



THE ROLE GREEN SUPPLY CHAIN COULD PLAY IN TRANSFORMING THE IN THE OIL AND GAS SECTOR

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- **Abstract:**

The current research THE ROLE GREEN SUPPLY CHAIN COULD PLAY IN TRANSFORMING THE IN THE OIL AND GAS SECTOR focuses on some specific activities that are part of the supply chain management of the Oil and Gas sector.. Besides, the study provides the basis about how the green supply chain practices will transform the business of the company towards better performance and environmental sustainability. The study provides the strong foundation for the research studies that will be carried out later in countries related to the practices of Green SCM. The study further provides the guidance about how the Oil and Gas Sector of countries could leverage through the implementation of the green practices. Therefore, through this study new arrays for the future work are opened. Moreover, using the current research, the companies in future could take the principal guidelines in redefining their supply chain practices in the Oil and Gas sector.

- **Keyword:**

GSC: Green Supply Chain

GSCM: Green Supply Chain Management

- **Introduction:**

The businesses began to become diverse during the late 1990s. This made the companies to have more flexible product line and change their pattern of manufacturing owing to the dynamic needs of the customers. The companies adopted the new production systems and eradicated the older ones for satisfying the customers. However, this became a new challenge for the companies as the customers became more environment-centric (Gandhi and Vasudevan, 2019). During this time, as the companies were complying with the change in the production facilities and processes, they also realized that the material purchased from certain suppliers have an impact on the organization's ability to deal with its customers. This made the organizations to focus upon the resource bases and the sourcing strategies. The organizations further realized that producing qualitative product wasn't enough; in fact, they have to focus upon the high-quality standards and the cost they are offering to their customers. Under such circumstances, the businesses realized that the current process of change could not be handled through the one facility they own rather they have to implement this change in their organizational network from supplier to end distribution (Vanalle, Ganga, Godinho Filho and Lucato, 2017). This gave rise to the concept of the Supply Chain Management. The supply chain is defined as the network of organizations from upstream to down-stream that are involved in creating values for the customers in the form of product or service (Khan and Qianli, 2017). It involves the activities and processes that are involved in transformation of goods from the raw material into the final usable product that is according to the customer's demand. Moreover, it is also regarded as the thoughts and attitude that is dedicated to creating synergy in the company's performance. The supply chain is not limited to the physical products; rather it is also about the flow of information between the components of business.

- **Statement of the Research Problem:**

The any oil and Gas Company that is engaged in gas transportation. The company transports and supplies the gas to the major economic sectors of the state like the refineries, steel and cement factories, aluminum smelters, oil companies etc. (Okedu, Nadabi and Aziz, 2019). The company provides the gas to various other industries of the country through the pipelines. This shows that there are vast supply chain activities performed by the company. Therefore, the current research will focus on how the supply chain practices involved in the digging and construction of the gas pipelines affect the environment and how the company could transform its supply chain for enhanced performance.

- **Research Objectives:**

Following are the research objectives for the current study:

1. To find out the usage of the gas by the companies.
2. To find out the impact of the use of gas by the company on the environment.
3. To find out the use of the green supply chain by the companies.
4. To find out the importance of green supply.

- **Significance of the Study:**

The study will provide the strong foundation for the research studies that will be carried out later in Oman related to the practices of Green SCM. The study will further provide the guidance about how the Oil and Gas Sector of Oman could leverage through the implementation of the green practices. It has been seen that there is very less literature present in Oman upon the implementation of Green practices implementation in Omani industrial sectors. Therefore, through this study new arrays for the future work will be opened. Moreover, using the current research, the companies in future could take the principal guidelines in redefining their supply chain practices in the Oil and Gas sector.

- **Literature Review**

The consumer market has become more dynamic in the 21st century, and active supply chain is what keeps the business going and responsive towards the changing demands. This has increased the competition in the global business market. The companies having the efficient supply chain have competitive edge in the market. It has been seen that today the sustainability of the environment has become the supply chain imperative instead of the organizational imperative (Rezaee, 2017). The development of the environmentally sustainable products, processes and services is the unified efforts by all the entities in the supply chain. A single entity of the supply chain couldn't alone manage it. The main issues of the supply chain arise in the manufacturing and the oil and gas industry. These industries have vast supply chain which they have to manage for ensuring the environmental sustainability (Sharma, 2017).

- **Research Methodology:**

- **Data Collection Technique**

The data collection technique involved in the current research is both the primary data collection and the secondary data collection. The secondary data collection was carried out through the online journals, research articles, and the report publications of the company. The secondary data collection technique was adopted to study the background of the company and its operations. The primary data collection technique was adopted for conducting the survey. The primary data collection technique is used for collecting the raw data which is then arranged and analyzed. The primary data collection technique used the questionnaire medium for the survey

➤ **Data Analysis Technique:**

The research involves the reliability and the validity testing which will be done through the SPSS software. The data thus collected for the research will be analyzed on different grounds. After the aforementioned testing, this will be then authenticated through their Cronbach alpha value. The ANOVA testing will be done for the primary data collected for the current research. ANOVA testing is the Analysis of Variance, it will be done to check that means of the two groups of the research are significant to each other or not (Rouder, Engelhardt, McCabe and Morey, 2016). There are two scenarios developed for the current research: The Green SCM improves the operational efficiency and the other is Green SCM has the same effect as the traditional SCM. However, the ANOVA testing will prove either the hypothesis i.e. Green SCM improves the operational efficiency is accepted or rejected through the test results. However, it is essential for the researcher to comply with the analysis results of the ANOVA test.

- **Result Of The Study:**

According to respondents, it is acceptable for Omani oil and gas companies to make more and more contributions to the green purchases of 60% participants. Moreover, only 40% people accept that in green distribution, green logistics, green marketing, and customer cooperation and in green design the company makes its contribution. Apart from that, they received no response to other activities of Green Supply Chain Management.



Figure 1: Specific GSCM practices

Source: Analysis from MS Excel

Majority of the respondents have stated that Companies of gas and oil uses Green Procurement as green supply chain management practice (Zhao et al., 2017). This highlights fact that the management concerned focuses on purchasing services or products that bring about minimal adverse impacts upon the environment

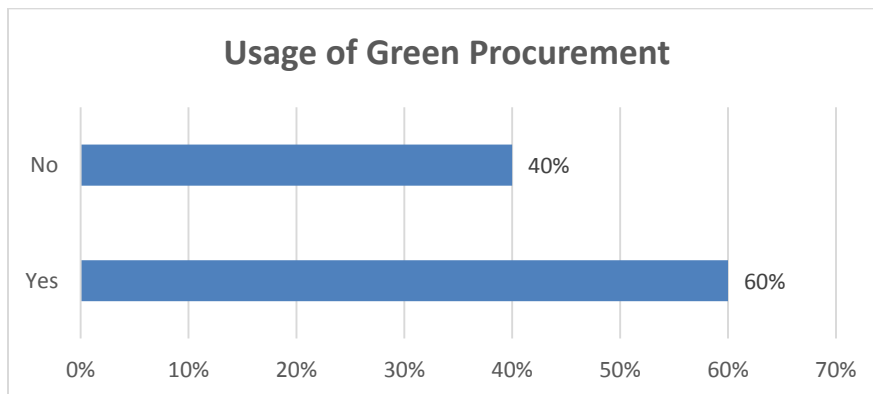


Figure 2: Usage of Green Procurement

Source: Analysis from MS Excel

This can be seen that the majority of the participants feel that the organization uses recycling processes at time of producing products. Thereby, it is needless to say that recycling proves to be helpful for the management to reduce the cost of production to a large extent. Thereby an initiative to do so can help maximize its profit margin as a result of greater differences between revenue earned and the cost incurred in real terms following recycling

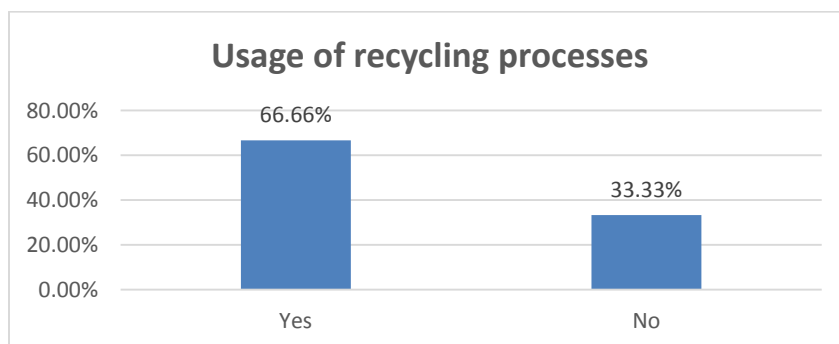


Figure 3: Usage of recycling processes

Source: Analysis from MS Excel

Majority of the respondents can be seen to be of the opinion that the top management is continuously focused on eco-friendly production. This highlights the acute concern on its part to conserve or protect the environment. The products manufactured by using

various eco-friendly measures are of high demand in recent times on one hand and prevent negative externality on the other.

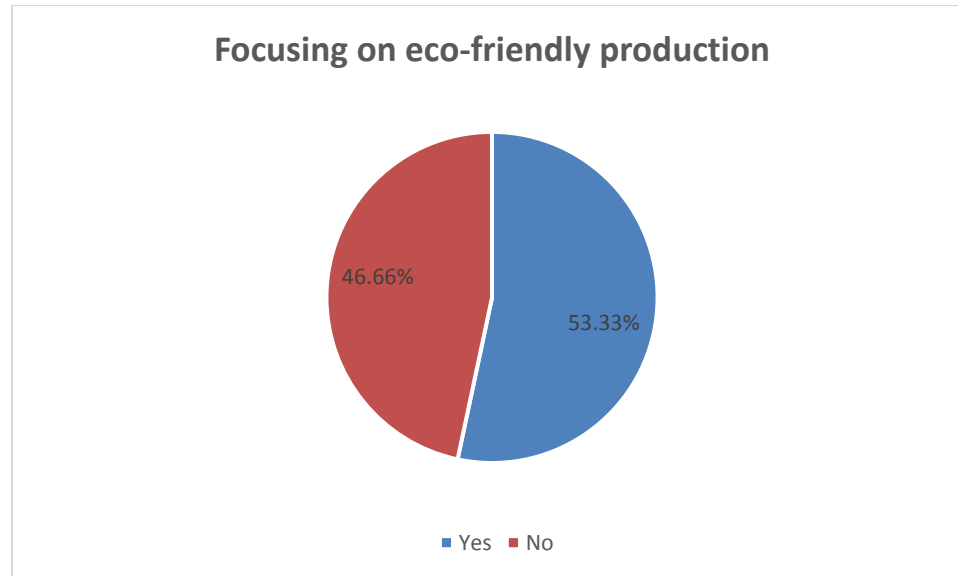


Figure 4: Focusing on eco-friendly production

Source: Analysis from MS Excel

- **Discussion Of Finding:**

Here it is found that nowadays the companies did not use sustainable production to produce goods and services. They try to increase their production at any cost without thinking about the resources which are continuously depleted and the new generation faces a lack of resources due to this overuse. On the other hand, the Oman gas company uses sustainable development but they face a lot of issues in their increasing profit. As stated by Roehrich, Hoejmose and Overland (2017), if one business produces more goods and services by depletion of natural resources and one produces less by lessening the use of natural resources then it is obvious that the business that produces more will get more profit.

- **Conclusion**

It is concluded that more and more competition in the market for goods and services is making a greater contribution to resource depletion. Omani oil and gas companies use sustainable development but face competition because of competitors who have mass-produced production by depleting natural resources. No business can stay on the market without using natural resources. This creates competition among sellers which creates a negative impact on the environment from the past few decades (de Oliveira et

al., 2018). For this reason, it pollutes the environment day after day and affects the health of the public.

Moreover, supply chain management has seen an increase in awareness by manufacturers considering planning, designing, maintaining, and operating supply chain procedures. There are a number of companies that cannot identify environmental problems such as global warming. This is increasing day by day and creates a very bad impact on the environment and the health of the residents (Umar and Jaharadak, 2019). This depletion and overuse is caused by high demand for goods and services.

- **Recommendations**

- a. The company needs to focus on ethical sourcing. It needs to meet the DPS's quality standards, and analyse the suppliers through the UN Human Development Index. Even though majority of the employees support its present practices, the company needs to evolve.

- b. The unsustainable use of supply materials uses up lot of power. Thus, the company needs to reduce and eliminate those packages.

- c. The company needs to collaborate with projects like Detox and Greenpeace. These promote green supply and can even help the company to overcome its supply chain gaps.

- d. The company definitely needs to apply Reverse Logistics in its GSCM. It can help reverting 99.8% of waste of the company to something recyclable or reusable. The closed loop system will not only help its GSCM practices but give the company a competitive advantage (Rentizelas et al., 2018).

- e. Lastly, the company can give a try to JIT supply chain management. Even though it has still not been used in this industry, the Just-in-time management had great results in other industries. If successful, it can add to the company's competitive advantage too

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