

Investigating the Impact Green Supply Chain Management on Organisational Performance: A Case of Selected Johannesburg Based Corporates

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Abstract

The study investigated the green supply chain management's impact (GSCM) on organisational performance. A case of Johannesburg based corporates. The study used a qualitative approach in which 12 participants took part in semi-structure interviews. The study aimed to explore how GSCM was related to organisational performance. The green supply chain management practices which were used for examining their impact of performance include; green procurement; green designs; environmental preservation collaborations and; reverse logistics. These were to be measured on the key dimensions of performance which include operational, social and economic performance. The aim of a qualitative study is to gain in depth understanding of the green supply chain management issues confronting organisations. The study produced mixed results. Some GSCM practices had an effect on organisational performance whilst others were not. Eco- design had no impact on any of the performance dimensions stated namely; operational, economic or social dimensions. It was found out that environmental cooperation had a positive influence on operational performance without any influence on other performance dimensions. Reverse logistics impacted positively on social performance and GSCM had an impact on both economic and social performance of an organisation.

Key words: Green supply chain management, organisational performance

1. Introduction

The link between organisational performance and environmental issues have been the subject of interest among the research community of late. Due to the advent of climate change issues which have led to the subsequent degradation of the environment coupled with the depletion of the ozone layer there have been global calls for organisations to go green and not just organisations only but also whole supply chains (Lee et al., 2012). Organisations have thus to be compliant to legislative requirements and also be able to remain focused on achieving their objectives. Consequently, it is of great value to investigate how organisations can be compliant to these global demands while also be able to satisfy their stakeholder's needs (Ayuso et al., 2014; Freeman, 2013; Russo & Foutus, 2015).

2. Literature Review

2.1- GSCM and Corporate Performance: Positive Relationship

Porter (1991), views green supply chain management as having a positive relationship with organisational performance. Porter's views are ably supported by extensive researches carried out in several industries which indicate that GSCM impacts positively on different dimensions of performance. A study by Diabat et al. (2013) made use of a survey in an exploratory design to investigate the link between sustainable supply chain policies and performance. The study found out that environmental cooperation, eco-design and reverse logistics have a positive impact on performance. The concept of Eco-design emphasises on the utility of considering negative impacts on the environment during manufacturing process such as energy consumption, carbon emissions, and water proof print among others. Figure 1 below indicates that each step of the business process follows ethical guidance from the nature of the raw materials to the end customer through manufacturing of eco-friendly products as highlighted by Clarion (2019).



Figure 1: Eco-friendly Products

Figure 2 below shows that reserve logistics refers to the reuse and recycling of products after the standard logistics process and customer return. The value of reserve logistics in the supply chain is about bring back the delivered product in the supply chain to optimise profitability as designed by LinkedIn (2019).

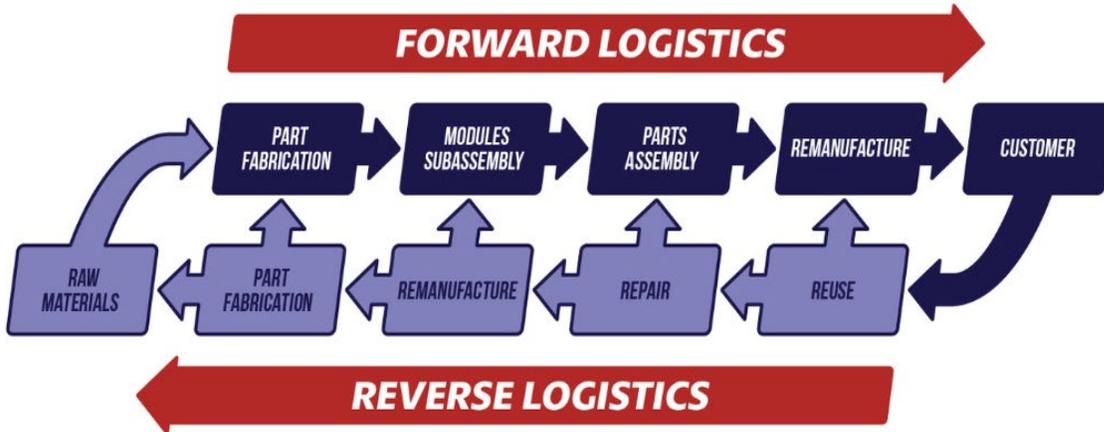


Figure 2: Reverse logistics

Considering the automation as part of the fourth industrial revolution, figure 3 shows that efficiency will be optimised as well as achieving return on investment in a short period of time if corporates adopt automation of their reverse logistics process as argued by Emballiso (2019).

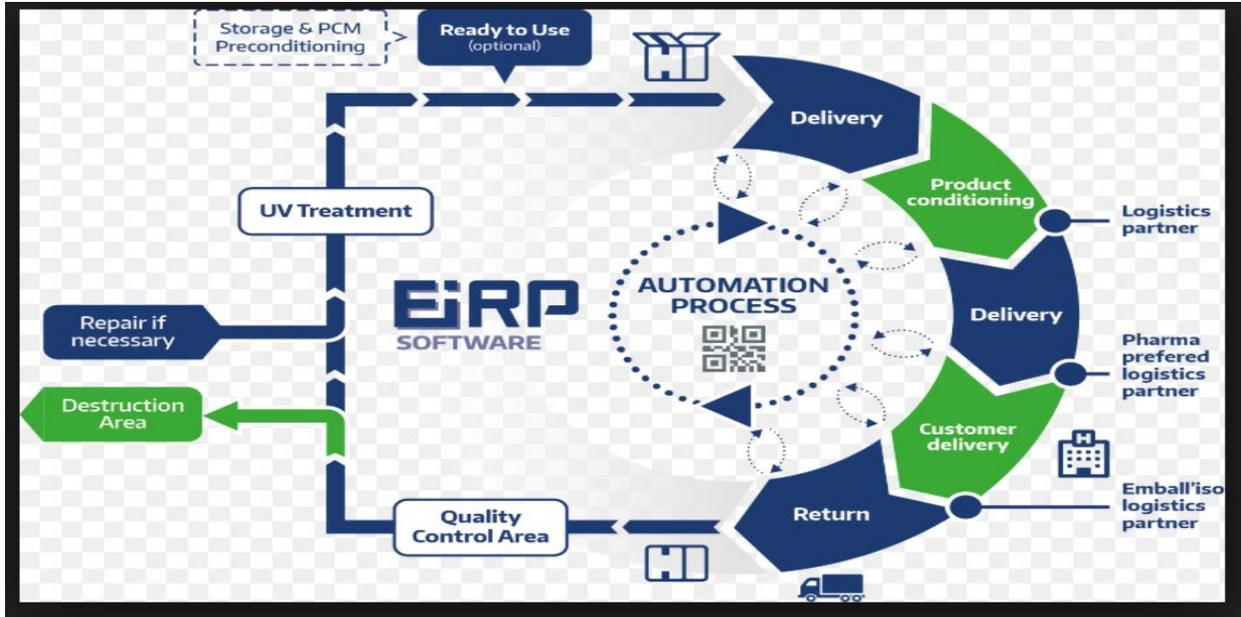


Figure 3: Automation of Reverse logistics

Also, in support of this discovery is a study by Green et al. (2012) in which 159 respondents took part, which analyzed the effect of the implementation of GSCM on operational, environmental and organisational performance. Through structural equation modelling, Green et al's (2012) study found out that policies like green purchasing, environmental management (internal), investment recovery, green information systems and eco- design positively impacted on performance dimensions. This is despite that the study had a low response rate.

3. Methodology

In order to gain sufficient insight on the impact of GSCM on performance on Johannesburg based manufacturing and service sector organisations, the study made use of a qualitative approach. An exploratory qualitative approach was used. Unstructured interviews were used to gather information from a sample of environmental management representatives from the organisations. According to Kelle (2014) one of the main disadvantages of quantitative research is that the results may be difficult to understand however qualitative research is useful in gaining understanding of phenomena under study. The interviews were selected as the research instrument because they allow for rich data to be collected from people in different scenarios (Myers, 2011).

3.1 Sample Selection for interviews

The research initially intended to conduct interviews from a sample of 17 participants. However, the figure dropped to 8 participants as some of the contacted participants could not take part in the study due to busy work schedules and time constraints. Thus the sample size for the study was 8 participants. These participants were industry experts and thus they provided relevant information into GSCM issues in their industries presently. Table 1 below shows the participants who took part in the study and their positions. The company names are coded.

Table 1. A description of the organisations and the participants who took part in the study.

Code No.	Organisation	Concentration	Position of participant in organisation.
1	A	Fitting and repairing of plastic pipes	Engineer
2	B	Manufacturing of tiles	Manager
3	C	Manufacturing of thermal pipes	Quality control Manager

4	D	Distribution of pharmacy pills	Operations Manager
5	E	Manufacturing of construction materials for stadia	Regional Manager
6	F	Manufacturing of furniture	Purchasing Manager
7	G	Manufacturing and repairing of pipes	Assistant Manager
8	H	Supplier of ready-mix concrete	Health and Safety Manager

3.2 Qualitative Data Analysis Process

The interviews took approximately 25 minutes to conduct. Interviews have to undergo transcription, coding and categorization so that themes can be allowed to emerge in a systematic manner (Schram, 2015). The process of data analysis through content analysis is crucial for the purposes of ensuring that all the research questions are adequately answered. Analysis is thus the process of creating sense out of the data (Merriam and Merriam, 2012). Effort was made to ensure that every question on the interview schedule was answered.

4. Results and discussion

When the participants were asked why sustainable supply chain management policies were failing to translate to improved performance, the responses varied. For instance the managers in organisation B and F, who are in the businesses of pipe and furniture manufacturing, respectively, said that eco- design practices were failing to impact on organisational performance because they were being poorly implemented. However, the manager of organisation D, stated that eco- design practices have improved organisational performance because it is fully backed by a committed management. The manager of company F, noted that eco- design practices should rather be viewed as long term efforts whose benefits can only be realised in the distant future. This implies that it can take a bit longer before organisations get to benefit from GSCM. There was a general agreement between all participants from the sampled organisations regarding the impact of reverse logistics on performance. For instance, the participants from company D, company E and company A all stated that failure in the implementation stage was the reason why reverse logistics failed to improve the organisational performance. The study findings indicated that reverse logistics and eco- design did not have an effect on organisational performance. This was rather strange because these practices were among the most adopted in South African organisations. However the study failed to find their impact on organisational performance. The reason might be because they are not adequately implemented in a way which translates to improved outcomes as concluded in a study by Zhu et al. (2010). Deutz et al. (2013) also agrees with Zhu et al's (2010) findings by claiming that corporates are not implementing eco- design effectively because they lack all the functional specifications which subsequently results in no performance improvements. Some participants also stated these reasons as well. The participant from company B, claimed that failure to correctly implement eco- design will mean that it will not benefit the firm in any way. The Quality Control manager of company C, stated that there is need for a dedicated environmental management department in organisations meant for monitoring and managing eco- design but most South African companies do not have such a department.

Concerning reverse logistics, Richey et al. (2016) found out same results that the implementing reverse logistics practices did not lead to improved performance in operations. The reason may be that these organisations implemented reverse logistics without full knowledge of the legislative requirements that give them the responsibility of recovery and disposal of the products they use. In other ways reverse logistics is something that they did voluntarily. As highlighted by Mitra and Datta, (2014) in such cases the implementation may not lead to the expected improvement of operational performance. It might be worth it that there be cooperation between supply chain members in eco- design and reverse logistics procedures in order to gain from reverse logistics and eco- design. However the study could not find a strong link between these and cooperation as cooperation was among the least adopted GSCM practices by the organisations under study. Additionally, Eltayeb et al. (2011) claimed that sustainable supply chain management practices like reverse logistics were had more external impact than internal and thus had less impact on the internal performance of an organisation. A participant from company B, stressed that recycled material products tended to be of lower quality than those manufactured by raw materials therefore this might be a reason for little improvement if any, in corporate performance. In the same vein the manager of company E, also claimed that reverse logistics could not impact on operational performance because of implementation challenges. The manager went on

to give an example of his work context by stating that during the production of bricks, the dust is recycled back into the process. This however is not an easy feat to accomplish as it requires careful implementation and control which most organisations fail to do. The research findings closely mirror the ideas of the institutional theory. The study found out that reverse logistics had an effect on the social performance of an organisation. It ranked second among supply chain management practices commonly implemented in South Africa behind eco- design. This is in agreement with the findings of a study by Mitra and Datta (2014). In their study they found out that companies that have initiatives in place to recover the packages of their products have a positive public image. Based on the institutional theory it can therefore be claimed that the improved social performance of these organisations is due to its positive image in the eyes of the public and not due to adherence to legislation as noted in other studies. Improved social performance of organisations is due to practicing internal reverse logistics which is also confirmed by Lin and Sheu (2012) who concluded that GSCM practices enhance social performance.

5. Conclusions

In conclusion the study has revealed mixed results, some green practices impact on performance while others do not, eco- design for example has no impact on performance. However other practices like environmental cooperation have relative impact on operational performance but no impact on social performance. Reverse logistics positively impacts on social performance while green purchasing impacts on both economic and operational performance.

The study however could not separate between organisations who adopted GSCM earlier and those who adopted it at a later stage because it was of a much-limited scope. It might be imperative for future studies to carry out research on how GSCM practices impact on performance over time.

6. Recommendations

Based on the above conclusions, the following recommendations are therefore made:

- For organisations to fully benefit from GSCM the leadership must be fully committed to the practices and fully back it financially.
- It might be worthwhile to have a fully-fledged department within an organisation with a full complement of staff assigned to take charge of environmental issues in their organisation.
- There is need to put in place proper implementation and GSCM monitoring mechanisms
- Organisations should also strive to ensure that green supply chain management rules are strictly followed.

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