitative thematic analysis was used as the main method of data analysis, with comparative and bibliometric analyses. To get the most out of the data the findings were analyzed using a thematic approach which aimed to identify patterns and categorize these findings into main themes: key determinants of the growth of green industry, role of green accounting in the economic performance of firms, barriers to the expansion of green industry and overall impact of sustainability practices on the economic performance of the firm. This method enabled identification of relationships between various variables and helped in synthesising the findings from research that was fragmented. In addition, a comparative analysis was performed to highlight similarities/differences between the studies and to identify trends, regional differences and research gaps. Basic bibliometric analysis was also added and information about the trend of publications, the most common topics studied, and the distribution of publications by regions and disciplines between 2010 and 2023 was obtained. Ultimately, the collected data were integrated to construct a comprehensive conceptual framework that relates to the key determinants, green accounting practices, economic performance, industry growth in green industry and captured the moderating effect of barriers. The multi-layered analytical methodology adds to the validity and strength of the research, and offers a robust framework for valid conclusions and insights for researchers, policy makers and industry practitioners.

4. Conceptual Framework

The conceptual framework presented in this research depicts the interrelationship among the key determinants, green accounting practices, barriers and outcomes in the context of the development of the green industry. It gives a structured perspective on the interactions and impacts of the different factors on economic performance and sustainable industrial development. The key determinants are the main drivers for the development of the green industry and are the foundation of the framework. These encompass technological innovation (for instance, the use of green technology and green energy), government policies and regulations, entry to green finance, market demand and awareness and organizational commitment to sustainability. These factors contribute to a favorable climate for industries to implement environmentally friendly practices and move towards sustainable operations. The framework underscores the importance of green accounting practices as a key tool that bridges these determinants to measurable outcomes. In Green accounting, environmental cost

measurement, tracking of resource efficiency, sustainability reporting and evaluation of environmental performance are included. Green Accounting allows organizations to account for environmental aspects in financial and managerial decision making processes, so as to consider the full cost of business and better manage resources. It serves as a link that helps to make sustainable initiatives put into practice by transforming them into real economic and operational value. Meanwhile, several barriers to the growth of green industry are identified in the framework in ways that moderate the growth. These include high implementation cost, regulatory non-support, limited awareness/expertise, weak data and accounting systems, and technological and infrastructural constraints. These barriers may obstruct the successful implementation of green accounting practices and decrease the influence of the key determinants. Despite the availability of favourable conditions, these problems can compromise the effectiveness and scalability of green efforts. The last part of the framework addresses outcomes under two headings: economic performance and growth of the green industry. Economic performance is measured by increases in cost efficiency, profitability, productivity and investment attractiveness. These are the financial incentives that are the bedrock of sustainability. In turn, better economic performance promotes growth of the green industry, as manifested in the growth of enterprises engaged in the green industry, sustainable industrial development, environmental performance and enhanced competitive advantage. The framework shows that growth in the green industry is not influenced by any single determinant, but rather by a dynamic interplay between determinants, accounting practices and external constraints. It highlights the importance of green accounting to connect sustainability actions, results and impacts to the economy, and recognizes obstacles to achieving progress. This holistic approach can help policy makers, researchers and industry practitioners to better understand the challenges for sustainable industrial transformation.

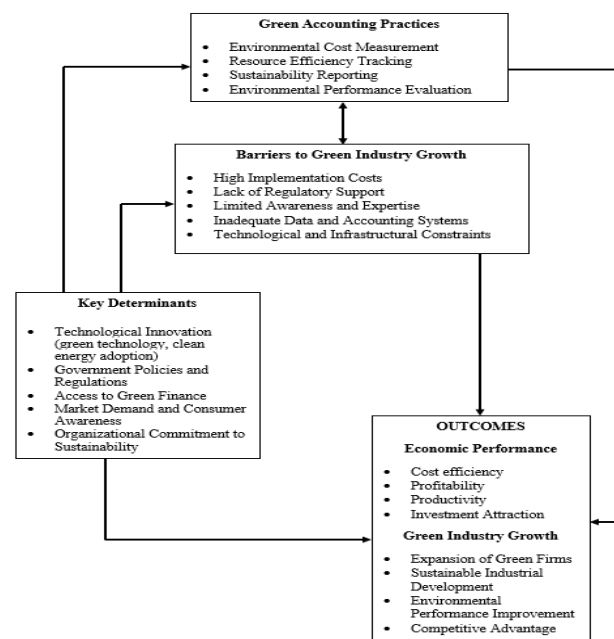


Fig. 2 Conceptual Framework

5. Results

Around 1867 studies were found on the first search of the database on the topic of green industry, sustainability and environmental management. A total of 80 studies were selected after implementing rigorous inclusion and exclusion criteria including relevance, publication quality, time frame (last 13 years) and availability of full text articles. The selected studies are from across the green industry spectrum from renewable energy, clean technologies, sustainable manufacturing and environmental services. The wide range of sectors means a holistic view of the dynamics of the green industry in various economic and industrial settings. The selected articles were analyzed to identify the publication trends, thematic focus and the frequencies of the keywords. The results shown that the term “green industry” was mentioned most frequently, totaling about 64.30% of all the publications analyzed. These represent a high level of research focus on industrial sustainability and sustainable production systems. Furthermore, 60 studies were directly linked to green industry development and 10 studies were linked to risk analysis and 10 studies were linked to risk assessment. These results indicate that, although risk-related aspects are highlighted, most literature concentrates on growth, sustainability and industrial transformation.

5.1 Factors Affecting Green Investment Decisions

In today's context where climate change and environmental degradation are increasingly being addressed, Green investment has become a very important factor in the process of sustainable economic development. More studies on the environment and more studies on the economy are showing a growing tension between economic and environmental considerations. Climate change continues to be a major threat to economic stability with an impact on ecosystems, natural disasters and sustainability challenges. This means that the world is increasingly pushing governments, organizations and corporations to consider environmentally responsible investment strategies. Investment that seeks to lower greenhouse gas emissions, improve energy efficiency and encourage environmentally friendly production, without material effect on the economy. It is the public and private sector investment and has three main elements: low-emission energy supply (including renewable energy, biofuels and nuclear energy); energy efficiency improvement; carbon sequestration (IMF, 2011; Eyraud et al., 2011). The components are key to the shift from a traditional 'brown economy' towards a more sustainable 'green economy. Yet, there are several aspects that affect the decision to make green investments in organizations. Capital costs for green projects is one of the biggest issues. Investments in greenery can be high initial investments with long payback periods, unsuitable for companies that focus on short-term profitability. Also, the advantages of green investments, which are associated with environmental impact and cost savings in the long term, are not always tangible and may not be apparent to investors. The other barriers are limited access to green finance, lack of awareness of sustainable investment opportunities and lack of support in the regulations, lack of environmental responsibility of the business (Ho, 2018). Although policy support for green investment is in development and early stages in many developing economies, this lowers the incentive for companies to embrace green principles. In addition, regulatory policies are not adequately certain and there are no uniform environmental guidelines which increase the risks incurred by investors. The results indicate that it is

important to understand the factors determining green investment decisions to promote sustainable industrial development. The government incentives, financial support mechanisms and environmental regulations and organizational commitment are important influencing factors of green investment behaviour. By addressing these factors, policymakers and business leaders can create an enabling environment that encourages sustainable investment and supports green industry growth.

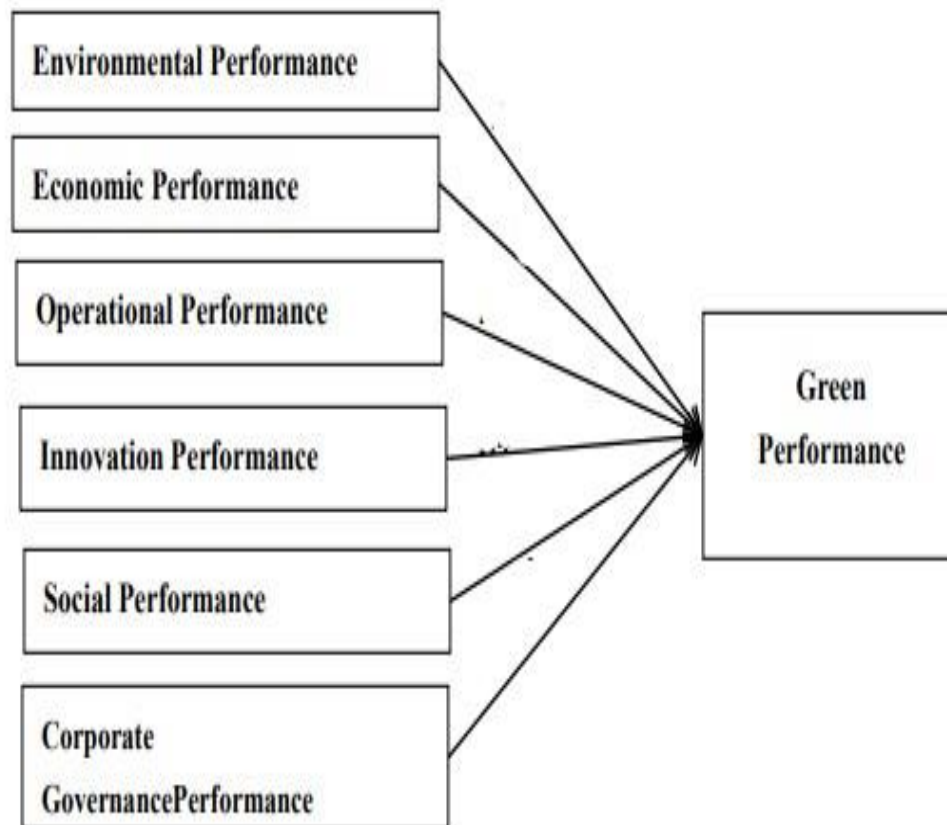
5.2 Green Performance

Green performance involves environmental management to reduce environmental harm (Lee et al., 2018). Green practices include client buying consideration, green purchasing, and eco-friendly corporate process design (Zhu et al., 2010). Green practices and green performance aim to reduce business process environmental impacts and improve environmental management. (Conding et al., 2013). Green practice includes product recycling and environmental compliance (Mahmood et al., 2011). Green business practice leads to green performance (Lin, 2013). Green practices bring cost savings, improved customer response time, efficacy, hazardous material utilization, trash generation and energy savings (Bergmiller & McCright, 2009).

5.3 Green Innovation and Firm performance

Green innovation includes all inventions that create essential products, services, or processes to reduce environmental harm, impact, and deterioration while optimizing natural resource use. Environmental actions can lower production costs and boost economic efficiency, it found. Focusing on items with a much lower environmental impact throughout their lifecycle increased green sales relative to total sales. Green innovation is becoming more crucial for enterprises to create environmental consciousness by making products without harmful and poisonous ingredients (Chiou et al., 2011). Green innovation is essential for companies to achieve sustainable development and contributes to a sustainable society as this environmental trend grows.

Green product innovation fosters effective raw material utilisation, which lowers raw material prices and may drive enterprises to identify novel ways to turn waste into saleable products that generate money (Porter & Linde, 1995). Green product innovation shows the public that the corporation considered the environment, community benefits and social norms when creating the product. It should boost cash flow, corporate performance and reputation, which gives a market edge. The idea that green products have public and private environmental benefits for customers will boost consumer demand. Some research shows that green innovation improves business performance, whereas others don't. Preventing pollution can help a company eliminate environmentally hazardous production processes, rethink product systems to reduce life cycle impacts and produce new goods with lower life cycle costs, lowering expenses. Economic success is a key indicator of green innovation.



- **Environmental Performance (ENP):** Since environmental quality conservation is becoming more important worldwide (Govindan et al., 2015), green business processes aim to improve enterprises' environmental efficacy (Zhu et al., 2008). Thinking green protects the environment from the potential harm of product production processes (Galeazzo et al., 2014, Paulraj, 2009; Shang et al., 2010; Zhu et al., 2008). Along with other measures, environmental management and performance are key to greening corporate processes (Shang et al., 2010). Green practice includes monitoring the environment when choosing suppliers, choosing ethical and environmentally friendly raw materials, a good environment management system, eco-design, planning for collecting and recycling packages and unused product parts and minimizing natural resource consumption. Using less power and water, conserving resources, reducing waste and pollution and considering eutrophication and greenhouse effects are important in green business practices (Verrier et al., 2014). Environmental management regulations drive cost efficiency, green product innovation and profitability (Chan et al., 2016). Environmental performance is an important indication of sustainable performance and should be included in key business decisions to green the process (Chin et al., 2015).
- **Economic Performance (ECP):** Green practice, or pollution reduction, is regularly associated with cost minimization among US commercial carpet manufacturers

(Rusinko, 2007). Green practices minimize manufacturer costs by recycling and reusing waste and other resources (Porter & Van der Linde, 1995). After implementing the 6 Rs of manufacturing remanufacturing, recycling, redesigning, reducing, recovering and reusing green practices become cost-effective (Jawahir et al., 2006). Many nations promoted green manufacturing by using recycled materials and conserving energy (Woo et al., 2016). Green manufacturing is driven by financial gain from trash reuse and recycling (Govindan et al., 2015).

- **Operational Performance (OP):** The efficiency and efficacy of environmentally sustainable methods in an organization's operations is crucial to green performance. Green practices in operational strategies can improve performance, especially when considering agility, green supply chain management, technological innovation and green information systems (Dornfeld, 2014). To increase operational flexibility, delivery, quality and cost, studies recommend linking internal green supply chain management with customer and supplier practices. This holistic strategy improves the environment, saves money, boosts brand reputation and promotes sustainable business (Haider, 2022).
- **Innovative Performance (IP):** According to AR (2012) and El-Kassar and Singh (2019), numerous aspects of green practices are connected to the incorporation of technology, the management of environmental issues and planning, the management of suppliers and the concentration of customers. There is a correlation between green practices and green performances; in certain cases, such output is obtained by the development of some green invention (Coding et al., 2013). According to Carrión-Flores and Innes (2010), green innovation is a modern solution that helps to control environmental pollution and provides society with dynamic solutions that are also more affordable. According to Halil and Rundquist (2011), green innovation, which is sometimes referred to as eco-innovation, contributes to the improvement of ecology, which in turn helps to bring about sustainability in the environment. According to Beise and Rennings (2003), green innovation is the process of developing new business processes, techniques, systems, practices and solutions (products or services) that limit the amount of damage done to the environment. According to Chen et al. (2006), innovative green practices have the potential to contribute to three distinct types of green innovation: green product innovation, green managerial innovation and green business process innovation. According to Ar (2012), green innovation occurs when all the necessary stakeholders collaborate consistently to build a new business solution and management system to minimize the potential adverse effects on the environment.
- **Social Performance (SP):** One of the most important factors that help determine green performance is environmental management, which emphasizes the importance of having a staff that is not only equipped with modern knowledge and skills but also empowered to comply with ever-changing regulatory challenges. This is done to fulfill the company's objective of having an efficient environmental workforce. According to Vachon and Klassen (2008) and Wasko and Faraj (2005), the management of

environmental pressures and problems frequently involves a large number of collaborations between companies and their relationship among regulators, supply chains and other stakeholders. During the process of implementing green management, robust social networks serve as a source of motivation for partners to engage in information exchange and sharing (Lin et al., 2009; Phelps, 2010). Green initiatives unquestionably call for a concerted effort by internal stakeholders, including designers, environmental technicians and research and development professionals, to investigate the effects that these initiatives have on society in terms of both the environment and health (Pujari, 2006).

- **Corporate Governance Performance (CGP):** Generally speaking, political capital, which is a factor that determines corporate governance, makes it easier for companies to obtain readily available subsidies, regulations that support them and tax incentives that encourage them to participate in environmentally responsible business practices. According to Lin et al. (2014), compliance with environmental legislation continues to play a substantial positive impact in green management, however, political capital plays a significantly negative effect in sustainable management. As Constantini and Mazzanti (2012) point out, the impact of regulations and the degree to which they are followed are two of the most important factors that determine some aspects of green performance, such as green innovation. Companies that have a larger board of directors are likely to have access to crucial financial assets to ecological lunch edges (Villiers et al., 2011). This is because larger boards of directors have links with a wider variety of stakeholders and make it easier to share and communicate information about the environment. According to Rodrigue et al. (2013), the directors are most of the people who are accountable for the governance of a company, which means that they are the ones who are primarily responsible for enacting policies concerning environmental issues. Greenhouse gas disclosures are heavily influenced by corporate governance factors such as director ownership, board size, ownership concentration and other similar factors (Tauringana & Chithambo, 2015). According to Brammer and Pavelin (2008), Khan et al. (2013) and Tauringana and Chithambo (2015), a board of directors that is comprised of independent directors contributes to the implementation of environmentally friendly practices and initiatives. This is accomplished by maintaining a mechanism of checks and balances, exerting pressure on management and providing advice regarding external disclosures. According to Matten and Moon (2008) and Muthuri and Gilbert (2011), institutional investors, who are also referred to as social actors, contribute to the performance of a company concerning environmental and social issues through the monitoring and gathering of responsiveness indicators. Significant ownership gives institutional investors a legitimate and powerful position to play a significant part in the design of the company's strategic decisions regarding environmental disclosures (Cotter & Najah, 2012). This is because substantial ownership gives investors the ability to have that position.

Table 4: Measure of Variables

Measure	Variables	Descriptions
Environmental Performance	Air Emissions (Wolf et.al, 2022)	Reduction in pollutants released into the air.
	Solid Wastes (Cortez et.al, 2012)	Minimization and proper disposal of non-liquid waste.
	Hazardous Materials (Wolf et.al, 2022)	Decrease in the use of toxic and dangerous materials.
Economic Performance	Cost Reduction (Ambec et.al., 2013)	Decreasing expenses related to materials and energy consumption.
	Waste Treatment (Widodo, H. 2018)	Lowering the costs associated with treating waste.
	Waste Discharge (Ambec, S., & Lanoie, P. 2008)	Reducing the costs of discharging waste.
Operational Performance	Production Efficiency (Rastogi, M. K. 2010).	Enhancing the efficiency of producing goods.
	Delivery Efficiency (Fu, J. 2017)	Improving the effectiveness of delivering products to customers.
	Resource Utilization (Fu, J. 2017)	Optimizing the use of resources in operations.
Innovation Performance	Green Practices Nguyen, (X. H. et.al ,2013)	Enhancing the efficiency of producing goods.
	Delivery Efficiency (Alhadid, A. Y. et.al 2014)	Improving the effectiveness of delivering products to customers.
	Resource Utilization (Xu, Y., Liang et.al 2022)	Optimizing the use of resources in operations.
Social Performance	Social Accountability (Minass, E. A et.al,2016)	Measures of transparency and ethical Practices in business operations
	Community Involvement (Fauzi, H. 2009).	Degree of engagement and contribution to local communities.
	Social Risk Reduction (Minass, E. A et.al,2016)	Initiatives taken to minimize adverse social impacts.
	Board Independence (Naimah, Z., 2017).	Proportion of independent directors on the board

Corporate Governance Performance	Ownership Concentration (Rossi, M., Nerino, M et.al 2015)	Distribution of company ownership among shareholders
	Transparency and Accountability (Naimah, Z., 2017).	Measures of openness and responsibility in company operations.

6. Findings and Discussion:

The systematic review gives a holistic understanding of the factors affecting the development of green industries, focusing on green investment, green performance and green innovation. This study combines evidence from a number of separate studies and identifies, beyond just what is driving industry growth towards greenness, the drivers that are important in determining how this shift towards sustainable industry will occur.

One of the most important of the finding is on green investment decisions that becomes the backbone of green industry growth. The review suggests that global environmental issues, especially climate change, have driven the need for sustainable investment practices to the fore. Green investment, including energy generation investments, energy efficiency and carbon reduction projects, are vital to industries' transformation to low-carbon, resource efficient models. The results, however, show a long-standing disconnect between theory and practice of green investment. Firms remain reluctant to turn to green investment strategies for financial reasons, particularly because of the high initial investment needed and slow returns from green investments. This is especially true in developing countries where short-term profits are more important than long-term sustainability. The significance of this finding is in its policy and financial system implications. Such transition to sustainable industrial systems will be significantly postponed if green investment continues to be limited. Thus, the results indicate that financial innovation, green financing mechanisms and policy incentives cannot be neglected but are essential for the development of the green industry. Conversely, a paradox arises in the literature on green investments: those studies focusing on the profitability and long term financial returns of green investments, and those focusing on risks and uncertainties concerning green investments. This contradiction is obtained from the variation of the regional environment, institutional support and market maturity. It also implies that enabling conditions outside the investment can also significantly affect the success of the investment to become green, which includes regulatory frameworks and access to finance.

The other significant finding is on the topic of green performance, defined as a multidimensional concept that involves environmental, economic and operational results. The review shows that companies that embrace sustainable practices like eco-friendly product design, waste management, and sustainable supply chains are likely to experience better environmental outcomes and business efficiency. More important, these practices are now more and more associated with a competitive edge in the marketplace. This discovery is important because it undermines the existing notion that it is "environmental responsibility for a price. Rather, it places sustainability on the strategic level and identifies it as an asset to

increase efficiency and market positioning. But there are also some inconsistencies found in the measurement and evaluation of green performance in the study discussion. Some studies highlight environmental parameters like emission reduction, others highlight financial parameters like cost savings and profitability. This non-standardisation makes it unclear to measure the actual effect of green practices. The results show that there is a need for integrated measurement systems of performance that can help close the gap between environmental and economic assessment, such as green accounting. Literature generally neglects a critical, but little explored aspect of green accounting: the role of green accounting. Although its significance has been confirmed in many studies and reports in the area of environmental costs and resource use efficiency, few empirical studies establish a direct connection between green accounting practices and economic performance. This study helps to fill the gap on identifying green accounting as one of the most important tools to help link sustainability initiatives to tangible financial results. The implications of this discovery are that it can change the way management decision making occurs. When environmental costs are integrated into the financial analysis, companies can make better investment decisions, optimize the use of resources and increase transparency.

Meanwhile, there is a paradox on the issue of green accounting. Some research has noted its positive impacts on company performance and accountability, while others have identified practical issues such as the absence of a standardized framework and a lack of skills and resources to implement it. This separation in mind suggests that green accounting, as a concept, needs institutional support, regulatory guidance and institutional capacity building to be put to practice. The results also highlight the pivotal importance of green innovation for both environmental and economic results. Green innovation (the process of developing green products and processes) is always linked to firm performance. It helps companies to lower production expenses, increase resource utilization, and satisfy the rising demand for sustainable products. This strengthens the claim that innovation is a technological process, but also a strategic means to attain sustainability and competitiveness. This is a significant discovery especially given the changing nature of consumer behavior. Increased attention paid to the environment by consumers will provide companies investing in green innovation with market opportunities and long-lasting customer loyalty. Like green investment, green innovation also has a number of obstacles such as shortages of capital, technical problems, and qualified human resources. Furthermore, there are some studies that indicate that the returns from green innovation are not guaranteed and that they may not be obtained right away, which in turn gives rise to the uncertainty that firms experience. This is yet another debate that exists in the literature between the long term advantage and the short term disadvantage on green innovation.

A second key finding of the review is identifying obstacles to the growth of the green industry that will have a major impact on the success of sustainability efforts. The barriers are high implementation costs, poor regulatory enforcement, limited awareness, poor data systems and limitations of infrastructure. These problems are not only operational but systemic problems that impact the green industry development ecosystem. The implications of this finding are in

the realm of policy. Even with the best intentions, sustainability efforts may not be successful without tackling these obstacles. In addition, the results indicate that the development of the green industry is influenced by a combination of economic, environmental and institutional factors. It is not dependent on a single factor but depends on multiple factors such as technological developments, policy support, financial access and organizational commitment. This holistic view is essential as it moves beyond individual interventions to fundamental change. Importantly, the findings help towards the disconnection of the existing literature by offering a holistic framework that connects determinants, green accounting, performance and outcomes. This integrated approach is useful to understand why some companies are successful at implementing sustainable measures, while others aren't. It also highlights the need for the coordination of economic incentives with environmental goals.

The findings of this study highlight that the growth of green industries depends on the effective integration of green investment, green performance, green innovation and green accounting practices, supported by strong institutional frameworks. Addressing existing contradictions and barriers will be essential for accelerating this transition and achieving long-term sustainability goals. These findings matter because they provide actionable insights for policymakers, businesses and researchers. Policymakers must focus on creating enabling environments through financial incentives and regulatory support. Businesses need to adopt a strategic approach to sustainability by integrating environmental considerations into core operations. The study demonstrates that while the transition to green industries presents challenges, it also offers significant opportunities for sustainable economic growth and competitive advantage.

7. Conclusion:

This systematic review offers an overview and integration of all dimensions that can affect the success of the growth of companies listed on the green industry stock exchange. The study investigates a variety of academic, empirical and industrial research literature to provide a comprehensive overview of the drivers and challenges of sustainable industrial development, across the disciplines of environmental science, finance and management. The results show that none of the areas identified alone is sufficient to drive the growth of green industries, but rather a complex interaction of internal and external factors, each of which plays its own role in determining organizational performance and long-term sustainability. This review confirms that several environmental, economic and institutional aspects play a significant role in shaping the development of the green industry. The internal factors including environmental compliance, corporate sustainability programmes, financial results, innovation plans, and the organisation's attitude towards sustainability are significant in shaping the growth trajectory of companies. Meanwhile, external factors such as regulations, market dynamics, stakeholder expectations and access to green finance play a significant role in the capacity of firms to green their operations and to maintain them. These internal and external factors can interact in such a way that synergies emerge and support growth, but they can also conflict, especially when short-term economic considerations are in conflict with long-term sustainability objectives.

The review also highlights the growing trend of incorporating sustainability into the core of business activities. It is not enough for an organisation to simply demonstrate their financial

success; they are now judged on their economic and social contribution and environmental stewardship. This represents the evolution of the sustainability paradigm, which demands that companies take part in protecting the environment, caring for social equity and promote economic development at the same time. In this context, green accounting, environmental performance measurement and corporate governance mechanisms have become indispensable instruments to track and enhance sustainability results. The concept of green accounting is especially significant in the context of the transparency and accountability in environmental management. Including environmental costs and resource use in financial decision-making will allow an organization to gain a better understanding of how much it is costing in reality, and where it can make improvements to become more efficient. Green accounting helps in effective decision making, optimized resources, and organizational commitment to sustainability. Moreover, there is a positive connection between the corporate governance system that places a greater emphasis on environmental and social responsibility and an increase in stakeholder trust and resilience of the business. This study's key finding is the key role that green innovation plays in sustainable industrial development. Firms can lower their environmental footprints and gain operational efficiency and competitiveness through innovation, that is, the development of products, processes and technologies. Green innovation contributes to the reduction of costs and resources, and it also gives companies a better position in the market due to consumers' need for environmental-friendly products. But, green innovation can be hindered by, among others, the high start-up investment costs and the uncertainties surrounding future returns, given the technical limitations. Hence, supportive policies, financial incentives and institutional framework are crucial to foster innovation and transition to green industrial systems. The results also emphasize the multi-dimensionality of the green performance, including environmental, economic, operational, social and governance dimensions. This multi-faceted approach highlights the importance of organizations adopting a comprehensive and integrated approach to sustainability that considers all aspects of sustainability. Companies that integrate environmental and economic and social interests have higher chances of attaining sustainability and competitive advantage in the long term. Furthermore, the focus on green performance illustrates the growing demand of stakeholders and shareholders such as investors, customers and regulators for greater accountability and transparency of company activities. This systematic review also helps to add to existing literature by highlighting the gaps in research and placing a strong foundation for future research. The literature on green industry development has advanced greatly in the understanding of development, yet there remains a gap for research to develop a greater understanding of the dynamic interactions between green accounting, innovation, investment and firm performance in various sectors and regions. Further, there is a need for more empirical studies to look into the challenges faced while making the transition towards greening and suggest effective solutions to these challenges. In terms of policy support, the results of this study support the need to foster an enabling policy environment for the growth of green industry. Policymakers should create and execute regulation, financial incentives and awareness programs to promote sustainable practices and lower the hurdle to green investment. Ensuring a sustainable and resilient industrial ecosystem

requires collaboration between governments, businesses, financial institutions and other stakeholders. Finally, the findings of this systematic review offer a sound and thorough basis to understand the factors that drive the development of green industries. It emphasizes the need for incorporating environmental sustainability into business strategies, and the critical importance of green accounting, innovation and performance measurement in sustainable development. The study provides the academics, policymakers, investors and business leaders with valuable insights based on synthesizing existing knowledge and identifying key determinants for the growth of green industry. In conclusion, the shift towards green industries is a critical step in achieving a balanced and sustainable future, where economic growth and social development are aligned with the preservation of the environment.

Table 5: Summary of Findings, Discussion and Conclusion with Key Insights

Theme / Keyword	Findings	Discussion (Interpretation)	Conclusion (Implication)
Green Investment	Green investment is essential for reducing carbon emissions and promoting sustainable industrial development. However, it is constrained by high capital costs, lack of awareness and weak regulatory support.	The transition from a “brown economy” to a “green economy” requires significant financial restructuring. Investment risks and delayed returns discourage firms, especially in developing economies.	Strengthening green finance mechanisms, policy incentives and awareness programs is crucial to promote green investment and accelerate sustainable industrial growth.
Economic Growth	Green industry contributes to GDP growth, employment generation and long-term economic stability through efficient resource utilization and innovation.	Sustainable economic growth requires balancing environmental and economic objectives. Green growth ensures that development does not come at the cost of environmental degradation.	Policymakers must integrate green growth strategies into national economic planning to achieve inclusive and sustainable development.
Green Accounting	Green accounting helps organizations measure environmental costs, improve resource efficiency and enhance decision-making. However, its adoption	Integrating environmental costs into financial systems increases transparency and supports sustainable business strategies. It bridges the	Organizations should adopt green accounting practices to improve sustainability reporting, resource optimization and

	remains limited due to lack of standardized frameworks and awareness.	gap between economic performance and environmental responsibility.	long-term financial performance.
Green Performance	Green performance includes environmental management practices such as waste reduction, energy efficiency and regulatory compliance, leading to improved sustainability outcomes.	Firms implementing green practices achieve both environmental and operational benefits, including cost savings and improved efficiency. It reflects a shift toward responsible business practices.	Companies must adopt comprehensive green performance strategies to enhance competitiveness and meet stakeholder expectations.
Green Innovation	Green innovation improves resource efficiency, reduces environmental impact and enhances firm competitiveness and market reputation.	Innovation is a key driver of sustainability, enabling firms to develop eco-friendly products and processes. However, it requires high investment and long-term commitment.	Encouraging R&D, providing financial incentives and supporting innovation ecosystems are essential to promote green innovation.
Firm Performance	Green innovation positively influences firm performance by reducing costs, increasing efficiency and improving market share.	Firms that adopt sustainable practices gain competitive advantage and customer trust. However, results may vary depending on industry and resources.	Sustainable practices should be integrated into core business strategies to ensure long-term profitability and resilience.
Environmental Sustainability	Environmental sustainability is achieved through reduced emissions, efficient resource use and adoption of clean technologies.	Sustainability is no longer optional but a necessity due to increasing environmental concerns and regulatory pressures.	Businesses must align their operations with sustainability goals to ensure long-term survival and compliance.
Corporate Governance	Strong corporate governance supports environmental	Governance structures influence the adoption of sustainability	Firms should strengthen governance

	accountability, transparency and ethical decision-making.	practices and stakeholder trust.	frameworks to integrate environmental and social responsibility into decision-making.
Policy & Regulation	Weak or inconsistent policies hinder green industry growth, while strong regulations promote sustainable practices.	Government support plays a critical role in shaping industrial behavior and encouraging green transitions.	Effective policy frameworks and regulatory enforcement are necessary to create an enabling environment for green industries.
Barriers to Green Adoption	Major barriers include high costs, lack of awareness, technological limitations and insufficient institutional support.	These barriers create resistance to change and slow down the adoption of green practices, particularly in developing economies.	Addressing these barriers through education, financial support and infrastructure development is essential for green industry expansion.

8. References

- AAYOG, N. (2016). Employment (Vision 2020). Retrieved from [niti.gov.in: https://niti.gov.in/planningcommission.gov.in/docs/reports/genrep/bkrap2020/32_bg2020.pdf](https://niti.gov.in/planningcommission.gov.in/docs/reports/genrep/bkrap2020/32_bg2020.pdf)
- Abdullah, M. W., & Amiruddin, H. (2020). Effect of Green Accounting on Material Flow Cost Accounting in Increasing the Sustainability of the Company. *Ekuitas (Journal of Economics and Finance)*, 4(2), 166–186. <https://doi.org/10.24034/j25485024.y2020.v4.i2.4145>
- Alhadid, A. Y., & As'ad, H. A. R. (2014). The Impact of green innovation on organizational performance, environmental management behavior as a moderate variable: An analytical study on Nuqul group in Jordan. *International Journal of Business and Management*, 9(7), 51.
- Ambec, S., & Lanoie, P. (2008). Does it pay to be green? A systematic overview. *The Academy of Management Perspectives*, 45-62.
- Ambec, S., Cohen, M. A., Elgie, S., & Lanoie, P. (2013). The Porter hypothesis at 20: can environmental regulation enhance innovation and competitiveness?. *Review of environmental economics and policy*.

- Aminah, A., & Noviani, (2014). Analysis of The Application of Environmental Accounting at Mardi Waluyo Metro Hospital. *Journal of Accounting and Finance*, 5(2), 1–16. <https://doi.org/10.36448/jak.v5i2.541>
- Aniela, Y. (2012). The Role of Environmental Accounting in Improving the Company's Environmental Performance and Financial Performance. *Scientific Periodicals of Accounting Students*, 1(1), 15–19. <http://journal.wima.ac.id/index.php/BIMA/article/view/24/22>.
- Ar, I. M. (2012). The impact of green product innovation on firm performance and competitive capability: the moderating role of managerial environmental concern. *Procedia-Social and Behavioural Sciences*, 62, 854-864. <https://doi.org/10.1016/j.sbspro.2012.09.144>
- Beise, M., & Rennings, K. (2003). Lead markets of environmental innovations: a framework for innovation and environmental economics. <https://doi.org/10.2139/ssrn.428460>
- Brammer, S., & Pavelin, S. (2008). Factors influencing the quality of corporate environmental disclosure. *Business strategy and the Environment*, 17(2), 120-136. <https://doi.org/10.1002/bse.506>
- Bui, T. and Hà, N. (2017). National policy on green growth in Vietnam. Cassetta, E., & Pini, M. (2017). The green investments and competitiveness of the Italian manufacturing system. *Sinergie Italian Journal of Management*, 102, 141-163.
- Chabowski, B. R., Mena, J. A., & Gonzalez-Padron, T. L. (2011). The Structure of Sustainability Research in Marketing, 1958–2008: A Basis for Future Research Opportunities. *Journal of the Academy of Marketing Science*, 39(1), 55–70. <https://doi.org/10.1007/s11747-010-0212-7>
- Chan, H. K., Yee, R. W., Dai, J., & Lim, M. K. (2016). The moderating effect of environmental dynamism on green product innovation and performance. *International Journal of Production Economics*, 181, 384-391. <https://doi.org/10.1016/j.ijpe.2015.12.006>
- Chen, Y.-S., Lai, S.-B., & Wen, C.-T. (2006). The influence of green innovation performance on corporate advantage in Taiwan. *Journal of Business Ethics*, 67(4), 331-339. <https://doi.org/10.1007/s10551-006-9025-5>
- Chin, T. A., Tat, H. H., & Sulaiman, Z. (2015). Green supply chain management, environmental collaboration and sustainability performance. *Procedia Cirp*, 26, 695-699. <https://doi.org/10.1016/j.procir.2014.07.035>
- Chiou, T. Y., Chan, H. K., Fiona, Chung, & Ho, S. (2011). The influence of greening the suppliers and green innovation on environmental performance and competitive advantage in Taiwan. *Transportation Research*, 837-849
- Conding, J., Zubir, A. F. M., Hashim, S., Lanang, N. A. S., & Habidin, N. F. (2013). The investigation of green practices, green innovation and green performance in Malaysian automotive industry. *Environmental Management and Sustainable Development*, 2(1), 1. <https://doi.org/10.5296/emsd.v2i1.2683>

- Conding, J., Zubir, A. F. M., Hashim, S., Lanang, N. A. S., & Habidin, N. F. (2013). The investigation of green practices, green innovation and green performance in Malaysian automotive industry. *Environmental Management and Sustainable Development*, 2(1), 1. <https://doi.org/10.5296/emsd.v2i1.2683>
- Cortez, M. A. A., & Cudia, C. P. (2012). Environmental innovations and financial performance of Japanese automotive and electronics companies. *Green Growth: Managing the Transition to a Sustainable Economy: Learning by Doing in East Asia and Europe*, 173-190.
- Costantini, V., & Mazzanti, M. (2012). On the green and innovative side of trade competitiveness? The impact of environmental policies and innovation on EU exports. *Research Policy*, 41(1), 132-153. <https://doi.org/10.1016/j.respol.2011.08.004>
- Cotter, J., & Najah, M. M. (2012). Institutional investor influence on global climate change disclosure practices. *Australian Journal of Management*, 37(2), 169-187. <https://doi.org/10.1177/0312896211423945>
- Dornfeld, D. A. (2014). Moving towards green and sustainable manufacturing. *International Journal of Precision Engineering and Manufacturing-Green Technology*, 1(1), 63-66. <https://doi.org/10.1007/s40684-014-0010-7>
- Elkington, J. (1997). *Cannibals With Forks*. Capstone Publishing Limited Oxford Centre
- Eyraud, L., Clements, B., & Wane, A. (2013). Green investment: Trends and determinants. *Energy Policy*, 60, 852-865.
- Fakoya, M. (2014). An Adjusted Material Flow Cost Accounting Framework for Process Waste-Reduction Decisions in the South African. March.
- Fauzi, H. (2009). Corporate social and financial performance: Empirical evidence from American companies. *Globsyn Management Journal*, Forthcoming.
- Fu, J. (2017). Evaluating and Improving the Transport Efficiency of Logistics Operations (Doctoral dissertation, KTH Royal Institute of Technology).
- Galeazzo, A., Furlan, A., & Vinelli, A. (2014). Lean and green in action: interdependencies and performance of pollution prevention projects. *Journal of Cleaner Production*, 85, 191-200. <https://doi.org/10.1016/j.jclepro.2013.10.015>
- Govindan, K., Diabat, A., & Shankar, K. M. (2015). Analyzing the drivers of green manufacturing with fuzzy approach. *Journal of Cleaner Production*, 96, 182-193. <https://doi.org/10.1016/j.jclepro.2014.02.054>
- Gray, R. (2010). Is Accounting for Sustainability Accounting for Sustainability and How Would We Know? An Exploration of Narratives of Organisations and The Planet. *Accounting, Organizations and Society*, 35(1), 47-62. <https://doi.org/10.1016/j.aos.2009.04.006>
- Haider, Yaseen. (2022). Assessing Impact on Operational Performance with Green Information System and Mediation of Green Innovation. *Quaid-e-Awam University Research Journal of Engineering, Science & Technology*. 20. 78-89. [10.52584/QRJ.2002.11](https://doi.org/10.52584/QRJ.2002.11).

- Halila, F., & Rundquist, J. (2011). The development and market success of eco-innovations: A comparative study of eco-innovations and “other” innovations in Sweden. *European Journal of Innovation Management*, 14(3), 278-302. <https://doi.org/10.1108/14601061111148807>
- Hồ, T. (2018). Impact of green consumption trends on Vietnamese businesses. Available at: < <http://scp.gov.vn/tin-tuc/t10537/tac-dong-cua-xu-huong-tieu-dung-xanh-den-doanh-nghiep-vietnam.html> > [Accessed 23 March 2020]
- infoDev. (2014). *Building Competitive Green Industries: The Climate and Clean Technology Opportunity for Developing Countries*. Washington DC: World Bank
- Jawahir, I., Dillon, O., Rouch, K., Joshi, K. J., Venkatachalam, A., & Jaafar, I. H. (2006). Total life-cycle considerations in product design for sustainability: A framework for comprehensive evaluation. Paper presented at the Proceedings of the 10th International Research/Expert Conference, Barcelona, Spain.
- Lee, J. W., Kim, Y. M., & Kim, Y. E. (2018). Antecedents of adopting corporate environmental responsibility and green practices. *Journal of Business Ethics*, 148(2), 397-409. <https://doi.org/10.1007/s10551-016-3024-y>
- Li, Xiangtao, Xiaofang Jiaand Baojian Xie., (2023) "Green Innovation Effect of Public Resource Trading Centers: An Empirical Study Based on China's A-share Listed Companies." *Polish Journal of Environmental Studies*.
- Lin, M.-J. J., Hung, S.-W., & Chen, C.-J. (2009). Fostering the determinants of knowledge sharing in professional virtual communities. *Computers in Human Behavior*, 25(4), 929-939. <https://doi.org/10.1016/j.chb.2009.03.008>
- Lin, R.-J. (2013). Moderating effects of total quality environmental management on environmental performance. *African Journal of Business Management*, 5(20), 8088-8099. <https://doi.org/10.5897/AJBM10.1399>
- Loen, M. (2018). Application of Green Accounting and Material Flow Cost Accounting (Mfca) towards Sustainable Development. *Journal of Accounting and Business Krisnadwipayana*, 5(1), 1–14. <https://doi.org/10.35137/jabk.v5i1.182>
- Mahmood, W. H. W., Ab Rahman, M. N., & Deros, B. M. (2011). The relationship between manufacturing system performance and green practices in supply chain management. *Practice*, 5, 6.
- Marota, R. (2017). Green Concepts and Material Flow Cost Accounting Application for Company Sustainability. *Indonesian Journal of Business and Entrepreneurship*, 3(1), 43–51. <https://doi.org/10.17358/ijbe.3.1.43>.
- Matten, D., & Moon, J. (2008). “Implicit” and “explicit” CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of management Review*, 33(2), 404-424. <https://doi.org/10.5465/amr.2008.31193458>
- Minass, E. A., & Konipo, D. (2016). Social performance and market performance of stocks:(Evidence from public listed firms in Sweden)

- Muthuri, J. N., & Gilbert, V. (2011). An institutional analysis of corporate social responsibility in Kenya. *Journal of Business Ethics*, 98(3), 467-483. <https://doi.org/10.1007/s10551-010-0588-9>
- Naimah, Z. (2017). The role of corporate governance in firm performance. In *SHS Web of Conferences* (Vol. 34, pp. 1-6).
- Nakajima, M., Kimura, A., & Wagner, B. (2015). Introduction Of Material Flow Cost Accounting (MFCA) To the Supply Chain: A Questionnaire Study on The Challenges of Constructing a Low-Carbon Supply Chain to Promote Resource Efficiency. *Journal of Cleaner Production*, 108, 1302–1309. <https://doi.org/10.1016/j.jclepro.2014.10.044>
- Nguyen, X. H., Nguyen, K. L. N. K. L., Nguyen, T. V. H., & Nguyen, T. T. H. (2023). Driving Factors for Green Innovation in Vietnamese Construction Enterprises. *International Journal of Professional Business Review*, 8(6), e02356-e02356.
- OECD. (2011). Development Co-operation Report. OECD
- Patel, P. C., João, M., Pagano, M. S., & Olson, G. T. (2020). Industry Profitability Matters: The Value of Sustainable Growth Rate and Distance from Bankruptcy as Enablers of Venture Survival. *Journal of Business Research*, 114(April), 80–92. <https://doi.org/10.1016/j.jbusres.2020.04.004>.
- Patrick, Enu., E.H.O. (2013). Impact of macroeconomic factors on Industrial production in 19 Ghana. *European Scientific Journal*, 238-254
- Paulraj, A. (2009). Environmental motivations: a classification scheme and its impact on environmental strategies and practices. *Business strategy and the Environment*, 18(7), 453-468. <https://doi.org/10.1002/bse.612>
- Phelps, C. C. (2010). A longitudinal study of the influence of alliance network structure and composition on firm exploratory innovation. *Academy of Management Journal*, 53(4), 890-913. <https://doi.org/10.5465/amj.2010.52814627>
- Porter, M., & Van der Linde, C. (1995). Green and competitive: ending the stalemate. *The Dynamics of the eco-efficient economy: environmental regulation and competitive advantage* (p. 33).
- Pujari, D. (2006). Eco-innovation and new product development: understanding the influences on market performance. *Technovation*, 26(1), 76-85. <https://doi.org/10.1016/j.technovation.2004.07.006>
- Qian, H., Li, P., Howard, K. W. F., Yang, C., & Zhang, X. (2012). Assessment Of Groundwater Vulnerability in The Yinchuan Plain, Northwest China using OREADIC. *Environmental Monitoring and Assessment*, 184(6), 3613–3628. <https://doi.org/10.1007/s10661-011-2211-7>
- Rastogi, M. K. (2010). Production and operation management. Laxmi Publications, Ltd..
- Ratulangi, A. V. J., Pangemanan, S., & Tirayoh, V. (2018). Analysis of the Application of Environmental Accounting to the Operational Costs of Waste Management at The Manado Pancaran Kasih Hospital. *Going Concern: Accounting Research Journal*, 13(04), 410–418. <https://doi.org/10.32400/gc.13.03.20292.2018>.

- Rodrigue, M., Magnan, M., & Cho, C. H. (2013). Is environmental governance substantive or symbolic? An empirical investigation. *Journal of Business Ethics*, 114(1), 107-129. <https://doi.org/10.1007/s10551-012-1331-5>
- Rossi, M., Nerino, M., & Capasso, A. (2015). Corporate governance and financial performance of Italian listed firms. The results of an empirical research. *Corporate Ownership & Control*, 12(2), 628-643.
- Rusinko, C. (2007). Green manufacturing: an evaluation of environmentally sustainable manufacturing practices and their impact on competitive outcomes. *IEEE Transactions on Engineering Management*, 54(3), 445-454. <https://doi.org/10.1109/TEM.2007.900806>
- Samad, G. (2015). Green Growth: Important Determinants. *The Singapore Economic Review*, 1-15.
- Shang, K.-C., Lu, C.-S., & Li, S. (2010). A taxonomy of green supply chain management capability among electronics-related manufacturing firms in Taiwan. *Journal of Environmental Management*, 91(5), 1218-1226. <https://doi.org/10.1016/j.jenvman.2010.01.016>
- Sharma, G. D., Singh, G., & Singh, S. (2011). Impact of Macroeconomic variables on economic performance: An Empirical study of India and SriLanka. *SSRN Electronic Journal*.
- Sivalogasthasan and, V., & Wu, X. (2014). The effect of foreign direct investment on innovation in south asian emerging markets. *Global Business and Organizational Excellence*, 63-76.
- Tauringana, V., & Chithambo, L. (2015). The effect of DEFRA guidance on greenhouse gas disclosure. *The British Accounting Review*, 47(4), 425-444. <https://doi.org/10.1016/j.bar.2014.07.002>
- Tien, N. H., Anh, D. B. H., & Ngoc, N. M. (2020). Corporate financial performance due to sustainable development in Vietnam. *Corporate Social Responsibility and Environmental Management*, 27(2), 694–705. <https://doi.org/10.1002/csr.1836>.
- UNESCAP (2006). Conceptual framework for green economy/green growth.
- Vachon, S., & Klassen, R. D. (2008). Environmental management and manufacturing performance: The role of collaboration in the supply chain. *International Journal of Production Economics*, 111(2), 299-315. <https://doi.org/10.1016/j.ijpe.2006.11.030>
- Verrier, B., Rose, B., Caillaud, E., & Remita, H. (2014). Combining organizational performance with sustainable development issues: the Lean and Green project benchmarking repository. *Journal of Cleaner Production*, 85, 83-93. <https://doi.org/10.1016/j.jclepro.2013.12.023>
- Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly*, 29(1), 35-57. <https://doi.org/10.2307/25148667>
- Widodo, H. (2018, January). Economic Performance and Factors Affecting The Context Socio Economic Environmental Accounting (SEEA). In 1st International Conference on Intellectuals' Global Responsibility (ICIGR 2017) (pp. 10-14). Atlantis Press.

- Winarno, O. T., Alwendra, Y., & Mujiyanto, S. (2016). Policies And Strategies for Renewable Energy Development in Indonesia. 2016 IEEE International Conference on Renewable Energy Research and Applications (ICRERA), 5, 270–272. <https://doi.org/10.1109/ICRERA.2016.7884550>
- Wolf, M. J., Emerson, J. W., Esty, D. C., Sherbinin, A. D., & Wendling, Z. A. (2022). 2022 Environmental Performance Index (EPI) results. New Haven, CT: Yale Center for Environmental Law & Policy.
- Woo, C., Kim, M. G., Chung, Y., & Rho, J. J. (2016). Suppliers' communication capability and external green integration for green and financial performance in Korean construction industry. *Journal of Cleaner Production*, 112, 483-493. <https://doi.org/10.1016/j.jclepro.2015.05.119>
- Xie, X., Zeng, S., & Tam, C. M. (2010). Overcoming barriers to innovation in SMEs in China: A perspective based cooperation network. *Innovation*, 12(3), 298-310. <https://doi.org/10.5172/impp.12.3.298>
- Xu, Y., Liang, J., Dong, Z., & Shi, M. (2022). Can environmental regulation promote green innovation and productivity? The moderating role of government interventions in urban China. *International Journal of Environmental Research and Public Health*, 19(21), 13974.
- Zhang D., Rong Z., Ji Q. Green innovation and firm performance: Evidence from listed companies in China. *Resources, Conservation and Recycling*, 144, 48, 2019.
- Zhu, Q., Geng, Y., Fujita, T., & Hashimoto, S. (2010). Green supply chain management in leading manufacturers: Case studies in Japanese large companies. *Management Research Review*, 33(4), 380-392. <https://doi.org/10.1108/01409171011030471>
- Zhu, Q., Sarkis, J., & Lai, K.-H. (2008). Confirmation of a measurement model for green supply chain management practices implementation. *International Journal of Production Economics*, 111(2), 261-273. <https://doi.org/10.1016/j.ijpe.2006.11.029>