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### **Green Supply Chain Management: Impacts, Challenges, Opportunities, and Future Perspectives**

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**Abstract:**

in the last decades, tackling human-induced environmental challenges has been a foremost global concern for firms to earn competitiveness. green integration emphasizes firm allegiance to the sustainability of the environment since a large percentage of the manufacturers mostly source and procure materials from other firms. Businesses need to have a sustainable business model due to the demands of sustainability in the supply of natural resources, price increase, political and environmental restraints within the supply chain system. in this study, we have critically examined numerous pieces of kinds of literature on green supply chain management practices. we investigated its definition, evolution, and components, key performance index, various challenges militating against its successful implementation and opportunities, and the future perspectives of green supply chain management practices.

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**I. Introduction**

The significant rise of resource depletion and environmental issues has generated concerns, this has led to stricter regulations by regulators, concurrently leading to an increase in environmental

consciousness[1] [2]. This paradigm shift has led manufacturers to initiate various environmental initiatives to advance their environmental performance[3]. Moreover, the present regulatory policies and laws, for instance, regulations on the use of harmful substances, as placed demands on manufacturers to broaden their environmental programs to suppliers and customers [4]. Therefore, the implementation of a green supply chain management (GSCM) by several manufacturers which incorporates environmental concerns has been on the increase[5] [6]. Most of the environmental issues are not triggered by the internal procedure of the firm, rather they are connected to its pre and post-supply chain processes[7]. Proactive environmental measures and programs entail supply chain alliance and stakeholders' environmental consciousness and competencies for protecting the environment are crucial [8]. Active cooperation of the manufacturers with the customers and suppliers is key, in implementing the green supply chain management, thus alleviating the pollution of the environment[9]. In the last decades, tackling human-induced environmental challenges has been a foremost global concern for firms to earn competitiveness. Green integration emphasizes firm allegiance to the sustainability of the environment since a large percentage of the manufacturers mostly source and procure materials from other firms [10]. Organization collaboration with the suppliers on the environmental procedure is vital from the beginning of the production stage to the final stage to ascertain products and production systems are green[11]. Specifically, the supplier inadequacy in the green supply chain management can impact the focal manufacturer's finances and operational efficiencies. Consequently, manufacturers are urged to embrace green supply chain management principles aimed at lessening the environmental hazards[12]. GSCM is one of the key efforts geared towards the integration of environmental factors within the supply chain framework. Businesses need to have a sustainable business model due to the demands of sustainability in the supply of natural resources, price increase, political and environmental restraints within the supply chain system[13] [14]. With the evolution of the circular economy, manufacturers need to take into account sustainability and closed-loop systems [15] [16]. In line with the recent stricter policies and business competitiveness, manufacturers must of necessity include tackling environmental issues as part of their corporate environmental strategy [17].

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