

## **Green Supply Chains in the Hotel Industry: Review of the Greek Hotel Market**

**Summary:** More and more hotels nowadays have embedded green practices in their supply chain management, either due to environmental government regulations or pressure from stakeholder groups. The purpose of this essay is to investigate the views of hotel staff in order to determine whether they are implementing green supply chain management strategies, which practices they apply and what their advantages are. In the quantitative survey, a questionnaire was distributed to 62 hotels in Northern Greece. The results showed that most hotels have put in place strategies for green management of the supply chain that are being properly implemented, especially low energy light bulbs, with the administration emphasizing the benefits of green supply chain management. These practices are mainly driven by lobbying and are related to customer satisfaction and demand. However, the adoption of green logistics management practices is not very much related to corporate social responsibility.

**Keywords:** supply chain, green practices, hotels

---

### **1. Literature review**

There is an increasing need to integrate environmental considerations into the practice of supply chain management. The supply chains covering all activities related to the flow of goods from the raw material stage to the end user, and information flows (Dube & Gawande, 2011). The purpose of supply chain management is to integrate these complex activities to achieve sustainable competitive advantages (Ninlawan et al., 2010; Shan & Wang, 2017). According to this definition, the market, supply, production and relationships between supply chain partners are also identified in the context of Green Supply Chain Management.

Environmental pollution and the depletion of resources have led to great concern for consumers in terms of environmental protection and climate change (Shan & Wang, 2017). In addition, AbuSemanetal (2012) highlight that economic growth increases the level of energy and materials consumption, which contributes to addressing environmental and resource depletion problems. All of this has led governments to take measures to prevent environmental degradation (Ninlawan et al., 2010; Shan & Wang, 2017). An example is the legislation on environmental regulations (Ninlawan et al., 2010), while another is the implementation of ISO 14000 standards (environmental management systems) that provide operational guidelines and standards for transforming businesses into ecologically sustainable business practices (Shan & Wang, 2017). In this respect, it has become increasingly important for organizations facing competitive, regulatory and community pressures to balance economic and environmental performance. Today, most organizations are becoming 'green' in terms of environmental sustainability, as they have realized the greatest benefit of adopting green technology in business, which affects both suppliers and customers (AbuSemanetal., 2012). More specifically, incorporating environmental standards into business practices leads to the introduction of innovations, which in turn allow for resource savings, waste disposal, environmental protection, greater market share, but to enhance efficiency and improve productivity (Ninlawan et al., 2010; Shan & Wang, 2017). In this context, therefore, the management of the green supply chain attracts the attention of both businesses and researchers.

The concept of green supply chain is defined as the integration of environmental factors into the supply chain, creating an extensive logistics model, through the operations of rebuilding, recycling and re-use. Overall, the green supply chain can be defined as integrating environmental thinking into supply chain management, namely product design, procurement and selection of materials, production processes, delivery of the final product to consumers, and product management after his useful life (Dube & Gawande, 2011; Shan & Wang, 2017). Therefore, the basic idea of green supply chain management is to integrate environmental considerations into supply chain management with the ultimate goal of acquiring and maintaining a competitive advantage, reducing the negative environmental impact of business operations and achieving profitability.

Han Al - Aomar and Hussain (2017) research develops a model for the implementation of the green supply chain in hotel units. In a similar context, Xu &Gursoy (2015), while Vinhetal, is also moving (2015) investigated the desire of hotel units to incorporate environmental principles into supply chain practices, with results varying between hotels of different class and whether they are under pressure from environmental regulations and from internal factors.

The overall objective of the Amemba study (2013) was to highlight the best practices of the green supply chain in the hospitality industry in Kenya. The aim of Vinh 's et al. (2014) was to investigate whether the hotel industry in Vietnam is willing to implement the green supply chain.

The study of Amemba (2013) takes the form of a systematic review, which provides in-depth theoretical and empirical literature research to discuss the best green supply management practices in the Hospitality industry in Kenya. The survey focuses on data from Eco Tourism Kenya, which is responsible for evaluating hotels, accommodations and camps in Kenya as to the extent to which they apply and have incorporated green supply chain practices into their activities. In this context, secondary data focusing on the study of the following aspects of the Green Supply Chain have been used: green procurement, green planning, green operations and reverse logistics, green production / construction, and waste management.

Vinh 's et al . (2014) conducted via email in Hanoi of Vietnam in 2012, where a questionnaire from Google's spreadsheet form was answered by a sample of 120 hotel managers. The categories for each of the three dimensions are based on questionnaires from other researchers. For the class of internal environmental management there are seven questions, for the external environment and cooperation with suppliers there are five questions, for the commitment to the consumer there are three questions, for the environmental regulation there are three and all about the desire to implement green logistics there are four items. The results of the study Amemba (2013) are reported separately for individual thematic discussing are:

a) Green procurement: The launch of green procurement must be an ongoing process, which should be integrated into the strategic plans of the hotels. Businesses in the hospitality industry in Kenya can implement best green supply management practices by ensuring that they include environmental criteria in the procurement of goods such as ensuring that they only source from environmentally certified suppliers through ISO 14000 and 14004.

b) Green design: This is an emerging green idea with long-term benefits. Green design can take the form of structural plans or product plans, with hotels applying these practices through the use of biodegradable raw materials and inputs in building design and continuous upgrading of their products on the basis of environmental requirements.

c) Green functions and logistics: The main inputs are energy and water. Therefore, hotels should seek to achieve viability through recycling, re-use and recall of logistics. This will enhance their competitiveness by enhancing efficiency and synergy between business partners, environmental performance and waste reduction.

(d) Green production: It involves production processes using inputs with relatively low environmental impact, which are highly efficient and generate little or no waste / pollution. Examples of these procedures in Kenyan hotels include the use of fresh products by farmers, solar energy and water recycling and biodegradable energy sources. Green construction leads to lower costs, reduced environmental and business expenses, and improved corporate image.

e) Waste management The focus on effective waste management should focus on "preventing" pollution in both products and production processes. Businesses in the hospitality industry can control waste through efficient use of water instead of waiting to react until the waste is accumulating. In addition, hotel units should ensure that they use the full cost of living of the product when purchasing equipment, taking into account waste disposal measures and costs.

In the Vinh et al. (2014) survey, the results showed the following:

a) The hotels cooperate with the supplier and the customer in the green supply chain practice, while it was found that a n a hotel has been pressed by the supplier and the customer, then he is more willing to participate in green logistics practices.

b) The hotels that are subject to more environmental pressures and provide environmental support is likely to participate in initiatives green supply chain. This means that hotel managers intending to reduce the environmental risk caused by their supply chains should strengthen environmental procurement and support for their suppliers and customers.

c) the CN higher the incentives for participation of both the internal environment and the external environment combined with regional environmental regulations, central government environmental regulations and international sectors according s environmental regulation, the higher readiness level there will on the part of hotels to participate in the green supply chain.

d) Hotel units which are higher in the ranking, express a higher desire to engage in green logistics . Vietnamese 1 and 2-star hotels are usually not worried about the implementation of green logistics, while 3 and 4-star hotels are looking at the implementation of green logistics, but the level of impact of the factors examined differs. On the other hand, the 5-star hotels respect the government regulations and, above all, have good coordination with the supplier in green logistics. In terms of green quality of service, 5-star hotels also consider in-house management and green logistics as important methods for customer service, not only in terms of word of mouth but also in practice.

## **2. Research methodology**

The purpose of this research is to investigate the views of hotel staff in order to determine whether they are implementing green supply chain management strategies. More specifically, the specific objectives of the research are: a) to define the strategies; - to implement the green supply chain; b) to identify the practices, drivers, challenges and benefits of green supply chain management.

15 hotels were selected from the city of Thessaloniki 3 and 4 stars. These hotels offer significant and popular entertainment and leisure facilities, featuring restaurants, a café, a spa and a gym. Moreover emphasize quality, focusing on continuous improvement and USING s for this reason best practices, as stated on their official websites. Particular attention is paid not only to the customer experience, but also to the satisfaction of the hotel staff. The sample of this survey is made up of 3 employees in each hotel who are all tertiary education graduates and belong to the 3-year-old 40-year-old sunscreen.

The questionnaire distributed to hotel workers consists of a total of nine questions that consist of two sections, apart from questions about the demographics of the respondents. The first section consists of three questions exploring the strategies - implementing Green Supply Chain Management. The second module consists of six (6) questions that explore practices, drivers, challenges and benefits of green supply chain management. More specifically, this section includes questions about the current status of hotel unit services that have implemented Green Supply Chain Management.

## **3. Results**

The results of this work were extracted on a total of 45 questionnaires. The average hotel rooms are 87.26 and 142.26 beds. The three questions of the first module on strategies and management of the green supply chain. Most of the hotel units seem to have implemented Green Supply Chain Management Strategies (82.3%), which are properly implemented (67.7%), while management emphasizes the benefits of green management supply chain (80.6%). They were then analyzed the views of respondents on Green Supply Chain Management practices. Interestingly, there are two questions: respondents tend to agree that the lamps used in all buildings are low energy light bulbs ( $M = 1.87$ ,  $TA = 1.008$ ), and tend to disagree that the harvesting mechanism and rainwater storage has been put in place ( $M = 3.02$ ,  $TA = 1.359$ ). The following questions relate to the descriptions of respondents about the benefits of Green Supply Chain Management practices. To a greater extent, respondents report that adopting green practices leads to customer satisfaction ( $M = 2.52$ ,  $TA = 0.901$ ), and to a lesser extent there is a positive relationship between the adoption of green supply chain management practices and enhanced reputation / image of a ( $M = 2.11$ ,  $TA = 1.010$ ) and green supply chain management practices result in resource savings ( $M = 2.11$ ,  $TA = 0.925$ ).

The following questions wanted to bring together the views of the respondents on the Green Supply Chain Management Practitioners. An interest is the statement that supplier pressure is a guide to adopting green supply chain management practices ( $M = 3.18$ ,  $TA = 0.915$ ).

The next section reviewed the views of respondents on the challenges in implementing Green Supply Chain Management practices. An interesting statement is that the uncertainty of the positive effects of green supply chain management practices may lead to the deterrence of these practices ( $M = 3.02$ ,  $TA = 1.138$ ), with which respondents tend to disagree.

Finally, there are the questions regarding strategy and corporate social responsibility. In the majority of the hotels, their facilities are accessible to all special tourist groups (67.7%) and there is a registered policy for the corporate social responsibility of the hotel unit (53.2%). However, there is no provision in the hotel for the provision of information to visually impaired people (80.6%) and to disabled people (61.3%), no report on the corporate social responsibility of the hotel unit (62.9%) and no use of the Global Reporting Initiative Guidelines and Standards (GRI - G4) for the registration of the Corporate Social Responsibility of the hotel unit (62.9%).

## **4. Conclusions**

From the above analysis, it was initially demonstrated that most hotel hotels have put in place strategies for green management of the supply chain that are being properly implemented, with management emphasizing the benefits of green supply chain management. Besides, AbuSemanetal. (2012) report that organizations are increasingly adopting green logistics management practices. These practices are mainly driven by pressure from lobbyists such as consumers and suppliers, as reported by Xu &Gursoy (2015) and Vinhetal (2015). Mostly hotels apply the following practices: low energy consumption lamps, water-efficient shower heads, environmentally friendly detergents, and to a lesser extent a rainwater harvesting and storage facility. Green supply chain management practices are related to customer satisfaction and demand, which is in line with the results of other surveys (Ninlawan et al., 2010; Shan &Wang, 2017). Finally, it is also important to find that the adoption of green logistics management practices is not highly related to corporate social responsibility.

Apart from the above, it was found that the type of hotel units did not affect the views expressed by the respondents regarding green logistics management strategies, which is not consistent with the results of Vinh et al. (2014). However, whether the organization has strategies for green supply chain management, whether they are properly implemented, and whether management is accountable for the benefits of green supply chain management, affects the views expressed by the respondents.

However, there are several parameters that have not been addressed in this work, such as hotel size, number of staff training. Therefore, a future survey could consider whether these factors are related to the adoption of green supply chain management practices. Also, a future survey could include hotels from other regions of Greece.

### **Literature**

- [1]. Amemba, CS (2013). Green Supply Chain Best Practices In Hospitality Industry In Kenya. *Global Journal of Commerce & Management Perspective*, 2 (3), 7-18.
- [2]. Abu Seman , NA, Zakuan , N., Jusoh , A., Shoki , M., & Mat Samat , MZ (2012). Green supply chain management: a review and research direction. *International Journal of Managing Value and Supply Chains*, 3 (1), 1-18.
- [3]. Al- Aomar , R., & Hussain , M. (2017). An evaluation of green practices in a hotel supply chain: A study of UAE hotels. *Journal of Hospitality and Tourism Management*, 32, 71-81.
- [4]. Dube, AS, & Gawande, RR (2011). Green Supply Chain Management - A literature review. *International Journal of Computer Applications*. Retrieved from: [https://www.researchgate.net/publication/292972314\\_Green\\_Supply\\_Chain\\_management\\_-\\_A\\_literature\\_review](https://www.researchgate.net/publication/292972314_Green_Supply_Chain_management_-_A_literature_review)
- [5]. Ninlawan C., Seksan P., Tossapol K., & Pilada W. (2010). The Implementation of Green Supply Chain Management Practices in Electronics Industry. Retrieved from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.450.9577&rep=rep1&type=pdf>
- [6]. Shan, W. & Wang, J. (2018). Mapping the Landscape and Evolutions of Green Supply Chain Management. *Sustainability*, doi: 10.3390 / su10030597
- [7]. Vinh , NQ, van Trang , T. & Anh , NV (201 4 ). Willingness to Apply the Green Supply Chain Management in Hotel Industry. *Global Journal of Advanced Research*, 2 (1), 321-334.
- [8]. Xu, X., & Gursoy, D. (2015). A Conceptual Framework for Sustainable Hospitality Supply Chain Management. *Journal of Hospitality Marketing & Management*, 24 (3), 229-259.