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The impact of green supply chain management on customer engagement in Excellence performance: Analytical Study a sample of customers and employees of State Company for Rubber Industries and Tires/Diwanya Tire Factory

Hamid Kathem Mutaab Alshibawi [1], Enas shahid Halleem [2]

[1] (Department of Business Administration, College of Administration and Economics, University of Al-Qadisiyah, Hamid.mutaab@qu.edu.iq).

[2] (Department of Business Administration, College of Administration and Economics, University of Al-Qadisiyah)

***Corresponding Author**: Hamid Kathem Alshibawi **Affiliation**:*University of Al-Qadisiyah ***Email**:*Hamid.mutaab@qu.edu.iq

Abstract:

The aim of study is to determine level of application of plant researched for dimensions of green supply chain (green purchase, green design, green manufacturing, green distribution, green marketing). The study problem focused on asking many questions, most important of which is (what effect dimensions of management of green supply chain have on client's immersion in intermediary of distinguished performance) among a sample of clients and workers in General Company for Rubber Industries. The study also adopted analytical descriptive method, according to which study sample was selected from workers in research factory, and double resolution was used to collect initial data from 165 individuals working in research factory and 165 clients. Using statistical methods, the data was analyzed and processed to reach opinions of individuals researching toward resolution paragraphs, and a set of statistical methods were used to analyze results of research, most prominent of which were: (Iterations, relative importance, arithmetic circles, standard deviations, predictive operative analysis, alpha-kronbach coefficient, and alpha-kronbach. The study found a series of findings, most notably a direct moral correlation between management of green supply chain and client's immersion, and a direct moral and direct impact of management of green supply chain on client's immersion in intermediate performance. In conclusion, the study recommends that greater attention should be paid to positive role of green supply chain management in achieving excellence in green procurement, given great advantages it brings, particularly its role in achieving outstanding performance.

Keywords- Green supply chain management, customer immersion, Excellence performance, Diwaniyah frame factory.

I.INTRODUCTION

This means that organizations today face many challenges: Reducing or eliminating the negative effects on the environment and preserving the environment Pollution, where Green supply chain management activities, including green purchasing, green design, green manufacturing, green distribution and green marketing, are one of the effective ways for industrial organizations to reduce negative impacts from the acquisition phase of raw materials to their life cycle. Organizations need to focus on their own distinct internal strengths to provide value added to customers and to achieve excellence directly linked to Excellence performance. This approach by industry organizations has also contributed to increasing customer awareness and attractivism toward the environment, putting considerable pressure on them to improve their performance. Customer immersion is to establish deep communications with customers that lead to purchasing decisions, interaction and sharing over time, and customer immersion plays a key role in a network that governs interactive customer experience relationships among other, relationship concepts. In light of the above, the study examined the impact of the management of the green supply chain (green purchase, green design, green manufacturing, green distribution, green marketing) on the immersion of the customer (interaction, absorption, enthusiasm, interest, identity) by mediating Excellence performance (customer focus, leadership, The first research dealt with the methodology of research, the second dealt with the theoretical framework, the third dealt with the statistical aspect, and the fourth dealt with conclusions and recommendations.

II.Study Methodology

First: Study problem

First: Problem Research

As a result of the increasing institutional pressures and the increasing visibility of the negative effects of industrial production, which are considered one of the most important challenges facing industrial companies, the problem of studying is reflected in the extent of the capacity Research plant to adopt the management of the green processing chain. As a form of environmental improvement as a production process initiative. Many industrial companies have adopted to address environmental issues, minimize negative impacts and reduce pollution. This study sought to answer a number of questions through which a number of convincing facts and answers can be found that contribute to clarifying the problem of the study, as follows:

1.is there an interest by the company in the field of study on the role and impact of managing the green supply chain in its dimensions (green purchase, green design, green manufacturing, green distribution, green marketing?

What is the level of interrelationship and compatibility between the three study variables?

3.is there a correlation between the dimensions of green supply chain management (green purchase, green design, green manufacturing, green distribution, green marketing) in client immersion?

What is the impact of the GPC management dimensions (green purchase, green design, green manufacturing, green distribution, green marketing) on the customer engagement in the Excellence performance?

5. What is the relationship between the dimensions of green supply chain management (green purchase, green design, green manufacturing, green distribution, green marketing) and Excellence performance?

Second: importance Research

It is also a very important part Research and development Research and development Research and development Research and development Research and development Research and development Research and development Research and development Research and development Research and development.

1 build a clear vision among the workers of the plant who are researching the activities of the green supply chain management and their role in engaging the customer.

The concept of green supply chain management is adopted in the provision of environmentally friendly products that increase the customer's attraction and connection with the organization.

Third: objectives Research

This research aims to:

1. Determine the extent of interest by the company field of study on the role and impact of green processing chain management in its dimensions (green procurement, green design, green manufacturing, green distribution, green marketing.

2. Measuring the level of correlation and compatibility between the three study variables

3. Recognize the nature of a correlation between the dimensions of green processing chain management (green purchase, green design, green manufacturing, green distribution, green marketing) in customer immersion

4. Measuring the impact of green processing chain management dimensions (green procurement, green design, green manufacturing, green distribution, green marketing) in the customer's immersion by mediating outstanding performance

Fourth: hypothesis Research

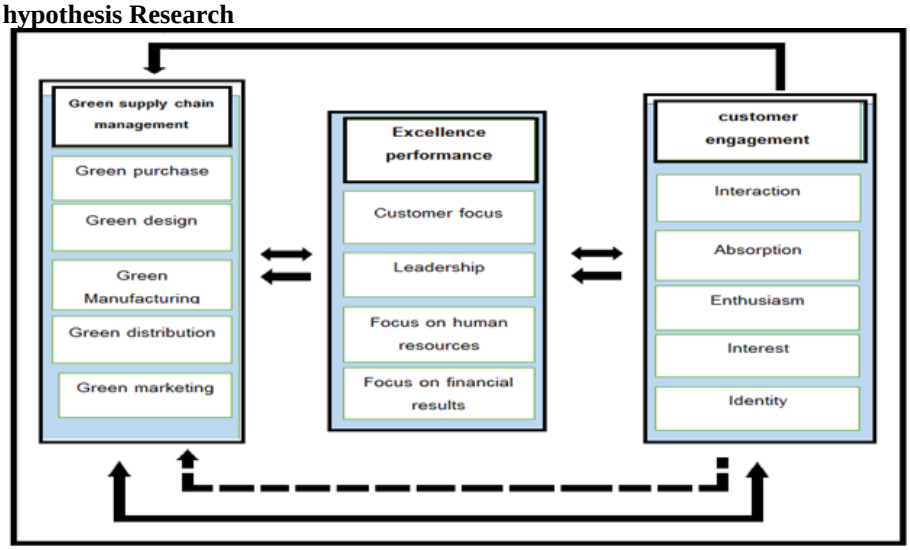

Figure 1 hypothesis Research

Source: Prepared by two researchers

Fifth: Research hypotheses

1. There is a statistical correlation between the management of the green supply chain and the client's immersion.
2. There is a statistically positive correlation between Excellence performance and client engagement
3. There is a statistically positive correlation between Excellence performance and client engagement
4. There is a statistical positive influence relationship of process chain management to the client's engagement through Excellence performance
5. Green supply chain management indirectly influences the customer engagement through Excellence performance
6. Green supply chain management indirectly influences the customer engagement through Excellence performance
7. supply chain management affects the customer engagement by excluding Excellence performance

Sixth: Limits Research

1. **Spatial limits**: The study was applied at the General Company for Rubber and Tire Industries/Diwaniya Tire Plant.
2. **Human limits**: The study identified a sample of individuals working in research plant as well as customers dealing with it.
3. **temporal limits**: the temporal boundaries were represented by the period extending from (20/10/2021) which represented the starting point of determining the title of the study as well as the task of collecting data and information related to the theoretical aspect and starting its practical side from (22/3/2022) to (17/5/2022)

Seventh: Description of sample study

The study community knows that it is all the vocabulary of the phenomenon dealt with by the researcher in a study and represents the field of study in the State Company for Rubber Industries and Tires/Diwanya Tire Factory. The study community represents all the total number of individuals working in the factory. (750) In addition to the customers dealing with it, where double identification was used as a tool for data collection, the first part is for workers in the research plant. (170) identification was distributed to the personnel working in the research plant and all were retrieved and after screening, it was found that (5) questionnaires were not suitable for statistical analysis and in proportion (% 2) The number of analytical questionnaires is thus 165. (97%) which is a good percentage whose results can be circulated to the community, the second mowers of the resolution were distributed to the customers of the research factory, related to the customer's immersion where the customer was retrieved (167) identification (98%) and the number of questionnaires valid for statistical analysis was (165) The number of questionnaires is 97%, and the number of questionnaires is 5 (2%) of the school community.

III. Part Two: Theoretical Framework

First: Green Supply Chain Management

1. concept of green supply chain management

In addition to the rapid change in the global manufacturing scenario, environmental and social issues have become important in business management, in addition to the emergence of a green supply chain management portal that improves process and product performance in accordance with environmental legislation, resulting in increased greenhouse emissions and environmental pollution by companies To increase the need to reorganize their supply chain operations to conserve scarce resources (Amemba et al., 2013:51), Green chain management is considered as an integrated supply chain system consisting of suppliers, manufacturers, customers and reverse logistics management. Also, Green supply Chain Management has been identified as a form of operational initiative for environmental improvement adopted by many companies to address environmental issues.(Priyashani&Gunarathne,2021:6) and the table (1) shows the views of some researchers and writers on the concept of green supply chain management

Table (1) concept of green supply chain management from the point of view of some researchers

No.	Researcher and year	Concept
1	Makima,2019:2	A series of activities and processes in the process chain that strive to achieve continuous environmentally friendly practices and that are sustainable in the long run
2	Karlsson&karlsson, 2020:5	Integrate EMS into the process chain process, including collaborating with customers, suppliers and logistics

		providers to share information and knowledge in order to improve environmental performance.
3	Novitasari &Agustia,2021:393	A processing series aimed at reducing waste and improving ecosystem quality, environmental efficiency, and the process of recycling materials

Source: Prepared by two researchers

In the above, researcher sees that green supply chain management is the management of all stages of the product lifecycle From the acquisition of raw materials through the design, production and distribution stages to the end of the product's reach and disposal at the end of the product life cycle for the protection of the environment

2. Dimensions of Green supply Chain Management

The literature points out that there are many dimensions to the management of the green supply chain according to the views Researchers and authors, pointing out that the dimensions of the green supply chain are green design, green purchase, internal environmental management, customer cooperation, reinvestment, and between

The University of the United Nations. (2014:27) MUMA) the dimensions of green supply chain management are as follows: Green purchase, green manufacturing, green distribution, green marketing, and reverse supply based on the opinions Researchers and writers, researcher believes that the dimensions of green supply chain management are as follows:

1. **Green Purchase**

Green purchasing is linked to the company's environmental awareness that affects purchasing decisions such as reusable, recyclable or already recycled materials; key elements of green purchasing include the regulatory framework, a supplier selection model, key factors and criteria that influence supplier selection and cooperative supplier-buyer relationship (Asrawi,2016:23)

2. Green design

"Green design is the creation of environmentally friendly products by integrating environmental considerations into the product life cycle, from the purchase of raw materials to the final form of the product," said Wongthongchai&Saenchaiyatn, 2019:435. Customer involvement in a design review is useful because products are recognized by more customers.

3. Green manufacturing

Green manufacturing is known as green production or environment-related manufacturing takes energy saving and consumption reduction as a goal and controls pollution in the entire production process using technology and advanced management to reduce pollution and waste (Huiyu, 2010:17)

4. green distribution

The green distribution consists of green packaging and green logistics, and packaging characteristics such as size, shape and materials affect distribution and because of them affect material usage, increase storage space usage, and reduce the amount of processing required (Ninlawan et al., 2010:2)

5. Green marketing

Green Marketing is defined by the American Association as marketing that includes the integration of environmentally friendly activities such as product modifications, process modifications, packaging and promotional strategies and awareness creation among industries (Masucha,2021:176)

Second: customer engagement

1. concept of customer engagement

One key to business success is the customer's engagement and part of the concept of relationship marketing. A customer engagement is a communication or interaction between external stakeholders such as customers, producers or companies through various channels." (Sukendia et al., 2021:3171) the emotional relationship established between customers and companies is known as client engagement. To have an ongoing advantage it is essential to improve customer relationships as a working method. In addition, this engagement can benefit from customer experiences and loyalty and successful business links can psychologically affect loyalty to new and existing customers to make repurchases. Table 6 shows the views of some researchers and writers on the concept of client immersion

It is a very important fact that we have a very important and important place to be in the world

Table (2) concept of customer engagement from the point of view of some researchers

No.	Researcher and year	Concept
1	Omoifo,2020:21	The customer's behavioral expression toward a brand or company that goes beyond the behavior of the transaction

2	Ratnawatai&kholisi,2021:318	A psychological, cognitive process that shows emotional and behavioral activity during a brand-specific interaction.
3	Sirvi et al, 2021:320	The emotional and ethical connection between the customer and the brand or company.

Source: Preparation Researcher based on the literature received

2. Dimensions of customer engagement

The book also shows that there are many dimensions to the customer engagement according to the views of some researchers and writers, so Biagi, 2021:14) (that the dimensions of the customer engagement are as follows: The cognitive dimension, the dimension

"We are not going to have a problem in the future," he said, according to the report.

1.interaction

Interaction is a key part of customer interaction by branding the behavioral appearance of the customer's relationships beyond traditional consumer behavior. It refers to online and offline customer engagement interactions with a brand in and out of the purchase process, including sharing and sharing information, ideas/opinions and feelings about experiences with brand Roberto,2017:11)

2.Absorption

Absorption is a high level of concentration and preoccupation, extending beyond the sense of effectiveness and proximity to the so-called "flow", . Absorption represents effortless concentration, loss of self-awareness, and essential pleasure. Absorb it or immerse it, and the absorbing customer who interacts with the brand or other customers realizes that time is running fast. (So ET et al., 2014:289)

3.enthusiasm

Enthusiasm refers to strong excitement or enthusiasm about the engagement focus. Motivated people have the things they do and are prepared to take risks. Merged customers appear to be clearly excited about their active participation in a show or activity. Their enthusiasm encourages them to take risks and overcome difficulties or obstacles to participation. (Vivek, 2009:60

4.interest

Interest describes the level of customer interest in the brand. The term "immersion" means a focus that summarizes the level of customer concern about the provider, so the customer's interest is measured and the service provided is emphasized as an important dimension of customer immersion (Ratnawati&kholis,2021:318)

5. Identification

Identification is an appropriate dimension to visualizing a customer engagement as a knowledge component that justifies the customer's engagement behaviors.Roberto,2017:11)) it "unites a person or belonging to an organization". Creates when the customer realizes the selfie as overlapping with the brand image at rather&Sharma brand level,2017:4)

Third: Excellence performance

1. The concept of Excellence performance

Performance is a common concept used in many areas, Organization performance means how well the organization is and what value the organization offers to the client and other stakeholders and performance is linked to achieving the interests of shareholders (Wu, 2009:8) added 2002:4 (Eriksson) (Parra,2019:42) – Excellence performance represents an integrated approach to management of organizational performance resulting in lasting value for the customer and stakeholders, contributing to continued organizational success, and improving the overall effectiveness of the organization, and table 3 shows the views of some researchers and writers on the concept of Excellence performance

This is the first time that the world has been able to see the world's most important and important issues in the world

Table (3) concept of Excellence performance from the point of view of some researchers

No.	Researcher and year	Concept
1	Eygelaar,2004:32	Any activity that creates something new and different will achieve the desired results for the organization.
2	Loch et al,2008:35	Continuous creativity to develop and improve processes for achieving goals.
3	Pakwihok,2010:32	The Organization's ability to achieve and sustain its superior performance through Its investment of available knowledge is similar to a subset of The concept of organizational effectiveness, which is what organizations demand to achieve.

Source: Preparation Researcher based on the literature received

In addition to the fact that the company has a strong presence in the market, the company has a strong presence in the market.

2. Dimensions of Excellence performance

the dimensions of excellence in performance are leadership (Hertz,2011:1), strategic planning, customer focus, knowledge management, workforce focus, results focus, process focus (Shehadeh et al.,2016:4) The dimensions of excellence in performance include leadership, human resources management, operations strategy, operational excellence and based on the opinions of writers and researchers, researcher believes that the dimensions of Excellence performance are as follows

1.Customer focus

Identify the customer in the name of the person or group that receives the work they perform, emphasizing that no job guest should be performed without a customer, emphasizing the importance of focusing on the customer, and pointing out that any company has four goals: Satisfying its customers, achieving customer satisfaction higher than its competitors, and retaining customers in the long run. And market share acquisition Eriksson, 2002; 8))

2. Leadership

Leadership is about the behavior of all managers in respect and how the executive team and all other managers inspire leadership and reflect a culture of excellence in performance such as the organization's key process for continuing improvement (EYGELAAR, 2004:32) and (Yazdani, 2013:1626) believes that the leadership category defines how the personality of the organization's senior leaders guides actions and maintains the organization. The organization's governance system was defined and how the organization fulfills its legal, ethical and societal responsibilities and supports its key communities.

3.focus on Human Resources

Human Resources is one of the most important dimensions of Excellence performance, because it is people who complete and present projects. The most important thing HR can do is project team management (Pirot,2016:47).

4.focus on financial and market outcomes

The Finance and markets category focuses on regulatory and operational performance in relation to key financial metrics and market share and this is divided according to the organization's operational focus and compared against competitors and related comparisons. Understand critical segments of the market to identify distinct stakeholder and customer needs side by side to meet needs and expectations (Ballard,2013:41)

IV. Part Three: The practical aspect

First: Coding and characterization of study variables

The study consists of three main variables: The independent variable, which is the management of the green processing chain measured in five sub-dimensions, the approved variable, the customer immersion measured in five sub-dimensions, and the intermediate variable, the Excellence performance measured in four sub-dimensions, so it is necessary to encode these variables and their sub-dimensions The study variables involved in statistical analysis are coded and described in table 4

Table (4) Coding and characterization of variables

Key variables	Sub-dimensions	cod
Green supply chain management GSCM	Green purchase	GP
	Green design	GD
	Green Manufacturing	GM
	Green distribution	GDI
	Green marketing	GMA
Excellence performance EXPE	Customer focus	CF
	Leadership	LE
	Focus on human resources	HRF
	Focus on financial results	FRF
Customer Engagement	Interaction	IN
	Absorption	AB
	Enthusiasm	EN
	Interest	AT
	Identity	ID

Second: Descriptive statistics of study variables

- **Green supply chain management**

1. Green purchase

The results Lowest show that the mean for the first item GP1was 4.18 with a standard deviation value of 1, a variance factor of 24, and a relative significance of 84. The mean for the second paragraph GP2 was 4.12 with a standard deviation value of 1.052, a variance factor of 26, and a relative significance of 82. The mean of the GP dimension was generally 4.12 with a standard deviation value of 0.926, a variance factor of 22, and a relative significance of 82.

Table (5)
Occurrences and percentage of green purchase part (GP) answers

	mean	Standard deviation	C.V	Relative importance
GP1	4.18	1.000	24	84
GP2	4.12	1.052	26	82
GP3	4.07	1.105	27	81
GP4	4.10	1.016	25	82
GP5	4.13	1.051	25	83
GP	4.12	0.926	22	82

2. Green design

The results Lowest show that the mean for first paragraph GD1 was 4.38 with a standard deviation value of 0.792, a variance factor of 18, and a relative significance of 0.88, and that the mean for second paragraph GD2 was 4.08 with a standard deviation value of 0.927, a variance factor of 23, and a relative significance of 82. The mean of the GD dimension was generally 4.20 with a standard deviation value of 0.773, a variance factor of 18, and a relative significance of 84.

Table (6)
Occurrences and percentage of responses to green design items GD)

	mean	Standard deviation	C.V	Relative importance
GD1	4.38	0.792	18	88
GD2	4.08	0.927	23	82
GD3	4.33	0.878	20	87
GD4	4.04	1.005	25	81
GD5	4.16	0.958	23	83
GD	4.20	0.773	18	84

3. Green Manufacturing

The results Lowest show that the mean for the first paragraph GM1 was 4.25 with a standard deviation value of 0.902, a variance factor of 21, and a relative significance of 0.85, and that the mean for the second paragraph GM1was 4.19 with a standard deviation value of 0.833, a variance factor of 20, and a significance of 84. The mean of the GM dimension was generally 4.22 with a standard deviation value of 0.724, a variance factor of 17, and a rational significance of 84.

Table (7)
Iterations and percentage of answers to green manufacturing parts(GM)

	mean	Standard deviation	C.V	Relative importance
GM1	4.25	0.902	21	85
GM2	4.19	0.833	20	84
GM3	4.16	0.913	22	83
GM4	4.27	0.820	19	85
GM5	4.24	0.896	21	85
GM	4.22	0.724	17	84

4. Green distribution

The results Lowest show that the mean for the first paragraph of GDI1 was 4.44 with a standard deviation value of 0.760, a variance factor of 17, and a relative significance of 0.89, and that the mean for the second paragraph of GDI2 was 4.20 with a standard deviation value of 0.864, a variance factor of 21, and a significance of 84. The mean of the dimension GDI was generally 4.32 with a standard deviation value of 0.639, a variance factor of 15, and a rational significance of 86.

Table (8)
Iterations and ratio of responses to GDI segments

	mean	Standard deviation	C.V	Relative importance
GDI1	4.44	0.760	17	89
GDI2	4.20	0.864	21	84
GDI3	4.38	0.784	18	88
GDI4	4.29	0.749	17	86
GDI5	4.28	0.825	19	86
GDI	4.32	0.639	15	86

5. Green marketing

The results Lowest show that the mean for the first paragraph GMA1 was 4.47 with a standard deviation value of 0.677, a variance factor of 15, and a relative significance of 0.89, and that the mean for the second paragraph GMA1 was 4.28 with a standard deviation value of 0.739, a variance factor of 17, and a significance of 86. The mean of the dimension GMAs was generally 4.33 with a standard deviation value of 0.640, a variance factor of 15, and a rational significance of 87.

Table (9)
Iterations and ratio of GMA responses

	mean	Standard deviation	C.V	Relative importance
GMA1	4.47	0.677	15	89
GMA2	4.28	0.739	17	86
GMA3	4.36	0.811	19	87
GMA4	4.24	0.813	19	85
GMA5	4.28	0.825	19	86
GMA	4.33	0.640	15	87

- **Excellence performance**

1. Customer focus

The results Lowest show that the mean for the first item CF1was 4.64 with a standard deviation value of 0.540, a variance factor of 12, and a relative significance of 0.93, and that the mean for the second paragraph CF2 was 4.64 with a standard deviation value of 0.635, a variance factor of 14, and a significance of 93. The mean of the dimension cf was generally 4.59 with a standard deviation value of 0.473, a variance factor of 10, and a rational significance of 92.

Table (10)
Reps and percentage of CF responses)

	mean	Standard deviation	C.V	Relative importance
CF1	4.64	0.540	12	93
CF2	4.64	0.635	14	93
CF3	4.43	0.665	15	89
CF4	4.65	0.581	12	93
CF	4.59	0.473	10	92

2. Leadership

The results Lowest show that the mean for LE1 was 4.71 with a standard deviation value of 0.506, a variance factor of 11, and a relative significance of 0.94, and that the mean for LE2 was 4.46 with a standard deviation value of 0.590, a variance factor of 13, and a significance of 89. The mean of the Le dimension was generally 4.61 with a standard deviation value of 0.429, a variance factor of 9, and a relative significance of 92.

Table (11)
Reps and % of responses to leadership items (LE)

	mean	Standard deviation	C.V	Relative importance
LE1	4.71	0.506	11	94
LE2	4.46	0.590	13	89
LE3	4.64	0.635	14	93

LE4	4.63	0.544	12	93
LE	4.61	0.429	9	92

3. Focus on human resources

The results Lowest show that the mean for the first paragraph HRF1was 4.47 with a standard deviation value of 0.677, a variance factor of 15, and a relative significance of 0.89, and that the mean for the second paragraph HRF228 was 4.28 with a standard deviation value of 0.739, a variance factor of 17, and a significance of 86. The mean of the dimension HRF was generally 4.34 with a standard deviation value of 0.656, a variance factor of 15, and a rational significance of 87.

Table (12)
Occurrences and percentage of responses to HRF items

	mean	**Standard deviation**	**C.V**	**Relative importance**
HRF1	4.47	0.677	15	89
HRF2	4.28	0.739	17	86
HRF3	4.36	0.811	19	87
HRF4	4.24	0.813	19	85
HRF	4.34	0.656	15	87

4. Focus on financial results

The results Lowest show that the mean for the first paragraph FRF1was 4.65 with a standard deviation value of 0.603, a variance factor of 13, and a relative significance of 0.93, and that the mean for the second paragraph FRF260 was 4.60 with a standard deviation value of 0.572, a variance factor of 12, and a significance of 92. The mean of the FRF dimension was generally 4.58 with a standard deviation value of 0.504, a variance factor of 11, and a rational significance of 92.

Table (13)
Reps and percentage of responses to FRF items

	mean	**Standard deviation**	**C.V**	**Relative importance**
FRF1	4.65	0.603	13	93
FRF2	4.60	0.572	12	92
FRF3	4.55	0.619	14	91
FRF4	4.50	0.677	15	90
FRF	4.58	0.504	11	92

- **Customer Engagement**

1. Interaction

The results above show that the mean for IN1E was 4.33 with a standard deviation value of 0.820, a variance factor of 19, and a relative significance of 0.87, and that the mean for IN2 was 4.19 with a standard deviation value of 0.823, a variance factor of 20, and a significance of 84. The mean of the in dimension was generally 4.24 with a standard deviation value of 0.680, a variance factor of 16, and a relative significance of 85.

Table (14)
Reps and percentage of responses to reaction elements (IN)

	mean	**Standard deviation**	**C.V**	**Relative importance**
IN1	4.33	0.820	19	87
IN2	4.19	0.823	20	84
IN3	4.20	0.871	21	84
IN4	4.23	0.793	19	85
IN	4.24	0.680	16	85

2. Absorption

The results above show that **the mean for first paragraph AB1 was** 4.17 with a standard deviation value of 0.831, a variance factor of 20, and a relative significance of 0.83, and that the mean for second paragraph AB2 was 4.27 with a standard deviation value of 0.774, a variance factor of 18, and a significance of 85. The mean of the dimension AB was generally 4.27 with a standard deviation value of 0.585, a variance factor of 14, and a relative significance of 85.

Table (15)
Frequencies and percentage of answers to absorption vertebrae (AB)

	mean	Standard deviation	C.V	Relative importance
AB1	4.17	0.831	20	83
AB2	4.27	0.774	18	85
AB3	4.25	0.687	16	85
AB4	4.32	0.773	18	86
AB5	4.33	0.656	15	87
AB	4.27	0.585	14	85

3. Enthusiasm

The results above show that the mean for EN1was 4.33 with a standard deviation value of 0.806, a variance factor of 19, and a relative significance of 0.87, and that the mean for EN2 was 4.32 with a standard deviation value of 0.731, a variance factor of 17, and a significance of 86. The mean of the en dimension was generally 4.30 with a standard deviation value of 0.689, a variance factor of 16, and a rational significance of 86.

Table (16)
Reps and percentage of responses to enthusiasm vertebrae (EN)

	mean	Standard deviation	C.V	Relative importance
EN1	4.33	0.806	19	87
EN2	4.32	0.731	17	86
EN3	4.27	0.784	18	85
EN4	4.27	0.870	20	85
EN	4.30	0.689	16	86

4. Interest

The results above show that **the mean for the first paragraph AT1was** 4.28 with a standard deviation value of 0.621, a variance factor of 15, and a relative significance of 0.86, and that the mean for the second paragraph AT2 was 4.19 with a standard deviation value of 0.780, a variance factor of 19, and a significance of 84. **The mean at dimension was** generally 4.27 with a standard deviation value of 0.580, a variance factor of 14, and a relative significance of 85.

Table (17)
Occurrences and percent of answers

	mean	Standard deviation	C.V	Relative importance
AT1	4.28	0.621	15	86
AT2	4.19	0.780	19	84
AT3	4.36	0.708	16	87
AT4	4.22	0.710	17	84
AT	4.27	0.580	14	85

5. Identity

The results above show that the mean for first paragraph ID1 was 4.32 with a standard deviation value of 0.825, a variance factor of 19, and a relative significance of 0.86, and that the mean for second paragraph ID2 was 4.21 with a standard deviation value of 0.787, a variance factor of 19, and a significance of 84. The mean of the ID dimension was generally 4.27 with a standard deviation value of 0.660, a variance factor of 15, and a relative significance of 85.

Table (18)
The number of occurrences and percentage of responses to ID paragraphs

	mean	Standard deviation	C.V	Relative importance
ID1	4.32	0.825	19	86
ID2	4.21	0.787	19	84
ID3	4.32	0.795	18	86
ID4	4.22	0.766	18	84
ID	4.27	0.660	15	85

Third: Test hypotheses

1. Correlation hypothesis

Key hypothesis 1: Testing the link between GSCM and CUEN

The values of the links between the GSCM and the customer engagement (CUEN) were created by using SPSS VR statistical software. 24 the results are summarized in the following table:

Table (19)
The links between the two variables and their dimensions

Correlations							
GSCM	GMA	GDI	GM	GD	GP		
.838**	.814**	.851**	.788**	.770**	.636**	Pearson Correlation	IN
.000	.000	.000	.000	.000	.000	Sig. (2-tailed)	
165	165	165	165	165	165	N	
.787**	.753**	.752**	.715**	.762**	.625**	Pearson Correlation	AB
.000	.000	.000	.000	.000	.000	Sig. (2-tailed)	
165	165	165	165	165	165	N	
.732**	.722**	.724**	.671**	.698**	.552**	Pearson Correlation	EN
.000	.000	.000	.000	.000	.000	Sig. (2-tailed)	
165	165	165	165	165	165	N	
.711**	.787**	.693**	.640**	.667**	.503**	Pearson Correlation	AT
.000	.000	.000	.000	.000	.000	Sig. (2-tailed)	
165	165	165	165	165	165	N	
.680**	.815**	.678**	.636**	.597**	.442**	Pearson Correlation	ID
.000	.000	.000	.000	.000	.000	Sig. (2-tailed)	
165	165	165	165	165	165	N	
.811**	.841**	.801**	.747**	.755**	.596**	Pearson Correlation	CUEN
.000	.000	.000	.000	.000	.000	Sig. (2-tailed)	
165	165	165	165	165	165	N	
**. Correlation is significant at the 0.01 level (2-tailed).							

The statistical hypotheses to be tested are based on two types, a main hypothesis between the two axes in general, and a sub-hypothesis between the dimensions of the axis the management of the green processing chain on the one hand and the axis the customer engagement on the other. The main zero hypothesis is formulated as follows:

H0: There is no statistically significant correlation between GSCM management and customer immersion (CUEN)

Vs. the following alternative hypothesis:

H1: Statistically significant correlation between GSCM management and customer immersion (CUEN)

The results show that the value of the association between the GSCM and CUEN axes is 0.811, which is a significant direct value at a 5% intangible level, thus rejecting the zero hypothesis and accepting the alternative hypothesis, and infer that there is a moral direct correlation between GSCM and CUEN.

Key hypothesis 2: Test the link between GSCM and Expe

The values of the links between GSCM and Expe have been created by using SPSS VR. 24 the results are summarized in the following table:

Table (20)
The links between the two variables and their dimensions

Correlations							
		GP	GD	GM	GDI	GMA	GSCM
CF	Pearson Correlation	.555**	.715**	.738**	.773**	.699**	.756**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	165	165	165	165	165	165
LE	Pearson Correlation	.577**	.665**	.689**	.743**	.692**	.733**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	165	165	165	165	165	165
HRF	Pearson Correlation	.494**	.653**	.697**	.717**	.979**	.759**

	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	165	165	165	165	165	165
FRF	Pearson Correlation	.469**	.628**	.669**	.745**	.699**	.692**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	165	165	165	165	165	165
EXPE	Pearson Correlation	.584**	.746**	.785**	.834**	.884**	.828**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	165	165	165	165	165	165
**. Correlation is significant at the 0.01 level (2-tailed).							

The statistical hypotheses to be tested are set on two types, a main hypothesis between the two axes in general, and a sub-hypothesis between the dimensions of the GSCM axis on the one hand and the EXPE axis on the other. The main zero hypothesis is formulated as follows:

H0: No statistical function correlation between GSCM and EXPE

Vs. the following alternative hypothesis:

H1: Statistically significant correlation between GSCM and EXPE

The results show that the value of the association between the GSCM and EXPE axes is 0.828, which is a moral direct value at a 5% intangible level, thus rejecting the zero hypothesis and accepting the alternative hypothesis, and infer that there is a moral direct correlation between GSCM and Expe.

2. Effect hypothesis

One benefit of having an intermediate variable is to improve the modeling structure and increase the predictive power of the model used and thus to identify the relationships that the variables relate to each other. This is done by formulating the appropriate main and sub-claims, and we will start from the following key hypothesis:

Main Zero hypothesis

H0: No significant effect of GSCM in customer immersion (CUEN) by EXPE

Vs. the following alternative hypothesis:

H1: Significant GSCM effect on customer immersion (CUEN) with EXPE

The following structural model has been constructed and its results tested by AMOS VR.24 and shows the morale or demoralization of the impact relationship to direct and indirect effects:

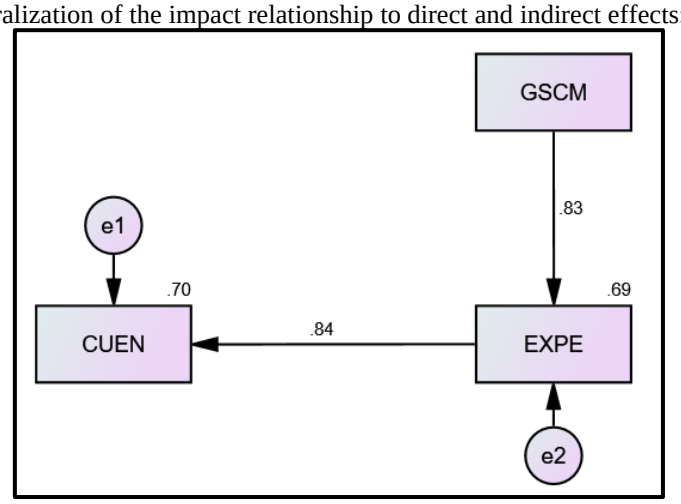

Figure (2)
Sample structural modeling equation proposed by the investigator

In relation to the indirect effect, the BootStrapping method is often used to test it. This method is based on re-sampling, in other words, selecting many partial samples from the original sample and then estimating intervals based on the upper and lower limits of those estimates to determine their respective intanisation. The results of GSCM's indirect effect in Cuem by the Expe intermediate variable are summarized in the following table:

Table (21)
Indirect effect and its minimum and upper limits using the Busturp method

Path			Estimate	Lower Bounds	Upper Bounds	Sig.
CUEN	<---	GSCM	.693	.597	.771	.012

The results indicate that there is a significant indirect effect of GSCM in CUEN by the median variable Expe with a value of 0.693. In other words, the presence of the median variable Expe raised the GSCM effect in CUEN by 0.693.

V.Part Four: Conclusions and recommendations

a. Conclusions

1. The green processing chain's management considers environmental impacts and material consumption throughout the product's life cycle, from design to production to transportation and use, and works to reduce negative environmental impacts through a variety of activities that maximize the plant's economic, social, and ethical benefits.
2. An essential duty for the plant is to manage the green supply chain, which aims to limit the use of natural resources by minimizing the amount of energy and primary natural resources used in the manufacturing process. In addition, improved environmental awareness and support of waste reduction measures, such as reuse and recycling, will help to minimize waste from factory output.
3. The axis dimensions were interpreted differently, according to authoritative factorial analysis.
4. There is a moral, direct link between the green prejudging chain's management and the client's dimensions and immersion.
5. In terms of the strength of its link with the variable, the customer came first after green marketing, customer engagement came second after green distribution, third after green design, fourth after green production, and finally after green buying.
6. There is a moral and direct link between managing the green supply chain and its dimensions and achieving excellence.

b. Recommendations

1. The need of paying more attention to the positive role played by green supply chain management in attaining excellence in green procurement performance, given the numerous benefits it provides, particularly its role in achieving excellence performance.
2. The plant's management should conduct extensive employee awareness campaigns to emphasize the importance of environmental preservation, reduce pollution levels caused by manufacturing processes to a minimum, and achieve the lowest level of pollution in the surrounding environment.
3. The plant in question should assist in the management of the green processing chain by ensuring that its practices (green purchasing, green design, green manufacturing, green distribution, and green marketing) are used as competitive processes by which competition can compete, achieve its goals, and stay in the market.
4. Because green supply chain management techniques are one of the conditions for Excellence performance, the plant's management is responsible for creating the right atmosphere for their implementation as well as providing the necessary support and capabilities.
5. Green procurement activities should be prioritized due to their impact on the integration of green processing chain activities.

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