

THE IMPACT OF GREEN SUPPLY CHAINS ON ORGANIZATIONAL PERFORMANCE

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Abstract

The study aimed to identify the impact of green supply chain activities on raising organizational performance, in addition to identifying the level and quality of organizational performance in the Jordan Phosphate Mines Company. The researcher adopted the descriptive (survey) approach, where the researcher relied upon collecting the primary data necessary for the study on the survey method through personal interviews and e-mail. The sample size was determined with a confidence factor of 95% and limits of error of 5%, where the sample size was 124 members. The results concluded that the Jordan Phosphate Mines Company achieved excellence in organizational performance by applying green supply chains through its activities and requirements. The results of the field study also showed the existence of a statistically significant relationship between the dimensions of green supply chains (internal integration, external integration, and strategic integration) and organizational performance.

Keywords: green supply chains, organizational performance.

Introduction

Operations management is currently facing many challenges, the most significant of which would be business globalization, technological development, and intense competition, which has forced organizations to diligently and continuously look for quality standards in the manufacturing process, from supply to production. to distribution and sale (Tseng et al, 2019).

As a matter of fact, most modern organizations utilize new concepts and methods such as supply chain management to raise the efficiency and effectiveness of supply tasks and activities and improve their performance (Zaid & Bon, 2018). Organizations today face many challenges, both in their internal work environment, such as the need for the organization to be efficient in using its available resources and capabilities, and in its external environment, such as competition pressures in the markets (Micheli et al, 2020). In addition, the field of business and finance witnessed sudden and rapid changes that made it mandatory for organizations to take an interest in their logistical activities, with the distinction of taking into account the environment in which they operate (Jemai et al, 2020).

Green et al (2019) pointed out that the term green supply chain is a new term in the business world, and thus its freshness has granted it some uncertainty in some contexts regarding understanding the term itself by many. In many cases it becomes more ambiguous or acceptable when applying this concept to immature markets. Almahirah (2020) pointed out that supply chains are a network of organizations and work processes that seek to procure and secure materials, transform raw materials into finished or simple manufactured products, and distribute products to customers.

The American professional association identifies supply chain management as the monitoring and designing of all activities involved in supply chain design, acquisition, financing, and catering activities. It also includes coordination and cooperation with channel partners who may be suppliers, intermediaries, service providers and third parties who are consumers (Walter, 2021).

Hefu & Liang (2019) indicated that supply chains mainly focus on two objectives, the first is how the institution significantly increases the value of its products and services from the perspective of customers, and then enjoys their satisfaction from dealing with them. The second objective relates to the efficiency of the organization in how to manage its institutional activities and relationships with the other parties related to the flow of its products and services to markets, in a manner that guarantees optimizing the organization's value in front of its customers and owners. Liu & Yang (2020) noted that the supply chain includes the identification of freight to customers, money transfers, suppliers, distributors, expenses, debits and credits, warehouse and inventory levels, order fulfillment, customer engagement and forecasting, and production information.

Based on the above, researching the impact of green supply chains on organizational performance is justified in that organizations today, through green supply chain management, are looking to increase productivity, reduce inventory in the short term, increase customer satisfaction, increase market share and profits for all members of the chain on the long-term.

Problem of the Study

Green supply chains are a system - wide philosophy and thought that aims to have a beneficial effect. on the organizational performance of organizations and companies, which may allow them to compete in the markets. Teixeira et al (2016) indicated that green supply chains provide a base for the organization to use in the integration of its various functions, and coordination with the

rest of the organizations with which it participates in the flow of its goods and services, in order to increase the value of what the organization offers to its markets, and this as a result increases its organizational performance in the production process. As Islam et al (2017) pointed out, green supply chains also contribute to improving operations within companies, raising levels of external procurement, reducing transportation costs, increasing the importance of electronic commerce, and increasing competition pressures, and thus all of this contributes to increasing organizational performance with high quality.

In this context, it became necessary for the Jordan Phosphate Mines Company to adopt a green supply chain strategy in accordance with modern management methods to develop and achieve a high level of organizational performance, achieve high competitive advantages in the markets and develop production and supply processes for employees. Hence, the above called the researcher to consider the impact of green supply chains on organizational performance, and in the context of diagnosing and understanding the context of the current reality related to organizational performance in the Jordan Phosphate Mines Company, and accordingly the main study question is the following:

What is the impact of green supply chains on organizational performance in the Jordan Phosphate Mines Company?

Objectives of the Study

1. Identifying the impact of green supply chain activities on raising the organizational performance of the Jordan Phosphate Mines Company.
2. Identifying the level and quality of organizational performance in the Jordan Phosphate Mines Company.
3. Identifying the nature of the relationship between the activities of green supply chains (internal integration, external integration, strategic integration) and organizational performance.

Hypothesis of the Study

The following sub-hypotheses stems from the main question of the study problem:

1. There is a statistically significant relationship at the significance level (0.05) between the internal integration activities of green supply chains and organizational performance.
2. There is a statistically significant relationship at the significance level (0.05) between the external integration activities of green supply chains and organizational performance.
3. There is a statistically significant relationship at the significance level (0.05) between the activities of strategic integration of green supply chains and organizational performance.

Significance of the Study

The importance of the study stems from the fact that it studies an important aspect of management, which is green supply chains, being one of the important topics in organizations. Thus, the significance of the study is highlighted by the following:

1. The link between the two variables of green supply chains and the level of organizational performance in the Jordan Phosphate Mines Company.
2. Shedding light on the nature of the work of green supply chains in the Jordanian phosphate mines.
3. Determining the reality of the actual application of green supply chain activities in the Jordan Phosphate Mines Company
4. Attempting to crystallize the role that green supply chains play in bringing the company under discussion to the possibility of raising its organizational performance.
5. The researcher hopes that this study will be a future reference that shows the positive and negative changes about the activities of green supply chains and their relationship to organizational performance.

Terms of the Study

Supply chains: a supplier-manufacturer-distributor-customer system in which materials flow from manufacturer to the customer and information flows in all directions (Çankaya & Sezen, 2019).

Green Supply: Green supply reduces the ecological footprint of the distribution of goods through a set of actions and practices in supply chain management and corporate strategy, on material handling, waste and waste management, packaging, and transportation (Dubey et al, 2017).

Green Supply Chain Management: It turns out that there are several names for GSCM, some call it environmental supply chain management (ESCM), while others call it sustainable supply chain management (SSCM) (Priyono et al, 2020). Singh & Trivedi (2016) sees that it involves the incorporation of the company's various activities, commencing with product design and supply raw materials, through the process of manufacturing finished products, and their delivery to customers, until the end of the product life cycle and the recovery of packaging and packaging from the environment and society.

Organizational performance: is behavior that occurs in response to a specific task undertaken by organizations and companies to achieve expectations in production quality, planning, collaboration, reliability, effort, care, innovation and creativity (Cheng et al, 2020).

Field Study

Methodology of the Study

The researcher relied on the descriptive (survey) approach, which is based on interpreting the current situation of the phenomenon under study and research and determining the dimensions and conditions of the phenomenon, in addition to conducting analysis and

interpretation of data related to the phenomenon. The researcher can also review the research methodology through the following elements:

Determining the type and sources of data, as the researcher relied upon collecting the primary data necessary for the study on the survey method through personal interviews and e-mail. Members of the research community, including managers and employees of the Jordan Phosphate Mines Company, were asked about their views on the activities of green supply chains and their relationship to achieving high quality organizational performance and a high competitive advantage.

Population and Sample of the Study

The study population consists of all the managers and employees of the Jordan Phosphate Mines Company, whose number is (1200) employees at various job levels. The researcher relied on choosing a simple random sample from the company. The sample size was determined in the research community with a confidence factor of 95% and limits of error 5%, where the sample size was 124 individuals, and the research sample can be distributed as shown in the following table:

Table (1) Distribution of the study sample

DEPARTMENTS OF GENERAL ADMINISTRATION	TOTAL	SAMPLE
HIGHER MANAGEMENT	32	5
MIDDLE MANAGEMENT	108	17
EXECUTIVE MANAGEMENT	1060	102
TOTAL	1200	124

Instrument of the Study

The study instrument was a questionnaire form in order to collect data from the study population, through interviews and a survey of the opinions of the research sample about the items that aimed to verify the hypotheses of the study.

Validity of the Questionnaire

The validity of the study instrument was verified through the validity of the internal consistency, as the study instrument was distributed to a pilot sample consisting of (32) employees of the Jordan Phosphate Mines Company. The answers were transcribed into the Statistical Package for the Social Sciences (SPSS). Then the correlation coefficients were calculated between the total score for each field of study through the significance scores for the values of the correlation coefficients. Table (1) shows the procedures for calculating the internal consistency validity.

Table (2) Pearson Correlation Coefficients

Dimensions	Correlation Coefficients	Value of Significance
Green Supply Chains (Internal Integration, External Integration, Strategic Integration)	0.69**	0.000
Organizational Performance	0.81**	0.000

Table (2) shows that the correlation coefficients are high, and they are statistically significant at the level of significance (0.01), and this indicates that the dimensions have internal consistency validity.

Reliability of the Questionnaire

The researcher adopted Cronbach's Alpha method, and the following table shows the reliability coefficients of the questionnaire.

Table (3) Cronbach's alpha coefficients

Dimensions	Cronbach's alpha coefficients
Green Supply Chains (Internal Integration, External Integration, Strategic Integration)	0.85
Organizational Performance	0.69
Total Reliability	0.76

It is clear from Table (3) that the total reliability coefficient of Alpha Cronbach was (0.76), which is a high stability coefficient, and this indicates that the study instrument has a high degree of reliability in the field application of the study.

Results and Discussion

The First Hypothesis: There is a statistically significant relationship at the significance level (0.05) between the internal integration activities of green supply chains and organizational performance.

To test the validity of the first hypothesis, the results of linear regression were analyzed, and the following table shows that:

Table (4) results of linear regression

Independent Variable	B	Standard Error	Beta	Value of T	Dependent Variable
Green Supply Chains (Internal Integration)	0.372	0.023	0.736	32.853	Organizational Performance

It appears from the previous table that the values of the "T" test for the variable green supply chains (internal integration) are significant at the level of significance 0.05. This shows the strength of the regression relationship; and the level of significance of each of the correlation coefficient and regression coefficient is less than the value of 0.05, which means that there is a statistically significant relationship. The sign of the correlation coefficient is positive, which means that there is a direct, statistically significant relationship between green supply chains (internal integration) and organizational performance. The value of the level of significance for testing the regression equation as a whole is less than the value of the significance level 0.05, which means that it is possible to rely on the estimated regression model and therefore the possibility of generalizing the results of the sample to the population under study, from the above, the researcher can accept the first hypothesis.

The Second Hypothesis: There is a statistically significant relationship at the significance level (0.05) between the external integration activities of green supply chains and organizational performance.

To test the validity of the second hypothesis, the results of linear regression were analyzed, and the following table shows that:

Table (5) results of linear regression

Independent Variable	B	Standard Error	Beta	Value of T	Dependent Variable
Green Supply Chains (external Integration)	0.216	0.382	0.762	21.846	Organizational Performance

It appears from the previous table that the values of the "T" test for the variable green supply chains (external integration) are significant at the level of significance 0.05. This shows the strength of the regression relationship; and the level of significance of each of the correlation coefficient and regression coefficient is less than the value of 0.05, which means that there is a statistically significant relationship. The sign of the correlation coefficient is positive, which means that there is a direct, statistically significant relationship between green supply chains (external integration) and organizational performance. The value of the level of significance for testing the regression equation as a whole is less than the value of the significance level 0.05, which means that it is possible to rely on the estimated regression model and therefore the possibility of generalizing the results of the sample to the population under study, from the above, the researcher can accept the second hypothesis.

The Third Hypothesis: There is a statistically significant relationship at the significance level (0.05) between the activities of strategic integration of green supply chains and organizational performance.

To test the validity of the second hypothesis, the results of linear regression were analyzed, and the following table shows that:

Table (6) results of linear regression

Independent Variable	B	Standard Error	Beta	Value of T	Dependent Variable
Green Supply Chains (Strategic Integration)	0.483	0.084	0.938	26.639	Organizational Performance

It appears from the previous table that the values of the "T" test for the variable green supply chains (strategic integration) are significant at the level of significance 0.05. This shows the strength of the regression relationship; and the level of significance of each of the correlation coefficient and regression coefficient is less than the value of 0.05, which means that there is a statistically significant relationship. The sign of the correlation coefficient is positive, which means that there is a direct, statistically significant relationship between green supply chains (strategic integration) and organizational performance. The value of the level of significance for testing the regression equation as a whole is less than the value of the significance level 0.05, which means that it is

possible to rely on the estimated regression model and therefore the possibility of generalizing the results of the sample to the population under study, from the above, the researcher can accept the third hypothesis.

Results

1. The importance of the requirements for employing green supply chains in the Jordan Phosphate Mines Company varied through its various dimensions, as internal integration ranked first, followed by external integration, and then strategic integration.
2. The Jordan Phosphate Mines Company sought to achieve excellence in organizational performance by implementing green supply chains through its activities and requirements.
3. The results of the field study showed the existence of a statistically significant relationship between the dimensions of green supply chains (internal integration, external integration, and strategic integration) and organizational performance.

Recommendations

1. The necessity for the Jordan Phosphate Mines Company to continue working on owning and developing an effective system related to green supply chains so that this system includes all forms of chains, which helps it acquire useful information that gives it a competitive advantage.
2. Adopting the organization's future scenario planning to achieve effectiveness and reveal opinions, trends and future tendencies towards organizational performance.
3. The necessity of utilizing human energies and their creative abilities and encouraging them to take initiative, innovate and develop through employing green supply chains within the programs of the Jordan Phosphate Mines Company.
4. The necessity of setting regulations on the importance of green supply chains and innovation management and their role in achieving organizational performance through workshops and conferences.
5. The importance of directing the senior management of the Jordan Phosphate Mines Company to form working teams of specialists, and to conduct educational seminars and lectures regarding the employment of green supply chain activities.
6. The necessity of providing a database and information in the Jordan Phosphate Mines Company, which helps in clarifying the vision of decision makers regarding organizational performance, by making strategic decisions whose results may change the future of the company and its cadres.

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