

A Study to determine the cost implications of a Sustainable Supply Chain in Hotels and Restaurants in Bengaluru.

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Abstract

Adopting sustainable supply chain is becoming a norm nowadays. Many industries have adopted a sustainable supply chain and Hospitality Industry is one of them and hotels and restaurants being a part of the hospitality industry are also adopting this trend. The growing focus on the environment has led to the adoption of Sustainable Supply Chain. The study is aimed at finding out the benefits of adopting a sustainable supply chain, the implication that the adoption of the supply chain has on the cost of the final product and the perception of the consumers towards the hotels which have adopted sustainable supply chain. A questionnaire was used to collect data from 10 hotels and restaurants and 52 customers. The results indicated that adopting sustainable supply chain lead to an increase in the Supply Chain cost which in turn leads to an increase in the price of the final products or services offered. The customers are also loyal to the hotels or restaurants which follow sustainable practices.

Keywords: Hotels; Restaurants; Sustainable Supply Chain; Customer behavior; Cost; Price of Services.

Introduction

A Supply chain is a nexus between the suppliers and the buyers of a particular product. It is the process of how the manufacturer sources the raw materials and how he sends the final product to the customer. A Sustainable Supply Chain is the latest trend in supply chain adopted by organisations in order to comply with the environmental norms and be successful. Hotels and

restaurants in India have also adopted this trend of Sustainable Supply Chain. They are now focussing to make their processes like procurement, logistics and operations. Basically, how the hotel sources the products and delivers the services to the end user. The main problems which the hotels are faced regarding the supply chain is high material costs, high cost of ordering materials, cost of holding the inventory. With such high costs already existing in the supply chain in the hotels it is important to study the impact which the Sustainable supply chain will have. Restaurants have to make sure that they manage the costs of the delivery of food to the customers. They can include Electric Vehicles in their fleet as well. In this way they will be able to adopt sustainable practices in their supply chain. While sourcing raw materials also they can make sure that their moves do not pollute the environment. Whether adopting sustainable supply chain will lead to an increase or decrease in cost and the impact of that increased or decreased cost on the final price of the services offered by the hotels and restaurants will also have to be considered. Adopting a sustainable supply chain will definitely have a positive impact on the environment but we should also consider that impact it will have on the hotels and restaurants and the services provided by them. How the customers perceive and react to the changes and which the hotels make with regard to their supply chain will also play an important role to determine the success or failure of the hotels in adopting the sustainable supply chain.

Literature Reviews

Robert Mefford (2011) states that, the difficulty of overcoming cultural, environmental, and communication differences is a final consideration for the implementation of sustainability practices in the global supply chain. The collaborative approach involves the customer working closely with the manufacturer not only to ensure that the code of conduct is complied with, but also to update the production system to remove the root factor of low quality and productivity working conditions that compel the supplier to compete mainly with price. Lean manufacturing practices fully support the co-operated strategy and offer the buying company, the distribution company and the manufacturer a win-win situation. The consumer gets lower cost and quality goods, the supplier increases their efficiency and decreases their costs by increasing productivity and the workers may engage in the success of both businesses. These advantages are shown by the above footwear and clothing cases.

Melissa J. Markley and Lenita Davis (2007) The supply chains of a company are typically defined as the series of companies that work together to provide a value package of goods and services to their end clients, including vendors, consumers and the logistics suppliers. A business can reduce overall

invents, minimize product obsolescence, decrease transaction costs, react more rapidly to market changes and respond more quickly to the consumer demand through direct interaction with supply chain partners. The quality of materials management is important to the supply chain success—a variety of business processes covering the whole cycle of material flows from sourcing and internal controls of manufacturing materials to preparing and managing work in the process, warehousing, delivery and distribution of finished products. Managers can improve their performance in material management by first understanding how their decisions affect their entire organization's acquisitions, storage, management and regeneration of assets.

According to **Paolo Taticchi Flavio Tonelli Roberto Pasqualino (2013)** The perspective of the supply chain is so important because sustainable development risk does not begin with the goods of a business but with its suppliers. Organizations may be unable to carry out wasteful work practices or transportation or packaging activities that may harm their image by improper partnerships. Inbound and outbound logistics also have an environmental impact under evaluation and companies are trying to streamline factors such as distance, transport, numbers of transportations and lot sizes for the sourcing and creation of relationships. Effective policies are the first step towards integrating sustainability in the supply chain. In order to communicating performance efficiently to the internal players and also to the market, however, consistent and efficient monitoring / measurement is necessary, and trajectories towards progress are required. **Sajjakaj Jomnonkwao, Vatanavongs Ratanavaraha, Buratin Khampirat, Sutthipong Meeyai & Duangdao Watthanaklang (2015)** states that ,When looking at the 8 latent variables model (consumer expectations, perceptions of the company, quality, confidence, perceived value, engagement, perceptions of competitors and loyalty), it has been found that every observed variable is capable of confirming statistically significant latent variables. The contractors can use factor loads from the study to provide data for improving the quality of service in each element. For example, if entrepreneurs wish to increase perceived value, the entrepreneurs may consider determining the policy in Item 4 of the model, which has a maximum standardized factor charge. Businessmen may assess price and quality marketing strategy. It must ensure that consumers perceive a desirable benefit in comparison to rivals. According to **Marianna Sigala (2014)** The role and the contribution made by clients to manage a sustainable hospitality and tourist supply chain, based on analysis and extrapolation of current studies, I outlined in this article. The definition of green supply chain management provides a basis for customers ' protection in all supply chain processes. This proposal suggests that consumers and their social networks should contribute to sustainable

management of the supply chain at all levels, including the creation of business, manufacturing, procurement, delivery, promotion and marketing and supply chain loop closing procedures that are re-entered into the supplier's chain. **Kamel A. Fantazy , Vinod Kumar , Uma Kumar (2010)** states the study therefore provided statistical evidence that SP can make a positive contribution to the performance of a hotel through SCM. The value of strategic position in your hotel should not be overlooked by buying managers in the hospitality sector in expectation of the results. Hotel managers should also continue to focus on SP for improving financial and non-financial results. Our results suggested the significance of SP in their hotels for many Canadian hotels. According to **Xun Xu & Dogan Gursoy (2014)** states that, the research provides a framework for the conceptual supply chain hospitality and its sustainability management that has environmental, social and economic dimensions. The study and development of the hospitality supply chain are thriving and many extensions can be explored. Customers, workers and the company itself would benefit from sustainable management of the chain of hospitality by the efforts of each member of the hospitality supply chain. The value would even spread to society as a whole. The future can be further researched for academic research and management implications. According to **Jun-Zhi Chiu and Chao-Chen Hsieh (2015)** the key results of their study is the placing of green practices have an indirect impact on business efficiency via green capability in restaurants in Taiwan. The effects on renewable efficiency related to green practices have been studied extensively. This study strengthens previous findings for the restaurant sector and provides new evidence. Green practices can therefore strengthen both internal and external capabilities. The reputation of the restaurant externally improves the perceptions of its customers, so that green practices can be a good way to maintain market position during times of crisis. However, the implementation of such steps can be used to attract a new customer group for the restaurant by offering new menu options based on their tastes and concerns. In the study conducted by **Yao-Fen Wang, Su-Ping Chen, Yi-Ching Lee, Chen-Tsang (Simon) Tsai (2013)** shows the the green management standards established by this study provide restaurant managers with management guidelines and principles for the management and establishment of a green restaurant in Taiwan.. For implementation, priority metrics can be considered at each stage first. Environmental and social management, environmental environment and facilities was initially recommended compared with green food. This research helps to develop criteria for green restaurants. The results indicated that the criteria for green management includes three factors (green foods, green climate, and equipment) and nine facets and 81 indicators: the remaining 76 indicators were requirements for existing Taiwanese restaurants in addition to five indicators for a new

developed restaurant. According to **Jeff Sybertz 2017** The study reveals that over the past decade, the number of university studies investigating SSCM's relation to financial performance has significantly increased. This demonstrates the shift in the field of research from none to use corporate sustainable development initiatives to improve the public image of the company to concentrate solely on reducing risk to capitalize on opportunities and build a competitive advantage. The goal of this study is to reduce risks and capitalize on opportunities in SSCM programs. Work into process-specific approaches and problem-specific SSCM solutions has differentiated and shown that SSCM initiatives with environmental and social and economic benefits can be implemented. It should be noted, however, that many programs may also involve tradeoffs or can not be replicated across companies and/or industries. However, this study can provide an important resource for researchers and practitioners to consider the studies and the future fields.

Accordin to **Weinstein (1994)** the study considered that the construction and maintenance of ecological food service operations included the design of construction (outside, internal architecture, interior details), management systems and services like reduced resource usage, recycling, recycling, composition, and waste auditing. **Priego and Palacios (2008)** in the study analyzed that the overview of the ten environmental and social questions critical to long-term successes has been assessed in the different environmental guidelines: energy management, water use management, waste water management, waste management, chemical usage, purchasing behaviours , biodiversity contribution and natural conservation, community development contribution and social work.

Objectives of the Study

- 1) To study the benefits of a Sustainable Supply Chain.
- 2) To determine the change in cost due to adoption of Sustainable Supply Chain.
- 3) To find out the impact of the change in cost of Supply Chain on the final services offered.
- 4) To determine the perception of customers towards Sustainable Hotel/Restaurant practices related to supply chain.

Methodology

The research is an Exploratory Research as not many literatures pertaining to the topic could be found. Primary data was collected from 10 hotels and restaurants and 50 customers to collect primary data. The data collected was analysed using IBM SPSS.

Data Analysis and Interpretation

Benefits of Sustainable Supply Chain.

Protecting Against Reputational Damage.

Stakeholders, including investors and customers are pressuring companies to extend their sustainable management policies to their supply chains. This is evidenced by a record number of shareholders' proposals on sustainability of the supply chain in recent years, as well as social media scrutiny on businesses to ensure that they are committed to fair and responsible business practices. To addition to this, Target has implemented a campaign on environmental health and accountability across its facilities, and Ralph Lauren is creating sustainable procurement standards for wood-based fabrics.

Reducing Environmental Impact and Costs.

A good example here is Walmart. When the retail giant revealed it's intention to reduce greenhouse gas emissions to Walmart's total carbon footprint by 20 million tons a year by 2020, it saw the supply chain contributing around 95%. Walmart partners with manufacturers to reduce their emissions, not only reducing their impact on the environment, but also saving money. Walmart and other major supply chain management programs in 2016 saved vendors \$12.4 billion in 2016 from a CDP survey published last month.

Improving Continuity of Supply.

The Automotive Industries learned that lesson by bringing the automotive supply industry, idling plants around the world, to a standstill in floods in Thailand," says the column. "The vehicle supply chain has therefore now been much more diversified by collaborating with main manufacturers, which has also resulted in profits for their suppliers.

Innovating Products and Services.

Suppliers who are familiar with the company's strategy and long-term plans are better equipped to propose changes and procedures that can help companies meet growth targets and enhance business operations.

Creating Partnerships or Global-Industry Standards.

The authors point out a coalition of leading brands and retailers for the apparel and footwear industry, who joined themselves together to help lead the industry to nullify the ZDHC. The group released a Joint Roadmap document which details ZDHC's collaborative efforts in all products during 2020. The ZDHC Joint Roadmap has expanded to a coalition of 22 brands from six establishment brands (Adidas Group, C&A, H&M, Nike, and Puma).

Table 1

	Practice SSC	Adopting SSC leads to increase in cost
Pearson Correlation	1	-.836
Sig.	.003	.003
N	10	10

Correlation was performed for the second objective to prove that Adopting Sustainable Supply Chain leads to an increase in cost of the Supply Chain. The Significance value here is 0.003 which means that adopting sustainable supply chain leads to an increase in cost of the supply chain. It is said that Sustainability comes with a cost and in order for the supply chain to be more environmentally friendly the hotels and restaurants need to shell out some extra pennies.

Table 2

	Adopting SSC leads to increase in cost	Change in cost leads to increase in price of final product/service
Pearson Correlation	1	.724
Sig	.018	.018
N	10	10

From the above table we can see that the significance value is 0.018 which means that an increase in cost of the Supply Chain will lead to an increase in the price of the final product. Adopting Sustainable Supply chain generally leads to an increase in cost of the Supply Chain and which leads to an increase in the price of the product. Some hotels and restaurants are able to maintain the overall cost the same as the one before adopting Sustainable Supply Chain by changing the order cycle, minimising the inventory carrying cost, negotiating terms with the supplier. Whereas some organisations are not able to do so which leads to an increase in the overall cost of the Supply Chain. This increase in the overall cost leads to an increase in the price of the final product and service which may lead to a loss in the customer base of the company. The customers will think twice before purchasing the same quality and quantity of the product or same quality of the service with an increased price.

Table 3

	Increase in price of products or services offered.	Go back to the restaurant which follows sustainable practices.
Pearson Correlation	1	.117
Sig	.407	.407
N	52	52

Questionnaires were distributed to 52 customers and their perception about the Sustainable Supply Chain practices were found out. It was found out that majority of the customers think that Sustainable Supply Chain practices should be adopted by all the hotels and restaurants. The above table shows that the significance value is 0.407 which means that the increase in price of the products or services when adopting sustainable supply chain does not affect the loyalty of the customers and they prefer going back to the restaurant or hotel on the basis that they have adopted sustainable practices in their supply chain. People are becoming more and more environmentally conscious and they encourage practices which protect the environment. They do not mind paying more money for products or services if the restaurant and hotels follow practices in Supply Chain and in their other processes which will lead to sustainability.

Conclusion and Suggestions

We can conclude from the study that Sustainable Supply Chain leads to an increase in the cost of the supply chain in the organisation. This increase in cost in turn leads to an increase in the price of the final products and services offered by the hotel and restaurant. The cost of sustainability will have to be borne by both the customers and the service providers. In order to be environmentally friendly measures such as e-vehicles, instead of ordering in bulk they can order on a day to day basis and the use of trucks which pollutes the environment will reduce in this way and small vehicles can be used. They can use jute bags instead of plastic to help reduce the use of plastic. They can replace paper with tablets or other electronic gadgets which will reduce the consumption of paper and help save trees. They can avoid giving one-time use plastic bottles for water and instead give water in glass or steel jugs. We have also found that the customers prefer hotels which use sustainable practices. They do not mind paying a higher price for the services or products offered if the hotels are using sustainable supply chain. They prefer going back to the hotel which uses sustainable practices. People are becoming more aware of climate change and hence, encourage the sustainable practices followed by the hotels and restaurants.

Limitations

Hotels and Restaurants of only Bengaluru are considered for the study. The trend followed in one place cannot be generalized for all the places. The sample size is restricted to only 10 hotels/restaurants and 52 customers. Only mid-sized hotels and restaurants are considered in this case and small and large sized have not been taken into consideration.

Future Scope

We have only considered hotels and restaurants in this case and the scope of the research can be broadened and the whole of the hospitality sector can be considered for the purpose of research. The research can also be conducted for other sectors and the impact of the sustainable supply chain on the costs in other sectors apart from the hospitality sector can also be analysed.

References

- Chiu, J. Z., & Hsieh, C. C. (2016). The Impact of Restaurants' Green Supply Chain Practices on Firm Performance. *Sustainability* (2071-1050), 8(1).
- Fantazy, K. A., Kumar, V., & Kumar, U. (2010). Supply management practices and performance in the Canadian hospitality industry. *International Journal of Hospitality Management*, 29(4), 685-693.
- Jomnonkwao, Sajjakaj, Vatanavongs Ratanavaraha, Buratin Khampirat, Sutthipong Meeyai, and Duangdao Watthanaklang. "Factors influencing customer loyalty to educational tour buses and measurement invariance across urban and rural zones." *Transportmetrica A: Transport Science* 11, no. 8 (2015): 659-685.
- Markley, M. J., & Davis, L. (2007). Exploring future competitive advantage through sustainable supply chains. *International Journal of Physical Distribution & Logistics Management*.
- Mefford, R. N. (2011). The economic value of a sustainable supply chain. *Business and Society Review*, 116(1), 109-143.
- Paolo Taticchi Flavio Tonelli Roberto Pasqualino , (2013),"Performance measurement of sustainable supply chains ", *International Journal of Productivity and Performance Management*, Vol. 62 Iss 8 pp. 782 - 804 Permanent link to this document: <http://dx.doi.org/10.1108/IJPPM-03-2013-0037>
- Priego, M.J.B., Palacios, C.A., 2008. Analysis of environmental statements issued by EMAS-Certified Spanish hotels. *Cornell Hospitality Quarterly* 49 (4), 381–394.
- Sigala, M. (2014). Customer involvement in sustainable supply chain management: A research framework and implications in tourism. *Cornell Hospitality Quarterly*, 55(1), 76-88.
- Sybertz, J. (2017). Sustainability and effective supply chain management: A literature review of sustainable supply chain management.
- Wang, Yao-Fen & Chen, Su-Ping & Lee, Yi-Ching. (2013). Developing green management standards for restaurants: An application of green supply chain management. *International Journal of Hospitality Management*. 34. 263–273. 10.1016/j.ijhm.2013.04.001.
- Weinstein, J., 1994. The green restaurant. Part 1: Design and construction. *Restau- rant and Institutions* 1 (April), 35–62.

Xun Xu, Guangshun Xiao, Dogan Gursoy. (2017). Maximizing Profits Through Optimal Pricing and Sustainability Strategies: A Joint Optimization Approach. *Journal of Hospitality Marketing & Management* 26:4, pages 395-415.