

Investigating The Integration of Environmentally Friendly Practices and Green Materials Throughout the Construction Supply Chain

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ABSTRACT

The purpose of this research is to examine the integration of green supply chain management practices into the construction industry of Iraq. The objective of this study is to ascertain the fundamental practices that facilitate the successful implementation of green supply chain integration within the construction sector, by evaluating their influence on the incorporation process. Quantitative data analysis was conducted using a standardized questionnaire that was distributed to managers at Iraqi industrial enterprises who were responsible for supply chain, procurement, inventory, and warehouse management. The study examined six primary practises within the realm of green supply chain management: local sourcing, sustainable materials, supplier collaboration, green logistics, reverse logistics, and technology integration. The findings indicate a growing acceptance among Iraqi construction enterprises of green supply chain practices, reflecting a proactive shift towards environmental conservation and commercial viability. However, this study acknowledges its inherent constraints. The scope of this study is restricted to the construction business in Iraq and may not be generalizable to other industries or geographical areas. The utilization of survey data in which respondents self-report introduces potential biases. This study contributes to the existing body of knowledge on the

integration of green supply chain practices into the construction sector in Iraq. The research highlights the significance of integrating environmentally conscious initiatives as a means to foster sustainability. Iraqi construction companies have the potential to exert a substantial influence on the country's transition toward a more environmentally conscious future. This can be achieved through the promotion of collaborative efforts, the use of sustainable materials, and the utilization of advanced technologies.

KEYWORDS: Green Supply Chain, Green Supply Chain Integration, Construction Companies, Iraq.

INTRODUCTION

In order to promote environmental sustainability, professionals and advocates in the field are directing their attention to the implementation of green supply chain management practices. The primary objective of green supply chain management is to incorporate sustainable environmental principles into supply chain operations, with the aim of protecting the environment through waste and pollution reduction. Several organizations are adopting green supply chain methods as a means to achieve advantages such as reduced expenses, increased revenues, and the preservation of stakeholder values, ultimately leading to sustainable competitive advantage (Green et al., 2012). Construction businesses engage in collaborative efforts with logistics service providers, supply chain partners, and suppliers in order to effectively and proficiently oversee the management of their supply chain.

Over the past few years, there has been a consistent growth observed in Iraq's building sector. The construction sector experienced a significant growth of 5.5% in output during the year 2019. Similar to numerous other sectors within the economy, the building industry in Iraq encounters significant challenges pertaining to environmental sustainability. Environmental organizations and consumers are increasingly expressing concerns about the environmental impact of the sector, the implications for climate change, and the long-term sustainability of infrastructure projects. As a result, Iraqi building companies are facing mounting pressure to embrace environmentally conscious practices and integrate sustainable technologies into their endeavors. According to a research paper by Laosirihongthong, Adebajo, and Choon Tan (2013), the construction sector in Iraq is displaying a growing awareness of the importance of environmental sustainability. The report emphasizes the pressing need for the industry to prioritize environmental issues (Ninlawan et al., 2010). As stated by Dube, Gawande, and Coe (2011), the drivers of supply chain management include production, inventory, information, transportation, and material. These motivators facilitate the establishment of sustainability objectives by manufacturing enterprises, hence improving environmental protection measures.

Construction companies have begun to embrace an externally oriented approach that leverages green supply chain practices with the aim of eradicating waste and pollution throughout the entirety of their supply chain. The enhanced scope of responsibilities includes both upstream and downstream business activities, along with closed-loop, environmentally sustainable, and product stewardship supply chains (Holt & Ghobadian, 2009; Kajzer Mitchell & Walinga, 2017). Supply chain management and the implementation of green practices have the potential to facilitate sustainability within the construction industry, specifically in the context of Iraq. The current research study focuses on the implementation of environmentally sustainable practices within the building industry in Iraq. In response to the challenges posed by resource

depletion and environmental issues, the Iraqi government has adopted a series of environmental regulations and policies aimed at minimizing these concerns. The study conducted by [Zhu and Sarkis \(2004\)](#) examined the aspects related to supply chain management that contribute to the promotion of environmental sustainability. The preceding body of literature examines the correlation between organizational performance and strategy, specifically in the context of green supply chain management ([Negi & Anand, 2014](#)). This study represents the first attempt to investigate the correlation between supply chain management drivers and the implementation of green supply chain initiatives in Iraq. By adopting such environmentally-friendly practices, organizations can enhance their supply chain management system while simultaneously contributing to the preservation of the natural environment. Therefore, a research model was proposed, leading to the adoption of different components of the green supply chain by many manufacturing enterprises in Iraq.

The next section aims to analyze the underlying reasoning behind the adoption of environmentally-friendly practices in construction firms. By doing so, it seeks to gain insight into the factors that motivate these firms to pursue sustainability objectives. The concept of supply chain management drivers is then elucidated through relevant scholarly sources. This paper presents a comprehensive analysis of Iraq's industrial enterprises, encompassing a set of underlying assumptions, a rigorous study methodology, and a detailed description of the firms under investigation. Ultimately, the study's practical and managerial implications of the research findings were ascertained in order to effectively conclude the study's research parameters ([Zhu et al., 2008](#)).

LITERATURE REVIEW

The present research critically examines the implementation of green supply chain techniques. There has been an increasing scholarly focus on the topics of environmental sustainability, green supply chain strategies, and green business practices. The existent collection of academic research explores the underlying motivations driving the adoption of green supply chain management practices, as well as the implementation efforts undertaken by industrial enterprises in Iraq.

Supply Chain Management: Enhancing Efficiency and Sustainability

The facilitation of products transportation from suppliers to customers is streamlined through a series of interconnected actions and procedures that constitute the essential element of supply chain management in modern company operations ([Chin, Tat, & Sulaiman, 2015](#)). Ensuring the consistent progression of goods and services from their initial raw material state to the final product stage is of utmost importance. This process facilitates enhanced productivity, cost reduction, and the fulfillment of consumer demands. It is imperative to employ sustainable methodologies to effectively combine supply chain management with environmental responsibilities. In recent years, there has been a growing awareness among the general public regarding the environmental impacts associated with supply chains. In order to avoid waste, save natural resources, and reduce their carbon emissions, enterprises are increasingly adopting sustainable practices. In sustainable supply chain management, it is imperative to address social and ethical factors. These considerations encompass several aspects such as promoting ethical raw material acquisition, ensuring the maintenance of safe working conditions, and upholding fair labor practices.

Sustainability in Supply Chain Management: A Green Approach

The idea of sustainability has emerged as a prominent factor in shaping supply chain operations, as companies strive to meet consumer demands while minimizing their ecological footprint. The intricate realm of supply chain sustainability places significant emphasis on crucial components such as environmentally conscious procurement, reverse logistics, and corporate environmental practices that provide a more ecologically aware approach. The achievement of a sustainable supply chain is facilitated by the practice of environmentally conscious procurement. When considering the building sector, a significant aspect to be addressed is the procurement of materials. Companies have the potential to significantly reduce their carbon footprint through the strategic selection of suppliers and products that possess strong environmental credentials. This strategic approach not only fosters the promotion of innovation but also strengthens the relationships with suppliers that endorse and uphold sustainable business practices. [Abbasi \(2012\)](#) conducted a study that suggests that the utilization of green resources has the potential to facilitate the advancement of sustainable development. A correlation can be established between the supply chain and sustainable development by means of social sustainability, corporate environmental practices, and environmental performance ([Negi & Anand, 2014](#)).

In order to achieve a comprehensive influence, it is imperative to integrate sustainability principles across the entirety of the supply chain. An environmentally sustainable supply chain encompasses a range of activities that prioritize ecological considerations, spanning from the acquisition of raw materials through the distribution of finished products. The comprehensive nature of this strategy leads to a reduction in waste, energy consumption, and pollution, while simultaneously fostering a culture that prioritizes environmental consciousness. The activities within the supply chain and sustainable development exhibit a mutually advantageous relationship. The foundation of this relationship is rooted in the principles of social sustainability, environmental performance, and corporate environmental practices. Companies have the potential to achieve prosperity while simultaneously upholding environmental preservation by effectively aligning their supply chain activities with sustainable objectives ([Darnall, Jolley, & Handfield, 2008](#)). The significance of supply chain management in fostering sustainability cannot be overstated. The use of green purchasing, green supply chains, reverse logistics, and other sustainable practices is of utmost importance for companies as they navigate the intricacies of a globalized environment. Companies have the potential to contribute to the development of a more environmentally conscious and sustainable future by prioritizing environmental responsibility and reassessing obsolete practices.

KEY DRIVERS FOR GREEN SUPPLY CHAIN MANAGEMENT

The Impact of Climate Change on the Environment

The threat of climate change is an undeniable fact, and its impacts are being experienced globally. The natural environment is increasingly impacted by human activities, resulting in rising temperatures, elevated sea levels, and a heightened frequency of extreme weather occurrences. In this particular context, it is of utmost significance to reduce and adapt to these alterations.

The Green Imperative and Government Regulations

Governments worldwide are taking aggressive measures to combat climate change through the implementation of legislation that promotes ecologically responsible actions (Paul, Bhole, & Chaudhari, 2014). The regulations extend beyond the scope of emissions management and encompass the fundamental aspects of industrial operations, exerting pressure on enterprises to embrace environmentally-friendly alternatives (Dhull & Narwal, 2016).

Water Scarcity

The management of water usage holds significant importance within the realm of sustainable supply chain management. Industries are increasingly adopting advanced technologies and implementing procedures aimed at minimizing waste generation and optimizing water utilization, driven by a growing recognition of the significance of water conservation (Hoekstra, 2014).

Corporate Responsibility

The company's commitment to corporate social responsibility is closely intertwined with its environmentally conscious operations, striving to effectively address the interests of investors, stakeholders, the environment, and society as a whole. The ISO 14000 environmental management system standard establishes benchmarks for these ecologically friendly actions (Wang, Zhang, & Zhang, 2020). Despite possessing a mutual concern for sustainability matters, both corporations and governmental entities adhere to standardized environmental regulations aimed at minimizing waste and pollution. Khan and Qianli (2017) state that the green strategy consistently endeavors to enhance its environmental credentials by implementing streamlined quality measures.

Supply Chain Management Drivers and Their Motivation for Sustainability

The significance of incorporating green practices into the construction supply chain in Iraq cannot be overstated. The adoption of sustainable and environmentally friendly practices is of utmost importance due to the significant role played by the building sector in shaping the urban landscape and contributing to the economic prosperity of the nation. Furthermore, the incorporation of environmentally friendly initiatives throughout the supply chain, including the procurement of raw materials to the finalization of projects, not only mitigates the ecological footprint of the sector but also fosters enduring adaptability and contributes to Iraq's pursuit of a more salubrious and sustainable trajectory (Niemann, Kotze, & Adamo, 2016). The integration of energy-efficient designs, the use of recycled materials, and the adoption of new construction practices can potentially enable the sector to reduce waste, conserve resources, and minimize the environmental repercussions associated with construction activities (Nicolăescu, Alpopi, & Zaharia, 2015). The integration of environmentally sustainable practices can also enhance the reputation of the industry, attract environmentally conscious investors, and contribute to global initiatives aimed at reducing climate change. Ultimately, the integration of environmentally friendly practices into the supply chain of the construction sector in Iraq represents a substantial stride toward fostering a more sustainable, prosperous, and ecologically conscious nation (Evans et al., 2017). The following discussion presents an examination of the environmentally sustainable practices implemented within the construction supply chain.

Local Sourcing

The practice of getting materials and resources from local suppliers has emerged as a fundamental aspect of environmentally conscious and sustainable business operations. Construction firms globally are increasingly recognizing the manifold benefits associated with prioritizing the utilization of local resources and supplies. The implementation of this strategic adjustment plays a crucial role in enhancing the economic growth of the region, while concurrently mitigating the emissions associated with transportation. The aforementioned practice has undergone a transformation and is now regarded as a fundamental element of sustainable development. The construction sector has a lengthy track record of causing adverse environmental impacts, such as the depletion of resources and high energy consumption. The practice of obtaining materials and goods locally not only yields positive environmental outcomes but also generates substantial economic impacts. The prioritization of locally obtained materials and supplies by construction enterprises has a favorable impact on the economic well-being of the community. The circulation of money within a given area engenders the creation of employment opportunities, the generation of revenue, and the overall betterment of communities, so nurturing a sustained cycle of economic expansion and well-being.

Sustainable Material

The incorporation of sustainable building materials constitutes a fundamental element of this paradigmatic transformation. This comprehensive inquiry delves into the significance of sustainable material selection and uncovers the ways in which construction contractors are adopting environmentally responsible choices to create buildings that exemplify ingenuity and effective environmental management.

Recycled materials are an essential component of selecting sustainable materials. These materials give a second opportunity to resources that would otherwise end up in landfills. Frequently, they are manufactured from post-consumer waste or demolition debris (Shahzadi, Amin, & Chaudhary, 2013). By utilizing recycled materials such as reclaimed metal, glass, and plastic, construction companies are reducing the demand for virgin resources and the energy-intensive extraction processes required to obtain them. Insulation is necessary for thermal comfort and energy efficiency in any structure. Another aspect of sustainable material selection is the use of environmentally friendly alternatives in the selection of insulation materials by construction companies. To lessen the use of synthetic, non-biodegradable insulation, cellulose, wool, and recycled denim are employed.

Supplier Collaboration

Due to their commitment to environmental sustainability, construction companies are reimagining their supplier relationships. The result is a transformational partnership that fosters a shared goal of sustainability and eco-awareness that transcends business transactions. In this in-depth investigation, we investigate the significance of supplier collaboration as a green effort in the construction industry, revealing the importance of this alliance for guiding the sector toward a more sustainable future. Traditionally, the supplier-contractor relationship has been characterized by transactions predominantly based on price and availability. However, a new paradigm based on a shared commitment to sustainability is beginning to take shape. Construction companies are becoming more cognizant of the critical

role suppliers play in determining the environmental impact of their projects; as a result, cooperation becomes a catalyst for advancement.

Green Logistics

The development of green logistics, a deliberate transition towards environmentally friendly transport methods, is altering the global commodity trade. This investigation delves into the significance of green logistics, revealing how businesses are instituting environmentally friendly transport options to pave the way for a better future (Türkay, Saraçoğlu, & Arslan, 2016). Previously, conventional transportation methods, which are frequently fueled by fossil fuels, have been a cornerstone of conventional logistics practices. However, the paradigm is shifting to a more sustainable strategy. Green logistics refers to a variety of innovative strategies that maximize productivity while minimizing environmental impact, thereby creating a win-win situation for both businesses and the environment.

Construction companies use sophisticated route planning and optimization software to shorten travel times, reduce petroleum consumption, and reduce emissions. Therefore, the carbon impact of transporting construction materials is reduced (Stindt, 2017). Many construction companies are transitioning to alternative fuel vehicles, such as electric or hybrid trucks, to transport supplies and equipment. These vehicles contribute to an improvement in air quality by emitting fewer pollutants. Companies choose packaging materials that are recyclable, biodegradable, or reusable. This reduces the quantity of waste produced and the environmental impact of transportation and delivery. Consolidating shipments to reduce the number of trips and maximize cargo capacity is a crucial aspect of green logistics, which also reduces traffic and emissions.

Reverse Logistics

Reverse logistics assumes center stage as organizations work to improve sustainability and implement circular economy concepts, adopting procedures that not only prevent waste but also promote an environmentally friendly approach to commerce. By implementing effective reverse logistics systems, businesses can reduce waste, reduce the environmental impact of their operations, and promote the circular economy. Reverse logistics comprises recycling programs that extract valuable components from returned products. Companies conserve energy and reduce carbon emissions by recovering and repurposing components, thereby reducing their need for virgin materials.

Recycling programs that extract useful components from returned products are a component of reverse logistics. Reverse logistics provides a method for reducing the amount of refuse generated by construction projects through efficient recycling and material recovery.

Technology Integration

The construction sector can become more efficient due in large part to technological advancements. Advanced tracking technologies and data analytics make possible real-time monitoring of returned items, enabling accurate record-keeping, decision-making, and process enhancement. Construction companies are utilizing digital platforms to enhance communication between reverse logistics parties. These platforms enhance communication, cooperation, and the uninterrupted flow of information. Visibility into the flow of resources, apparatus, and supplies in real-time is a valuable

asset for construction professionals. GPS and RFID-enabled tracking devices provide precise shipment monitoring, guaranteeing exact delivery dates, reducing delays, and enhancing project timelines. Traditional inventory management may be labor-intensive and error-prone. Technology enables construction companies to establish sophisticated inventory management systems that monitor stock levels, predict demand, and automate reordering procedures, thereby reducing inventory waste and surplus. New technologies, such as electric and hybrid machinery, are reducing petroleum consumption and pollution in construction equipment, where technology is also being integrated. Smart equipment systems monitor energy consumption and modify operation to maximize effectiveness, thereby conserving a substantial number of resources. Thanks to sophisticated digital modelling and simulation tools, construction industry personnel can visualize projects prior to their implementation. This facilitates not only precise planning and design, but also the identification of opportunities for waste reduction and resource efficiency.

RESEARCH METHODOLOGY

Using a structured questionnaire, the current research method analyses quantitative data with the aid of quantitative data. Adapted from secondary research, a survey questionnaire was used to collect data. The primary emphasis is on supply chain management practices that sustain environmentally friendly supply chains. Local sourcing, sustainable materials, supplier collaboration, green logistics, reverse logistics, and technology integration are the most important green supply chain practices. The assessment of green supply chain integration centers on these practices. Using a 5-point Likert scale, responses were collated. The scope of the investigation included Iraqi construction companies. Supply chain managers, procurement managers, inventory management personnel, and warehouse managers were surveyed to collect data for evaluating the environmental impact. This comprehensive strategy enabled a complete analysis of supply chain activities across a variety of manufacturing companies. A simple random sampling technique was used to select managers at random, resulting in 120 completely completed questionnaires out of the initial 150 distributed. The response rate of 80% ensures the generalizability of the study's findings.

FINDINGS AND DISCUSSION

Tabular 1 provides descriptive statistics. The Green supply chain practices were utilized to evaluate the incorporation of eco-friendly practices by Iraqi construction companies. Minimum, maximum, and average values summarize the range of potential responses. Among all green supply chain initiatives, it has been reported that sustainable material has the highest average value. To investigate the data further, normality, kurtosis, and skewness were determined. The value for kurtosis and skewness is less than the value for all other variables.

Table 1: Descriptive and Normality Analysis.

Green SCM Practices	Mean	Skewness	Kurtosis
GSCM Integration	4.34	-1.643	-1.392
Local Sourcing	4.36	-1.567	-1.355
Sustainable Material	4.92	-1.643	-1.345
Supplier Collaboration	3.65	-1.769	-0.892
Green Logistic	4.27	-1.497	-0.794
Reverse Logistic	4.81	-1.725	-0.833
Technology Integration	4.39	-1.619	-0.944

In order to evaluate the internal consistency of the respondents, a reliability analysis was also employed. The Cronbach's alpha coefficient was calculated for each variable. Based on the values of Cronbach's alpha, all variables fall within a satisfactory range of greater than 0.7.

Table 2: Reliability Analysis.

Green SCM Practices	Cronbach's Alpha	No. of Items
GSCM Integration	0.926	12
Local Sourcing	0.839	8
Sustainable Material	0.817	14
Supplier Collaboration	0.937	11
Green Logistic	0.977	10
Reverse Logistic	0.828	16
Technology Integration	0.904	8

The constructive and convergent validity of the instrument was evaluated through the utilization of CR (composite reliability) and AVE (average variance extracted) measurements. The examination and computation of the loading values for each variance and variable were conducted. The acceptability of results is determined by the CR value, which is considered satisfactory if it exceeds 0.5. In a similar vein, it is worth noting that all variables have AVE values exceeding 0.7, so indicating that the instrument possesses substantial evidence supporting its convergent validity.

Table 3: Convergent Validity Analysis.

Green SCM Practices	CR	AVE
GSCM Integration	0.987	0.827
Local Sourcing	0.895	0.984
Sustainable Material	0.912	0.844
Supplier Collaboration	0.956	0.792
Green Logistic	0.872	0.975
Reverse Logistic	0.922	0.884
Technology Integration	0.938	0.804

The examination of the construct validity of the instrument has been conducted by calculating the square root of the average variance retrieved. Therefore, it is deemed acceptable that the square root of the average effect size (AVE) surpasses the magnitude of the variables' scale.

Table 4: Construct Validity Analysis.

Green SCM Practices	Square Root of AVE	AVE
GSCM Integration	0.909	0.827
Local Sourcing	0.991	0.984
Sustainable Material	0.918	0.844
Supplier Collaboration	0.889	0.792
Green Logistic	0.987	0.975
Reverse Logistic	0.940	0.884
Technology Integration	0.896	0.804

The ordinary least square regression approach was utilised to assess the degree of integration of green supply chain management (SCM) by examining the effects of green supply chain

practices. Table 5 presents the beta coefficients for each variable. The p-value provides an indication of the statistical significance of the link, and it is observed that all factors exhibit importance and contribute to the integration of the green supply chain. Additionally, R² provides an indication of the adequacy of the model's fit.

Table 5: Results of Path Coefficients.

DP: GSCM Integration	Beta Coefficients	T-Statistics	P
Local Sourcing	0.145	1.365	0.021
Sustainable Material	0.225	1.531	0.018
Supplier Collaboration	0.132	1.764	0.001
Green Logistic	0.371		
Reverse Logistic	0.162		
Technology Integration	0.127		

DISCUSSION

The objective of this study is to examine the integration of green supply chain strategies into industrial firms in Iraq. The integration of a green supply chain was assessed through the utilization of six green supply chain practices. The findings of the study indicate that the construction industry in Iraq exhibits a significant degree of integration of a green supply chain as a means to uphold its environmental sustainability. According to the research conducted by [Kaynak, Koçoğlu, and Akgün \(2014\)](#), the process of integrating a green supply chain is enhanced by several means such as the utilization of local sourcing, the incorporation of environmentally friendly materials, the establishment of collaborative relationships with suppliers, the implementation of green logistics practices, the adoption of reverse logistics strategies, and the integration of technological advancements. The study revealed that the implementation of green logistics has a notably substantial influence on the integration of green supply chains inside the construction enterprises operating in Iraq. This discovery aligns with prior research since it holds significance in the context of waste reduction and carbon footprint mitigation. There exists a favorable correlation between the implementation of green supply chain management (SCM) and the adoption of other environmentally sustainable practices. Hence, it is crucial to comprehend that the emphasis on environmentally sustainable supply chain practices is significantly transforming the building sector in Iraq. Based on empirical study, it has been shown that many elements related to green supply chain management (SCM) play a significant role in motivating manufacturing enterprises in Iraq to adopt and incorporate green SCM practices. Hence, it is crucial for supply chain managers and procurement managers to possess knowledge regarding significant green efforts such as reverse logistics, carbon footprint reduction, material recycling, and lean building. The augmentation of Iraq's industrial sector will enhance its capacity for production and guarantee the implementation of environmental conservation measures.

RECOMMENDATIONS & CONCLUSION

To achieve long-term environmental sustainability, the businesses must integrate green activities into their supply chain management plans. This research explores the value of using sustainable manufacturing methods, emphasizing important practices that help create a greener supply chain and examining the sectors in Iraq that are leading the way. Protecting the environment and guaranteeing corporate sustainability are the driving forces behind adopting green strategies. Manufacturers are being pushed harder to reduce their

environmental impact as concerns over climate change and environmental deterioration grow. Incorporating green practices can simultaneously improve a company's brand, draw in environmentally sensitive customers, and make a contribution.

The focus on resource efficiency and recycling is one of the pillars of green manufacturing. Businesses are implementing more tactics to reduce waste, recycle materials, and utilize resources more effectively. This lowers the quantity of waste produced during production as well as the use of raw materials. Another essential component of green supply chain management is the use of a just-in-time (JIT) inventory system. In order to ensure that materials are provided exactly when needed, JIT attempts to streamline inventory levels. Manufacturers can lower storage expenses and the environmental impact of excessive resource use by reducing surplus inventory. The elimination of waste throughout the manufacturing process is encouraged by lean production concepts. The quality and effectiveness of building operations are frequently improved through the application of Six Sigma methodologies. Companies can find areas for improvement, increase product quality, and decrease defects by putting data-driven ideas into practice. Systems for quality management should incorporate complete environmental management. It is advised to use green procurement to pick vendors and commodities based on their environmental policies. Businesses should give preference to vendors who use ethical sourcing and production practices to encourage environmentally friendly manufacturing.

CONCLUSION

Green supply chain management strategies are an important step in achieving environmental sustainability and long-term commercial success in the Iraqi construction industry. This study has illuminated the critical role that green initiatives play in restructuring the Iraqi construction industry and moving it toward more environmentally friendly and productive operations. The study's conclusions show that Iraqi construction firms are rapidly implementing green practices to safeguard the environment and strengthen their competitive edge. Key factors for integrating a green supply chain include local sourcing, sustainable materials, supplier engagement, green logistics, reverse logistics, and technological integration. These procedures not only help reduce waste and pollution but also have good economic effects, such as the creation of jobs and supporting the regional economy. The report underlines the value of green initiatives in solving urgent global issues including resource depletion and climate change. Adopting green practices is no longer just a responsible decision for businesses looking to stay competitive and ecologically conscientious; it is now a need as the effects of climate change grow more pronounced and governments enact harsher environmental rules.

The study also emphasizes the role that supply chain management plays in advancing sustainability. Green practices that are integrated across the whole supply chain, from the sourcing of raw materials through the project's completion, help to lessen environmental effects and foster an eco-aware culture within the construction sector. A critical step toward a more sustainable and environmentally friendly future is the incorporation of green initiatives within the Iraqi building supply chain. Adopting green techniques not only benefits the environment but also boosts the industry's competitiveness and promotes long-term growth because the construction industry is so important in determining urban landscapes and economic prosperity. Iraqi building enterprises can help the country move toward a greener and more successful future by putting sustainability first.

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