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GREEN PROCUREMENT MANAGEMENT PRACTICES AND SUSTAINABILITY OF SUPPLY CHAIN PROCESS IN INTERNATIONAL NON-GOVERNMENTAL ORGANIZATIONS: A CASE STUDY MEDICINS DU MONDE IRAQ PROGRAM.

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ABSTRACT

Purpose: Green supply chain management practice is a multi-dimension concept that is measured from different aspects. Green logistics, green manufacturing and green distribution are an important dimension of green supply chain management practices required by organizations to attain sustainability of supply chain processes. These practices ought to embrace internal environmental management, green information system, inventory recovery, and eco-design and customer cooperation. The main study objective was to determine green procurement management practices and sustainability of supply chain process in international non-governmental organizations a case study Medicins Du Monde Iraq Program with specific objectives being; to determine how supplier assessment affects the sustainability of supply chain processes and to establish how reverse logistics affect the sustainability of supply chain processes. The study main anchor theory is Sustainability Theory and reinforced by Institutional Theory.

Methodology: The research design adopted a descriptive research design. The study target populations were 450 employees at Medicins Du Monde Iraq Program and a sample size of 90 respondents was selected using stratified sampling. Questionnaires were used as the main data collection instruments that were pilot tested. The data were analyzed using SPSS software and descriptive statistics which included mean, percentages and standard deviation. The study adopted a correlation analysis (ANOVA). The data were presented using tables. Data were first coded and organized into concepts from which generalization was made of the entire population. The study established that supplier assessment and reverse logistics have a great influence on the green procurement management practices and sustainability of the supply chain process. The

overall model was significant and implies that reverse logistics is significant in decisions for the green procurement management practices and sustainability of the supply chain process, and reverse logistics practices are capable of reducing customers' risk when purchasing a product and increase the customer value.

Conclusion: The study concluded that supplier assessment is significant in shaping the decisions for green procurement management practices and the sustainability of the supply chain process.

Recommendations: The recommendations are that the management at Medicins Du Monde Iraq Program should know that a strong supply chain is the backbone of a successful business. The management should closely work with suppliers, and reinforce their relationship with them, and the procurement department should regularly evaluate suppliers for efficiencies and growth.

Keywords: GREEN Procurement Management Practices, Sustainability of Supply Chain Process, Supplier Assessment, Reverse Logistics, Medicins Du Monde Iraq Program.

INTRODUCTION

With the ever-increasing deterioration of the environment, several activists have raised concerns. Studies have indicated that green procurement is the aspect of green supply chain management that is expressed as the additional contemplation in the organization that has been started as a useful measure to increase the environmental performance of the organization and to reduce environmental risks (Fahimnia, Sarkis, & Davarzani, 2015). Nderitu and Ngugi (2014) define green procurement as the sustainable procurement that an organization can realize with efficiency in every usage of energy, waste generation and water consumption along with the use of recycled materials that result to cost reduction.

According to Wanjohi, Gachoka, Kihoro and Ogutu (2016) green procurement is based on the belief that organizations can simultaneously benefit from the environment, elements of economics and society. While Charted Institute of Purchasing and Supplies (2017) define green procurement as the consideration of the social, economic and environmental consequences of design, the material used during manufacturing methods, design and disposal. Green supply chain management practice is a multi-dimension concept that is measured from different aspects (Weeratunge & Herath, 2017). Green logistics, green manufacturing and green distribution are an important dimension of green supply chain management practices required by organizations to attain sustainability of supply chain processes. These practices ought to embrace internal environmental management, green information system, inventory recovery, eco-design and customer cooperation (Green, Zelbst, Meacham, & Bhadauria, 2012).

According to Lee (2012) green supply chain management practices are inclusive of organization formations of enhancing environmental sustainability. Green supply chain management requires organizations to design products that enable the use, recycle and recovery of components and materials components that avoid or cut back the utilization of hazardous products among the process of supply chain processes and minimize the consumption of materials (Lee, 2012). Green supply chain management consists of green packaging that aims at downsizing packing, reuse of organization programmes, use of green packaging materials and encourage recycling as well as work with vendors in standardizing packaging and adopt revertible packing ways, minimize material use and use reusable pallets system as well as save energy in the warehouse (Green, Zelbst, Meacham & Bhadauria, 2012).

There are several advantages that organizations gains from green supply chain management such as value reduction, integrations of supplier's indecision making process that promotes environmental innovation. And the primary function contains ways that are adopted by organizations to increase international consideration of environmental sustainability. Green supply chain management enables enhancement agility by way of mitigating risks and dashing improvements, it will increase the adaptability through revolutionary strategies and continuous enhancements (Fahimnia, Sarkis & Davarzani, 2015)). According to Lee (2012), green supply chain management includes negotiating guidelines with clients and suppliers which end up in a higher alignment of the organizing principles. Other advantages are that green supply chain management ensures resource sustainability, improved profitability, low cost in the procurement process, competitive advantage, risk reduction, improved product quality and product differentiation (Nderitu & Ngugi, 2014).

Supplier Assessment

According to Fahimnia *et al.*(2015) green supply chain management practices involve the process of screening suppliers based on their environmental performance and doing business with suppliers who meet certain environmental standards or regulations. During supplier assessment, most organizations consider several factors such as green product pollution control green packaging. The process of supplier selection and evaluation is a multicriteria decision-making approach that provides an effective framework for comparing suppliers by considering the qualitative characteristics of environmental performance as an indication of green supplier

selection (Blomea, Hollos & Pauraj, 2013). The selection process of the suppliers has a critical effect on the competitiveness of the entire supply chain network, selection of suppliers is one of the important aspects that organizations should incorporate in their strategic process. As companies become more dependent on suppliers, the indirect and direct consequences of poor decision making in selecting supplier was more critical (Paula, Campos, & Pagani, 2019). Apart from other basic selection criteria that are based on quality and cost it is critical to consider the role that green procurement can play in sourcing and try to recommend critical environmental variables that can be used in supplier selection.

Reverse Logistics

Reverse logistics is more than reusing containers and recycling packaging materials it involves the recycling of waste products, monitoring of logistics returns and proper disposal of waste products, redesigning packaging to use less material or reduce the energy and pollution from transportation are some of the important activities (Paula, Campos, & Pagani, 2019). According to Morgan, Tokman, Richey, and Defee (2018) reverse logistics includes the processing of the returned merchandise due to damage, seasonal inventory, recalls, restock, obsolete equipment disposition and asset recovery. And the most significant trend in supply chain management is the recognition of the importance of reverse logistics operations that supports a variety of organization activities that is referred to as green logistics that is associated with the efforts to reduce the environmental impact of the supply chain.

Reverse logistics practices are capable of reducing customers' risk when purchasing a product and increase customer value. However, the success of reverse logistics implementation requires the coordination of backward and forward of both information and material. The reverse flow of products going in the chain impacts the dynamics of supply chain member inventories that in turns influence the dynamics of an order placed to suppliers that impacts the performance of the entire supply chain in terms of the order and inventory alteration magnification (Morgan, Tokman, Richey, & Defee, 2018).

Statement of the Problem

The concept of sustainable procurement is not simply about being green but it is about purchasing with social and ethical responsibility that involves protecting environment buying procedures, carrying economically sound solutions and noble business practice (Green, Zelbst,

Meacham, & Bhadauria, 2012). Sustainability knowledge relating to environment and society has increased in recent years, leading to pressure to change how organizations behave particularly in supply chain management (Lee, 2012). An organization such as Medicins Du Monde needs to adopt socially and environmentally responsible purchasing practices that have impacts on all aspects of the supply chain including suppliers, employees and customers with aims to reduce the environmental and social impact of their own and their supplier's activities, goods and services. Medicins Du Monde and other supply chain partners are more seriously involved in designing and implementing green procurement policies that focus on how environmental issues relating to other aspects of the sustainability development pillars can be integrated into the procurement process activities.

Medicins Du Monde needs to improve organizational efficiency, overcome supply chain risk, reduce waste and achieve a competitive position that made the organization to start considering environmental issues from a competitive viewpoint. The existing supply chain performance measurement systems at Medicins Du Monde are problematic because they commonly use cost as the primary measure and they do not reflect the strategic goals of the organization nor consider the effect of supply chain disruption due to uncertainty. Green procurement in countries where Medicins Du Monde has become a key approach for organizations seeking to become environmentally sustainable and increase performance in instances where there is increased competition, a lot of regulations and market pressure and drivers. From 2015 Medicins Du Monde started paying more attention to their environment due to the complexity, turbulence and rapid changes and hence formulating and implementing policies and strategies that will enhance their survival and growth. However, in developing countries such as Iraq where Medicins Du Monde operates the concept of green procurement is yet to be adopted by most of the organization. This study, therefore, sought to deepen the knowledge on green procurement management practices and sustainability of the supply chain process in international nongovernmental organizations and examine the supplier assessment, and at Medicins Du Monde Iraq Program.

Objectives of the Study

i. To determine how supplier assessment affects the sustainability of supply chain processes at Medicins Du Monde Iraq Program

ii. To establish how reverse logistics affect the sustainability of supply chain processes at Medicins Du Monde Iraq Program

THEORETICAL FOUNDATIONS

Sustainability Theory

The theory was developed in 1980 by the International Union for the conservation of nature in collaboration with the United Nations. The study was guided by sustainable theory; sustainability suggests that meeting the requirements of these generations while not compromising the power of future generations to satisfy theirs. It seeks to market acceptable development to alleviate economic conditions whereas still conserving the ecological health of the landscape. Sustainability works to know the connections between environments, the economy and also the society. Theories of sustainability commit to rank and integrate social responses to environmental and cultural issues (World Commission on Environment and Development, 2005). An economic model appearance to sustain natural and money capital; ecological model diversity to biological diversity and ecological integrity; political model diversity to social systems that understand human dignity. Religion has entered the talk with symbolic, critical, and psychological feature resources for cultural modification.

On an international scale, the political project of sustainability increases a set of simple troubles and comprehensive dreams. By that specialize in the ecological dependency of within your means and societal systems; the sustainability concept illuminates the mutual effects among environmental degradation caused by human activities and additionally the perils to human systems bestowed by international environmental issues (John, 2009).

The idea of sustainability, therefore, increases a starkly basic question: will human motion with fulfilment hold itself and its dreams even as not laborious the sources on that it depends On local and worldwide degrees, then, sustainability directs practical interest to the superior mutuality of human and ecological systems. economic fitness, ecological integrity, social justice, and responsibility to the long term should be included to deal with more than one worldwide troubles inner a coherent, long-lasting, and ethical social imaginative and prescient. That inclusive scope and potential vision make property ideologically sponge-like and politically massive. Sustainability is used to argue for and in opposition to weather treaties, for and against loose

markets, for and towards social outlay, and for and towards environmental protection (Harrington, 2016).

Sustainability theory has been criticized because it needs humans to acknowledge the straightforward facts of ecological dependency; it provokes reflection on organizational values and most basic beliefs, and organizations' habits, and our overarching worldviews. In conclusion, in its current kind, sustainable green procurement represents an altogether imprecise, intrinsically contradictory procedure to mediating the bottlenecks to development. Three main critiques for example sustainable development are a Western construct, perpetuating the philosophic underpinnings of former approaches, it focuses its efforts on the unsustainable growth of the economic process, and its broad nature creates dangerous opportunities. Most basically, the longer term of sustainable development as a technique of overcoming the impasse should a lot of meaningfully conceive to amendment world supply chain processes to render a lot of evenhanded, just, and sustainable world order into the rights and interests of all organizations incorporated.

Institutional Theory

Goguen and Burstall established this theory in 1984. Institutional Theory puts more emphasis on the organization's environment as an important factor in shaping its structure and actions. Change in the business environment could force an organization to innovate or come up with a new strategy to adopt even if it did not wish to. The theory states that organizational decisions are not purely driven by rational goals of efficiency but by cultural and social factors and apprehensions for acceptability. Organizations are elated by structures, routines, cultures and operate at several levels. According to institutional theory, organizations become similar due to isomorphic pressure and pressure for sincerity (Braton & Ahlstrom, 2015).

The institutional theory puts more emphasis on social behaviour, which considers an organization's process by which configurations, schematics, guidelines, customs and procedures are conventional as commanding strategies. According to the theory, organizational strategies are influenced by other external factors that include political, social and economic pressure as well as decision-making within the firm that seeks to legitimize its practices to other stakeholders. The study adopted this theory because it explains the changes brought about in an organization by social values, regulations that affect the decision and technological advancements. Institution

Theory has emphasized the organization's environment, which is important in shaping its structure and actions. The theory states that organizational decisions are not purely driven by rational goals of efficiency but by cultural and social factors and apprehensions for acceptability. Organizations are elated by structures, routines, cultures and operate at several levels (Bjorck, 2014). The study adopted this theory because it explains the changes brought about in organizations by social values, regulations that affect the decision and technological advancements.

Empirical Literature Review

Globally studies have been conducted on green procurement practices and sustainability of supply chain processes; Yildiz and Sezen (2019) examined the effects of green supply chain practices on sustainability performance in developed countries in the United States and Europe, the study explored the impact of 8 dimensions of green supply chain management that is on green distribution, green packaging, green purchasing, green manufacturing, green marketing, internal environment management and environmental education as well as investment recovery. The study findings showed the importance of highlighting green supply chain management practices in improving sustainability performance, the findings of the study enhance these study by highlighting the relationship between the different dimension of green supply chain management practices and three sustainability factors (Yildiz & Sezen, 2019).

A study in Asia by Laosirihongthong, Adebanjo and Tan (2013) examined the impacts of proactive of green supply chain management practices on economic, environmental and intangible performance in Thailand processing companies the study established that green supply chain management practices are a method that converts inputs into output by reducing hazardous substances, increasing potency in lighting and minimizing waste by actively planning and redesigning green processes (Laosirihongthong, Adebanjo, & Tan, 2013).

In Kenya Nasiche and Ngugi (2014) examined the determinant of green procurement in the public sector. The study evaluated factors that affect the implementation of GP in the public sector at the Kenya Pipeline Company. The research discovered that internal capacities to implement green strategies and external motivators including demands from stakeholders and government legislation affecting the adoption of GP practices to a great extent. The issue of the cost of implementation was not a major concern. The study showed that the institutional

governance set up maybe a success factor in going green (Nasiche & Ngugi, 2014). A similar study was conducted by Nderitu *et al.* (2014) that examined green supply chain management and how they affect operations at East Africa breweries. The study found that manufacturers employ lean supply chain processes and total quality management in their operations and also use biodegradable materials. The major limitation was that the findings might not be consistent with other sectors and hence limiting replicability (Nderitu & Ngugi, 2014).

Conceptual Framework

The conceptual model was adopted for the study derived from the literature review, and the variables on the framework have been used to develop research questions that were tested during the study.

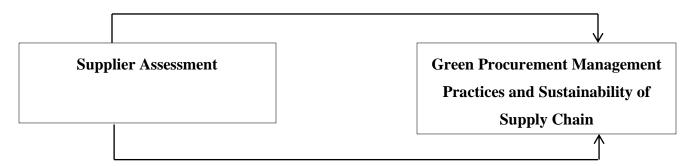


Figure 1: Conceptual framework

METHODOLOGY

The study adopted a descriptive research design. The target populations of this study were 450 respondents Kombo and Tromp (2009) indicated that a sample size of 10% or 20% of the target population selected using random stratified sampling is adequate to generalize the study findings. In this context, the researcher used 20% as recommended by Borg and Grall (2009) to get an accepted sample for the study that were 90 respondents that were randomly selected.

The researcher utilized questionnaires as an essential instrument for information gathering. Questionnaires were formatted to contain sections reflecting the study variables. Closed questions were employed in each section for the collection of respondents' views, opinions and attitudes. The questionnaires were distributed via email due to the Covid-19 pandemic. The study used both primary and secondary data sources primary data was obtained from the selected

respondents using a questionnaire, and secondary data was obtained from published annual performance reports.

The quantitative data were analyzed using a statistical package for social sciences (SPSS version 26) and the use of inferential statistics. The researcher applied analytical models to interpret the data. The linear regression and multiple regression analysis were used to establish the relationship between study variables. This provided estimates of the magnitude and the significance of the hypotheses' causal connections between the variables. All this was achieved by conducting a series of regression and analyzing their influence on the dependent variable. For testing various hypotheses, linear regression was used to determine the influence of the predictor/independent variables on the predicted/dependent variables.

FINDINGS

The study gave out a total of 90 questionnaires to the sample population and the valid sample that was used for the study is 80. (n=80). The responses from the filed data show that most respondents who participated in the research study were female. Respondents were required to indicate their age bracket; the majority of the respondents indicated were aged between 31 and 40, followed by respondents whose age falls between 26 and 30. The response represents a good dispersion of the respondents in terms of the age bracket and most of the respondents were in their youthful age. The researcher asked the respondents to indicate their level of education and the study established that the majority of the respondents had attained a bachelor's degree, followed by a master level of education, followed by respondents with PhDs or pursuing Ph.D. education. Respondents were asked to indicate the complete years in service and the majority indicated between six years and ten years, followed by one year and five years, followed by eleven years to fifteen years.

Table 1 Model Summary for Supplier Assessment

| Model | R | R Square | Adjusted R Square | Std. Error |
|-------|-----------|----------|-------------------|------------|
| 1 | 0.509 (a) | 0.259 | 0.250 | 0.66676 |

Regression analysis was run to empirically determine if supplier assessment was a significant determinant of green procurement management practices and the sustainability of the supply chain process. The results in Table 1 show that there is a strong positive correlation (R=0.509)

between supplier assessment and green procurement management practices and the sustainability of the supply chain process. This result indicates satisfactory goodness of fit for regression between supplier assessment and Green Procurement Management Practices and Sustainability of Supply Chain. The R squared of 0.259 indicates that 25.9% of decisions in Green Procurement Management Practices and Sustainability of Supply Chain are explained by supplier assessment. The unexplained 74.1% could be accounted for by other factors such as reverse logistics, and other factors that are included in the current study.

Table 2: ANOVA for Supplier assessment

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|----------|
| 1 | Regression | 12.149 | 1 | 12.149 | 27.328 | 0.000(b) |
| | Residual | 34.676 | 78 | 0.445 | | |
| | Total | 46.825 | 79 | | | |

The overall model significance was presented in Table 2. The f statistics of 27.328 and sig. 0.000 indicates that the overall model was significant. This implies that supplier assessment is significant in shaping the decisions for green procurement management practices and the sustainability of the supply chain process.

Table 3: Regression Coefficients Results of Supplier Assessment

| Model | | Unstan Coeffic | dardized ients | Standardized Coefficients | T | Sig. | | onfidence al for B |
|-------|------------------------|-------------------|-------------------|------------------------------|-------|-------|-------|-----------------------|
| | | В | Std. | Beta | | | Lower | Upper |
| | | | Error | | | | Bound | Bound |
| 1 | Constant | 1.350 | 0.446 | | 3.026 | 0.003 | 0.462 | 2.238 |
| | Supplier Assessment | 0.586 | 0.112 | 0.509 | 5.228 | 0.000 | 0.363 | 0.809 |

In Table 3, the results of coefficients represented (p=0.000) show that supplier assessment contributes significantly to the Green Procurement Management Practices and sustainability of the supply chain since the p-value for the constant and gradient are less than 0.05. Thus, any positive unit change in supplier assessment is poised to influence Green Procurement Management Practices and the sustainability of supply chain decisions at the rate of 0.509. The regression model $Y=B_0+B_1X_1$ explaining the results in Table 3 is given by $Y=1.350+0.586X_1$

Table 4 Model Summary for Reverse Logistics

| Model | R | R Square | Adjusted R Square | Std. Error |
|-------|-----------|----------|-------------------|------------|
| 1 | 0.545 (a) | 0.297 | 0.288 | 0.64942 |

A regression analysis was conducted to empirically determine if reverse logistics was a significant determinant of green procurement management practices and the sustainability of the supply chain process. Results in Table 4 indicate R of 0.545 which denotes a strong positive correlation between reverse logistics and green procurement management practices and sustainability of the supply chain process. Therefore the goodness of fit for regression between reverse logistics and Green Procurement Management Practices and sustainability of supply chain was satisfactory. The value of variance R squared of 0.297 shows that 29.7% of decisions in Green Procurement Management Practices and sustainability of supply chain are explained by reverse logistics. The unexplained 70.3% could be accounted for by other factors including but not limited to supplier assessment.

Table 5 ANOVA for Reverse Logistics

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|----------|
| 1 | Regression | 13.929 | 1 | 13.929 | 33.027 | 0.000(b) |
| | Residual | 32.896 | 78 | 0.422 | | |
| | Total | 46.825 | 79 | | | |

The overall model significance was presented in Table 5. The f statistics of 33.027 and sig. 0.000 indicates that the overall model was significant and implies that reverse logistics is significant in decisions for the green procurement management practices and sustainability of the supply chain process.

Table 6 Regression Coefficients Results of Reverse Logistics

| Model | | Unstan | dardized | Standardized | T | Sig. | 95% Confidence | |
|-------|----------------------|----------|----------|--------------|-------|-------|----------------|----------|
| | | Coeffici | ients | Coefficients | | | Interv | al for B |
| | | В | Std. | Beta | | | Lower | Upper |
| | | | Error | | | | Bound | Bound |
| 1 | Constant | 1.142 | 0.442 | | 2.582 | 0.012 | 0.261 | 2.023 |
| | Reverse Logistics | 0.685 | 0.119 | 0.545 | 5.747 | 0.000 | 0.448 | 0.922 |

The results of coefficients represented in Table 6 (p=0.000) show that reverse logistics significantly determines the Green Procurement Management Practices and Sustainability of Supply Chain since the p-value for the constant and gradient are less than 0.05. This implies that types of reverse logistics influence Green Procurement Management Practices and the sustainability of supply chain decisions at the rate of 0.545. The regression model $Y=B_0+B_2X_2$ explaining the results in Table 4.6 is given by $Y=1.142+0.685X_2$

Table 7 Model Summary for Green Procurement Management Practices

| Model | R | R Square | Adjusted R Square | Std. Error |
|-------|-----------|----------|-------------------|------------|
| 1 | 0.750 (a) | 0.563 | 0.539 | 0.52254 |

A multiple regression analysis was carried out to investigate the joint causal relationship between supplier assessment, reverse logistics, and green procurement management practices and the sustainability of the supply chain process. The predictors were supplier assessment, reverse logistics. Regression results presented in Table 7 indicated satisfactory goodness of fit for the regression of the combined green procurement management practices (supplier assessment, and reverse logistics) and green procurement management practices and sustainability of the supply chain process. The R was 0.750, which implies strong positive correlations between the green procurement management practices and sustainability of the supply chain process. An R squared of 0.563 indicates that 56.3% of Green Procurement Management Practices and sustainability of the supply chain are explained by the green procurement management practices. Only 43.7% is dependent on other determinants.

Table 8 ANOVA for Green Procurement Management Practices

| Model | | Sum of Squares | df | Mean Square | f | Sig. |
|-------|------------|----------------|----|-------------|--------|----------|
| 1 | Regression | 26.347 | 4 | 6.587 | 24.123 | 0.000(b) |
| | Residual | 20.478 | 75 | 0.273 | | |
| | Total | 46.825 | 79 | | | |

ANOVA results for the overall model were presented in Table 8. The results indicated that the overall model was significant, that is, green procurement management practices were good joint explanatory determinants for green procurement management practices and sustainability of supply chain process (f=24.123, p value=0.000).

Table 9 Joint Model Summary for Green Procurement Management Practices

| Model | | Unstandardized | | Standardized | T | Sig. |
|-------|---------------------|----------------|------------|--------------|-------|-------|
| | | Coefficie | nts | Coefficients | | |
| | | В | Std. Error | Beta | | |
| 1 | Constant | 1.087 | 0.401 | | 2.713 | 0.008 |
| | Supplier Assessment | 0.213 | 0.081 | 0.272 | 2.627 | 0.010 |
| | Reverse Logistics | 0.242 | 0.106 | 0.242 | 2.289 | 0.025 |

The study further found out that there is a significant relationship between the Green Procurement Management Practices and Sustainability of Supply Chain and the joint variables as shown: supplier assessment (p=0.010<0.05), and reverse logistics (p=0.025<0.05). This, therefore, implies that the overall model was significant as shown in Table 9. On individual variables, reverse logistics was the most significant influence on the green procurement management practices and sustainability of the supply chain process. The multiple regression model is provided as $\mathbf{Y} = \mathbf{B_0} + \mathbf{B_1} \mathbf{X_1} + \mathbf{B_2} \mathbf{X_2} + \mathbf{E}$ AS PROVIDED IN TABLE 9 THE JOINT MODEL SUMMARY AND COEFFICIENT ESTIMATES THAT ESTABLISHED THE FOLLOWING EQUATION $\mathbf{Y} = 0.213 + 0.242$.

CONCLUSION

Green supply chain management practices are inclusive of organization formations of enhancing environmental sustainability that requires organizations to design products that enable the use, recycle and recovery of components and materials components that avoid or cut back the utilization of hazardous product among the process of supply chain processes and minimize the consumption of materials. During supplier assessment, most organizations consider several factors such as green product pollution control green packaging. The process of supplier selection and evaluation is a multicriteria decision-making approach that provides an effective framework for comparing suppliers by considering the qualitative characteristics of environmental performance as an indication of green supplier selection. The selection process of the suppliers has a critical effect on the competitiveness of the entire supply chain network, selection of suppliers is one of the important aspects that organizations should incorporate in their strategic process. The study established that supplier assessment and reverse logistics have a great influence on the green procurement management practices and sustainability of the

supply chain process. The study concludes that supplier assessment has enough influence in green procurement management practices and the sustainability of the supply chain process to a great extent. On the second objective, the study concluded that reverse logistics of businesses determine green procurement management practices and sustainability of the supply chain process to a great extent, and reverse logistics practices are capable of reducing customers' risk when purchasing a product and increase the customer value. However, the success of reverse logistics implementation requires the coordination of backward and forward of both information and material. The reverse flow of products going in the chain impacts the dynamics of supply chain member inventories that in turns influence the dynamics of the order placed to suppliers that impact the performance of the entire supply chain in terms of the order and inventory alteration magnification.

RECOMMENDATIONS

The research study suggests the following recommendations for improvement; the management at Medicins Du Monde Iraq Program should know that a strong supply chain is the backbone of a successful business. The management should closely work with suppliers, and reinforce their relationship with them. The procurement department should regularly evaluate suppliers for efficiencies and growth. By examining is the supplier meets organization requirements ensure that they share organization priorities, this will reduce risk, improve visibility, and create great value for green procurement practices. Medicins Du Monde Iraq Program should consistently ensure supplier evaluation covers suppliers waste management strategies, waste reduction practices, and material procurement procedures, and also should ensure that the efforts are to achieve energy efficiency, and any other protocols for handing harmful waste materials.

The management at Medicins Du Monde Iraq Program should ensure the sustainability of reverse logistics solutions are adopted because they provide an opportunity that reduces the environmental impact for the organization. It is also this study's recommendation that Medicins Du Monde Iraq Program should embrace and implement supplier development programmes, the programmes should involve helping the supplier to evaluate and redesign their corporate strategy, this is important because it aligns the supplier very closely and on a long term basis with buying organization in a strategic alliance.

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