



## Article

# Examining the Correlation Between Sustainable Supply Chains and Economic Growth in the United States

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**Abstract:** This study addresses the critical intersection of climate change, depleting natural resources, and the urgent need for sustainability initiatives to ensure long-term economic growth and environmental conservation. With a growing demand for eco-friendly products and sustainable business practices, the role of supply chain management in promoting sustainable development has become increasingly significant. Hou et al. (2023) highlighted the convergence between sustainability and supply chains, identifying areas for future research. However, the relationship between sustainable supply chains and economic growth in the United States remains underexplored. This qualitative research aims to investigate this correlation by analyzing relevant literature and empirical studies. The findings will offer recommendations to support the United States in achieving its sustainability and economic growth objectives, considering its position as a global leader.

**Keywords:** Sustainability, Supply Chain Management, Economic Growth, Climate Change, United States

## 1. Introduction

### Background and Justification

The subject of sustainability has gotten widespread attention all over the globe. Now, the same attention has been drawn to the need for sustainable supply chains and how business activities impact the environment and society at large. Therefore, companies have started adopting sustainable business practices, particularly in the area of the management of the chain of supply [1]. Hence, the implementation of processes, procedures and practices that are socially and environmentally responsible within the entire supply chain process is known as sustainable supply chains. One country that is leading the drive towards sustainability is the United States as it is one of the largest economies in the world. Another top priority of the US is economic growth, can it then be said that there is a connection between economic growth and sustainable supply chains? This is one of the questions this study seeks to address through qualitative research. The goal here is to examine the correlation between sustainable supply chains and economic growth in the United States, while emphasizing its implications to policymakers and practitioners [2].

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### **Statement of the Problem**

Due to the global request to conserve the environment by being socially responsible, sustainable supply chains have become a crucial subject for both the policymakers and practitioners. As a result, there has been an upshoot in the amount of research conducted on supply chain management and sustainable business practices. Despite the rise in the number of studies done in this area, there is still a research gap in the provision of proper insights into the correlation between sustainable supply chains and economic growth with a key focus on the US [3]. Therefore, the aim of this study is to bridge this research gap by providing detailed insights into the kind of relationship that exists between sustainable supply chains, economic growth and how they both impact each other in the US.

### **Research Objectives**

The major objective of this study is to examine the correlation between sustainable supply chains and economic growth in the United States [4]. This will be achieved by identifying if a relationship truly exists between sustainable supply chains and economic growth, the components that impact this relationship, then proffer recommendations for the policy makers, practitioners, and future researchers. Therefore, the specific objectives of this study include:

1. To review the present state of supply chain management and sustainability practices in the United States.
2. To pinpoint the major contributors to sustainable supply chains in the United States.
3. To examine the correlation between sustainable supply chains and economic growth, particularly in the United States.
4. To offer recommendations for policy makers, practitioners, and future researchers.

### **Research Questions**

1. Is there a relationship between sustainable supply chains and economic growth in the United States?
2. What kind of relationship exists between sustainable supply chains and economic growth in the United States?
3. What are the key drivers of this relationship?
4. Does the practice of sustainable supply chains have implications to the policymakers, practitioners, future researchers, and the economy of the US?

### **Importance and Influence of the Study**

This research is extremely important as it provides helpful information on the importance of sustainable supply chains and how it impacts sustainable economic growth in the US, while addressing an existing gap [5]. According to Lis et al. (2020), the concept of sustainable supply chains is complicated and multi-layered, spanning from its economical, to the environmental and social aspects. Hence, the knowledge derived from the study can provide businesses with the required knowledge on how sustainable business practices can impact economic growth. This can be very instrumental for businesses, especially in the area of decision making. It can also help them in the integration of sustainability in their supply chain practices [6]. On the academic side, this paper adds to the existing literature on the subject while laying particular emphasis to the United States. Additionally, policymakers can use the insight from this paper in making informed decisions that can enhance the growth of the economy. This can be achieved by making sustainability a priority and creating policies and initiatives that could help drive

this goal. Therefore, this study is important in promoting the United States' effort as a global leader in the drive for sustainability and economic growth [7].

#### **Literature Review. Overview of the Concept of Sustainable Supply Chains.**

According to Sánchez-Flores et al. (2020), sustainable supply chain management has gained popularity recently because of the rising concern for societal and environmental issues. The concept of sustainable supply chains holds that the resources, materials, processes, procedures, products, and all activities involved in the management of the process from demand to supply are conducted in a manner that encourages economic, environmental, and social sustainability [8]. The aim of this concept is to reduce the environmental and societal impact of supply chain activities through the use of renewable energy, labor practices that are ethical and the use of sustainable materials to promote stability and reduce carbon footprint. This in turn can present benefits such as the reduction of costs, increase in efficiency, and ultimately output. Hence, the implementation of sustainable supply chain practices has become a growing trend among businesses. This is evident in the study conducted by Farooq et al. (2021) to examine the relationship between sustainability practices and the supply chains with emphasis on its pros, cons, and directions for the effective incorporation of sustainable practices in supply chains [9].

#### **Economic Growth, Sustainable Development, and its Importance in the United States.**

Economic growth is defined as a situation in which the production of goods and services increases in an economy within a specified period of time, usually one year. It is often measured by the real Gross Domestic Products' (GDP) growth rate [10]. Economic growth encourages improved productivity and output as a result of advancements in innovation of technology [11]. The United Nations defined sustainable development in their report as the process of satisfying the needs of today without negatively impacting the chances of others to meet theirs in future [12]. According to Stiglitz & Rosengard (2015) sustainable growth is the consistent rise in social welfare without destroying the environment or exhausting the natural resources. Additionally, Aguilera et al (2006) emphasized the importance of sustainable supply chains in the promotion of business practices that are ethical, socially, and environmentally responsible, while ensuring long-term economic progress and stability in the US. In order to achieve a comprehensive socially and environmentally conscious economic growth, sustainable development is particularly important (United Nations Department of Economic and Social Affairs, 2015) [13].

Therefore, the reduction of costs, improvement of the performance of the environment, increase in competition and efficiency are some of the key benefits of engaging in sustainability practices [14]. Also, economic growth is crucial for the creation of jobs, the improvement of the standards of living, innovation, efficiency in the allocation of resources and reduction of waste. This is because when companies engage in sustainable practices, they stand a chance of experiencing an increase in the growth rates, returns on their investment, market value, while aligning them for success in the global market in the long-run. This is evident in the study conducted by Govindan et al (2020), where the positive impact that sustainable practices have on the performance of businesses were highlighted [15]. Meaning that sustainable business practices like the incorporation of sustainability in the supply chain activities can be a driver of economic growth. Khan et al. (2021) and Okoye et al. (2024) concurs to this by adding that business success and economic viability can be a product of practicing sustainable supply chains [7]. Therefore, this review contributes to the existing body of literature on this subject, while addressing the present research gap and proffering recommendations that could aid the US as a global leader in their drive for sustainability and economic growth [16].

### **Sustainable Supply Chains and Competitiveness**

The adoption of sustainable supply chain practices has the ability to provide the business with a competitive advantage by attracting new customers that are loyal to the sustainability initiative to the business [17]. This will in turn lead to the reduction of risks, costs, and the improvement of the brand image. Lis et al. (2020) highlighted the intricacies of sustainable supply chains to include the economic, environmentally, and societal aspects. Its multilayered nature gives rise to this comprehensive method of understanding the impact sustainable supply chains have on sustainable economic growth. Hence, there is need for future researchers to conduct a study that includes all the aspects of sustainability while highlighting the importance of comprehensive models to capture the complex balance between these dimensions [18].

### **Government Policies & its Promotion of Sustainable Supply Chains**

The government plays a vital role in the promotion of sustainable supply chains through the use of various methods of intervention such as subsidies, tax incentives, policies, and regulations [19]. These instruments used by the government help in encouraging business and society to adopt sustainable practices that positively impact the growth of the economy. The significance of the support of the government in promoting sustainable supply chains was also highlighted by Cai & Choi (2020) as sustainable supply chains are relevant for the achievement of the United Nations' Sustainable Development Goals. Delabre et al. (2020) conducted a similar review with a focus on the examination of the current means used to promote tropical forest protection and supply chains that are sustainable, while aligning with the Sustainable Development Goals (SDGs). Therefore, De Lima et al. (2022) called for the creation and adoption of government policies that can help in curtailing the uncertainties in the sustainable supply chain [20].

### **Prior Research, Restrictions and Theoretical Framework**

There have been numerous studies on sustainable supply chains and economic growth from various perspectives. One of these studies is that of Stroumpoulis & Kopanaki (2022) that discussed the integration of digital transformation in the sustainable supply chain management processes emphasizing that technology can be a great promoter of sustainability. The findings of their research create another area that future researchers can explore further. Furthermore, the relationship between sustainable supply chains and economic growth was further explored by Moshood et al. (2021) with a focus on manufacturing industries and how green practices practically impact economic outcomes. The study conducted by Mageto (2021) also focused on the manufacturing industry but this time, the integration of big data analytics into the sustainable supply chain practices was their focus [21].

Additionally, Akbari and McClelland (2020) identified the major trends and themes of sustainable supply chains confirming that a relationship exists between corporate citizenship, sustainable supply chains and corporate social responsibility [22]. Zhang et al. (2023) took this a step further by providing a holistic examination of the smart supply chain practices implemented in North America, particularly in the context of industry 4.0. While Shishodia et al. (2023) focused on the resilience of the supply chain while providing a theoretical structure for its proper interpretation. Another similar study was conducted by Joshi (2022) with emphasis on the network design of sustainable supply chains [23]. The major aspects, models and concepts that relate to this subject were reviewed and recommendations were made. According to Park and Li (2021), blockchain technology can enhance numerous aspects of sustainability, like the promotion of ethical business activities, the increase in transparency and the reduction of waste. Similarly, Paliwal et al. (2020) went a step further by proposing the use of a classification framework as a means of guiding future researchers. All these studies center around sustainability, supply chains and economic growth. However, the correlation between sustainable supply chains and

economic growth in the United States remains a topic that needs to be critically examined. Therefore, addressing this research gap is the crux of this study [24].

## **2. Materials and Methods**

### **Research Design and Approach**

The qualitative research approach was used to examine the correlation between sustainable supply chains and economic growth in the United States. This approach was chosen on the basis of its ability to create an avenue for an in-depth analysis and interpretation of the intricacies and distinctions of the subject matter. Furthermore, the focus of this study is on the United States of America, as they play a significant role in the global sustainability drive, as well as economic growth. Thereby bridging the research gap in this area while adding to the existing literature available on this subject [25].

### **Methods of Data Collection and Analysis**

In order to effectively achieve our goal, the source of data collection was mainly through the thorough review of related works on this subject. The sources of the data were solely based on its dependability, significance, and the level of thoroughness of the review conducted. Then, the data gathered were prearranged and organized using the content and thematic method of data analysis. This systematic approach is used to classify data based on the applicable patterns and themes. In addition to this, a case study methodology was adopted in order to bring realism to this study by drawing the relevant case studies from secondary sources like publications from industries, reports from the government and academic journals of repute [26].

### **Rationale and Dependability of the Analytical Structure**

The reliability and rationality of the findings of this study is guaranteed by the means in which the relevant data were identified, collected, and arranged into themes based on their categories [27]. This provides an avenue for the critical analysis of the correlation between sustainable supply chains and economic growth, particularly in the United States. Then, the analysis and interpretation of the findings were based on the theories discovered from existing literature and the research outcomes. Thereby creating an atmosphere for methodological and realistic data analysis that its results are both valid and dependable. The use of the case study approach also adds to the credibility of this paper as it showcases how companies have been able to incorporate sustainable supply chain practices in such a way that it impacts the growth of the economy. Additionally, the methods used in this study supports the United States efforts as a leader in the global economy and in its drive for more sustainable business practices through the provision of in-depth insights into the interplay that exist between the growth of the economy and supply chains that are sustainable [28].

## **3. Results and Discussion**

### **Overview of Findings**

The research findings unveil the existence of a positive correlation between economic growth and sustainable supply chains in the United States and there are certain factors that drives this relationship. These factors include increased social awareness and responsibility, business savings of cost and better performance of the environment. Jia et al. (2020), confirmed that sustainability practices in the industry have the ability to reduce costs, economic and environmental outcomes. Therefore, the findings from the data collected and reviewed shows that supply chains that are sustainable impact the economic growth of the United States in a positive manner [29]. On the company side, when sustainable business practices are integrated into the management of the supply chains of companies, it can lead to better performance, cost reduction, and improve competitive advantage. Furthermore, supply chain business practices that are sustainable can drive technological development through the promotion of innovation which in turn enhances

economic growth. This study has immense contribution as it supports the global drive of the United States for more sustainable business practices, while adding substantial value to the existing literature [30].

#### **Correlation between Sustainable Supply Chains and Economic Growth in the United States.**

Based on the findings of this research, the convincing correlation between sustainable supply chains and economic growth in the US holds its bases on how one parameter impacts the other. Now, in a case where two parameters are reviewed to determine the impact of one on the other, it is important to note that three outcomes are probable. The first outcome is the existence of a positive relationship, the second outcome is the existence of a negative relationship while the third outcome is the existence of neither. However, in this case, this study reveals that the relationship that exists between sustainable supply chains and economic growth is a positive one. Meaning that when sustainable supply chain practices are engaged, it will lead to economic growth in the United States. Negri et al. (2021) conducted a review that highlighted the possible benefits of incorporating sustainability and resilience, while providing recommendation for future researchers in this field. Companies can achieve this by the adoption of the triple bottom line approach that drives the reduction of costs, improvement of the environmental and social performance, promotion of efficiency, improvement of productivity generally and ultimately economic growth that is sustainable [31].

#### **Factors Affecting the Correlation.**

In the process of analyzing the data retrieved, it was discovered that there are several factors that ultimately impact the correlation between economic growth and sustainable supply chains in the United States. Factors, such as increased demand for sustainable products, regulations and government policies, technological development, and incentives (financial and non-financial). Also, the dedication and partnership among the supply chain stakeholders play a significant role in this subject manner. Nevertheless, future researchers are advised to niche down to determine the level of impact each industry that practices sustainable supply chains has on economic growth.

#### **Strengths and Limitations in the Research.**

The strength of this research lays in its ability to bridge the existing research gaps and limitations found in the previous literatures reviewed, through the provision of reliable findings and recommendations from the holistic investigation into the correlation between sustainable supply chains and economic growth in the United States. Although there is limited information on this subject matter specifically as it relates to the US economy as a global leader, this also serves as the limitation of this study. Additionally, most of the studies previously conducted were niched to specific sectors of foreign markets but there is limited information about specific industries in the US market. This is another area that future researchers can expand on. Furthermore, future researchers can review this subject but from the perspective of all the stakeholders involved in the supply chain. Overall, this study provides a robust perspective on how sustainable supply chain practices can positively impact the drive for sustainable economic growth in the US

## **4. Conclusion**

#### **Inference for Policy and Practice.**

The findings of the study have important implications for both the policymakers and practitioners. Policymakers can use the knowledge and information derived from this study to create regulations and policies that drive sustainability in the supply chain. Grounded on the findings of this study, the promotion and adoption of the use of incentives by policymakers to encourage the implementation of sustainable supply chains is encouraged. This can in turn lead to enhanced profits and productivity as a result of the positive economic outcomes that incentives bring. For instance, the government of the United States can impose regulations that are stricter on businesses that do not embrace

sustainability while, offering tax credits, incentives or subsidies for businesses that apply sustainability practices. Thereby creating a precedence for other countries in the world to emulate since the US is a global leader in the drive for sustainability and economic growth.

On the side of the Practitioners, businesses that integrate sustainable business practices in their supply chain are great contributors to the growth of the economy. They also enjoy a competitive edge due to the increasing demand for sustainable products and increased patronage for businesses that are committed to sustainability. Hence, when businesses integrate sustainable business practices into their supply chains, it provides a competitive edge for the company, produces positive economic effects, improves the reputation of the company and also the trust of its consumers.

#### **Recommendations for future Research.**

Grounded by the research findings, this study presents a recommendation for businesses in the United States to integrate sustainable business practices in their supply chain in order to address the sustainability challenges and promote economic growth. Policymakers on the other hand can use the information deduced from this study to create and drive policies and regulations that encouraged the adoption of sustainable supply chain practices. Although this study addresses the current research gap and contributes to the existing body of knowledge on the subject matter, there are still areas that are open for further study. Future researchers can launch an in-depth investigation into the exact instruments that drive economic growth through sustainable supply chain practices. Most of the studies previously conducted are niched to specific sectors of foreign market but there is limited information about specific industries in the U.S market. Also, the possible challenges and trade-offs in the application of sustainable supply chain practices in business can be another good area for future researchers to delve into. This can create a clear picture of the intricacies associated with the transition to supply chains that are sustainable. Additionally, future researchers can review this subject but from the perspective of all the stakeholders involved in the supply chain. Okoye et al. (2024) suggests that future researchers should concentrate on the development of sustainable supply chain techniques that are specific to a region.

#### **Realistic Applications for Businesses.**

This study is important for businesses that want to enhance their economic outlook through the adoption of sustainability. Businesses can draw inferences from the findings of this study in their business decision making process. Therefore, prioritizing and promoting initiatives that encourage sustainable supply chain business practices. This can be achieved by the implementation of sustainable production, distribution, sourcing, and logistics practices. Ahmed et al. (2024) reviewed the advanced methods that the manufacturing industry has deployed in the achievement of sustainable supply chains.

The findings of this study can also be used by businesses in driving sustainability collaborative efforts with their suppliers by setting targets for sustainability goals and monitoring progress. This collaboration can be a fantastic way of aligning the sustainability goals of the companies in such a way that it creates a supply chain that is more efficient and resilient for the growth of the economy. Cloutier et al. (2020), highlighted the collaborative mechanisms that exist in supply chains that are focused on the sustainability initiative. Hence, this research does not only add to the existing body of literature currently available, but it also provides suggestions on how policymakers, business and future researchers can draw inferences from this study to promote economic growth and sustainability.

#### **Final Thoughts.**

To wrap-up this study, the qualitative research method used was aimed to present an in-depth examination of the correlation between sustainable supply chains and economic growth in the United States. Based on the data gathered and analyzed, the

findings hold that there is a positive correlation between sustainable supply chains and economic growth in the US. Meaning that the more companies practice sustainability in their supply chains the greater the economic growth. Therefore, the recommendation for policymakers and practitioners is to work together and incorporate the lessons learned from this study in the process of their decision making. Such that sustainability is a priority, and measures are set in motion to encourage its implementation in the supply chains for sustainable economic growth. Hence, this research provides valuable contributions to the efforts of the United States as a global leader in driving sustainability and economic growth, while ensuring a sustainable future for the nation

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