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The Role of Cleaner Production in Enhancing Enlightened Marketing: An Exploratory Study of the Opinions of a Sample of Employees in the Ready-Made Garments Factory in Mosul

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A B S T R A C T

The current research aims to study the correlation and impact relationship between cleaner production (independent variable) and enlightened marketing (dependent variable) in the ready-made garments factory in Mosul. This is in light of a research problem centered on the environmental challenges that impose the need for the factory to adopt a marketing policy that preserves the environment while ensuring societal well-being. Such an approach guarantees the factory's continuity in a competitive environment where customers demand sustainability across various operations.
A questionnaire was adopted as the primary tool for data collection from a sample of **165** employees in the factory, with a **91%** response rate. The study relied on a **five-point Likert scale** and used **SPSS V24** and **AMOS V24** for data analysis and hypothesis testing. The findings revealed a statistically significant correlation and impact of cleaner production on enlightened marketing.
Additionally, the study presents several recommendations, the most important of which is the necessity for the factory to focus on adopting cleaner production practices and enlightened marketing policies to achieve sustainable goals for society as a whole.

1. Introduction

Cleaner production is one of the most important production systems that has gained popularity among organizations striving to protect the environment, preserve resources, reduce waste, and avoid harm to essential life components. It also contributes to achieving economic, environmental, and social benefits. Organizations that seek to minimize environmental pollution adopt cleaner production as part of their production policies to maintain a safe and healthy environment. Cleaner production, through its dimensions (**substituting raw materials, modifying technology and equipment, recycling waste, and administrative management**), offers an optimal approach to utilizing raw materials and energy. It operates through production processes that are free or nearly free from waste and losses, resulting in high-quality outputs. These outputs enhance the organization's competitive position, allowing it to secure a market share by meeting customer demands without harming the environment. Additionally, the organization's marketing strategy plays a fundamental role in its success by shaping a positive image in customers' minds. This helps in persuading them, gaining their satisfaction, and ensuring social well-being. Enlightened marketing, with its dimensions (**customer orientation, customer value, innovative marketing, societal marketing, and mission-driven marketing**), serves as a key strategy to attract the target audience. It fosters reciprocal relationships between the organization and its customers, aligning their interests and needs while promoting the overall well-being of society.This study is structured as follows:

- **The first section** presents the research methodology.
- **The second section** covers the theoretical framework.
- **The third section** addresses the field study.
- **The fourth section** concludes with findings and recommendations.

Chapter One: Research Methodology

First: Research Problem

The challenges of the business environment have increased significantly in recent years, along with intensified competition, placing great pressure on business organizations. This has necessitated their adaptation to new developments by adopting approaches that enable them to sustain and compete effectively. In particular, the studied organization (**the ready-made garments factory**) must not only focus on customers but also consider society as a whole. This is where **enlightened marketing** plays a crucial role in achieving the objectives of business organizations, including the studied factory, by securing a larger market share and attracting potential customers through fulfilling their needs and expectations. Ultimately, this leads to **customer satisfaction** in particular and **societal well-being** in general. In pursuit of this goal, **cleaner production** has emerged as a production approach aligned with sustainable requirements, ensuring environmental preservation, resource efficiency, and energy consumption reduction. Cleaner production serves as a key factor in enabling the adoption of enlightened marketing within the studied organization. Accordingly, the current study seeks to address the following research questions:

1. Do the surveyed employees recognize the importance of **cleaner production** within the organization?
2. Do the surveyed employees recognize the importance of **enlightened marketing** within the organization?
3. What is the nature of the correlation between **cleaner production** and **enlightened marketing** within the organization?
4. What is the nature of the impact of **cleaner production** on **enlightened marketing** within the organization?

Second: Research Importance

The significance of this research lies in its focus on two topics that are gaining increasing attention among contemporary organizations. **Cleaner production** and **enlightened marketing** are relatively modern areas of study, expected to be adopted by modern business organizations due to their direct relevance to sustainable and responsible business practices. Additionally, this study provides a **theoretical framework** for both topics, drawing upon previous academic contributions in this field. Beyond its theoretical value, the research holds **practical importance** by examining the **ready-made garments factory in Mosul**, assessing its adoption of these concepts to achieve a competitive advantage. The findings can serve as a foundation for broader applications in other organizations.

Third: Research Objectives

The research objectives are defined based on its problem and significance, as follows:

1. Providing a **theoretical framework** that covers the two main research topics (**cleaner production and enlightened marketing**) along with their relevant dimensions.
2. Describing and diagnosing the research variables from the perspective of the surveyed individuals.
3. Analyzing and identifying the **correlation and impact relationship** between the research variables in accordance with the proposed hypotheses.

Fourth: Research Model

Figure (1) illustrates the hypothetical research model as follows:

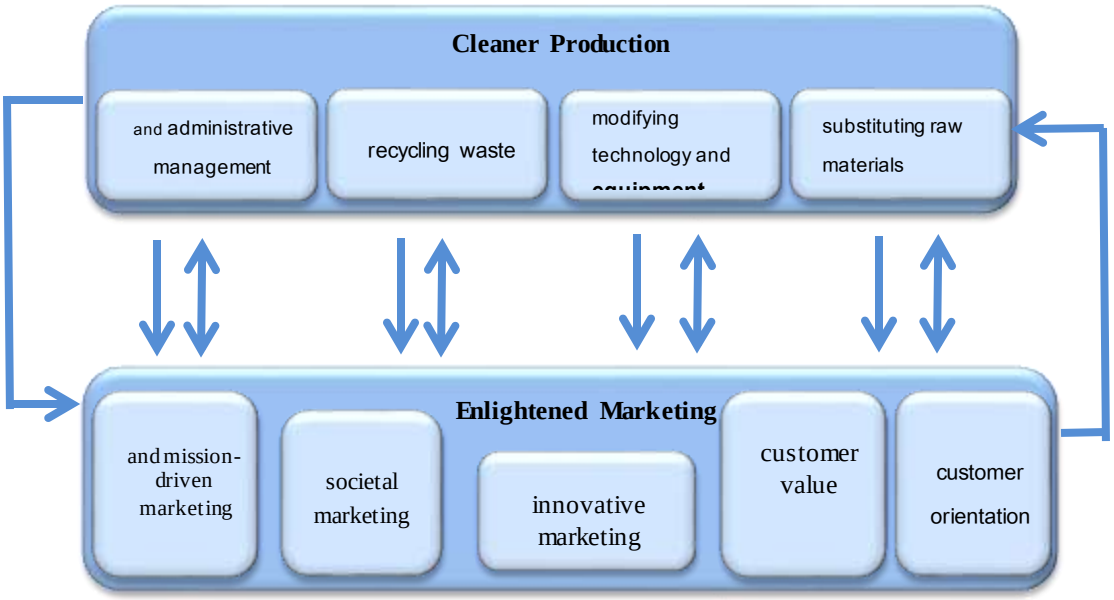

Figure (1) Hypothetical Research Model

Fifth: Research Hypotheses

The research hypotheses are formulated based on the proposed model as follows:

- First Main Hypothesis: There is no significant correlation between cleaner production and enlightened marketing, whether collectively or individually, in the ready-made garments factory.
- Second Main Hypothesis: There is no significant impact of cleaner production on enlightened marketing, whether collectively or individually, in the ready-made garments factory.

Sixth: Data Collection and Analysis Methods

The current research relied on a set of tools in both its theoretical and field aspects, as follows:

1. **Theoretical Aspect:** In this aspect, available Arabic and foreign sources were utilized, including research papers, books, scientific journals, conferences, as well as university theses and dissertations, and the internet.
2. **Field Aspect:** In this aspect, reliance was placed on the questionnaire as a primary tool for collecting data on the research variables from a ready-made garment factory

in Mosul. It is worth noting that the research population and sample included (functional staff), with (165) questionnaires valid for analysis out of a total of (180), representing a response rate of (91%). The questionnaire contained statements to answer the dimensions expressing cleaner production, embodied by (raw material substitution, technology and equipment modification, waste recycling, good administrative management), and enlightened marketing, embodied by (customer orientation, customer value, innovative marketing, societal marketing, mission-sense marketing). A five-point Likert scale was used to measure the dimensions of the research variables, ranked from strongly agree, agree, neutral, disagree, and strongly disagree, with corresponding weights assigned (5, 4, 3, 2, 1) respectively. SPSS V26 and AMOS V24 programs were used for data analysis."

Section Two: Theoretical Framework

First: Cleaner Production

1. **Concept of Cleaner Production:(** Karim ,2018, 49) pointed out that it is a comprehensive approach aimed at reducing the environmental impacts of production processes, starting from simple administrative procedures to radical modifications in equipment and processes. (Neto et al. ,2021, 1) see it as a proactive strategy to achieve sustainability that takes into account all stages of the product or service life cycle, with the aim of achieving economic and environmental gains. Meanwhile, (Wei Zheng ,2023, 1) explained that it is an environmental management strategy applied to processes, products, and services, which includes improving, modifying, or changing them. However, its implementation should not be seen as an expense but as an activity that ensures efficiency, productivity, and savings if the process is formulated correctly.
2. **Dimensions of Cleaner Production**

Industrial organizations are concerned with following modern production methods to improve their economic and environmental performance. These dimensions are one of those methods due to the role they play in improving environmental efficiency through a range of processes. Researchers have varied in their viewpoints on defining them. With the passage of time, industrial ecology applications have been developed, and their practices represent a set of steps, concepts, and strategies that work to eliminate and reduce pollution and emissions.(Rahim et al. ,2020, 27)(Da Silva & Gouveia ,2020, 164) both agreed that...

- **Raw Material Substitution:** Organizations strive to adapt to environmental changes by producing products that meet customer needs and desires. Replacing materials with negative environmental impacts with less harmful alternatives is a crucial step in this direction. This includes substituting hazardous materials with safer ones, toxic materials with less toxic alternatives, and carcinogenic materials with non-carcinogenic ones. These measures contribute to reducing waste at the source, enhancing product alignment with customer expectations, and achieving a competitive advantage in markets. Raw material substitution is the selection of alternatives based on efficiency and cost, driving organizations to research and develop new solutions that ensure resource sustainability.

This process also contributes to reducing or eliminating hazardous materials used in production processes. There are principles that are relied upon in choosing alternative materials for the production process, including:

a. **Designing Products for Recyclability:** By creating designs that allow for the reuse of their components in the future.

b. **Using Environmentally Friendly Materials:** Through studying the properties of raw materials and replacing harmful or toxic components with environmentally safer alternatives.

c. **Material Reuse:** By collecting material residues and products after use, then processing them and reintroducing them into the production cycle. d. **Energy Conservation:** By focusing on reducing the amount of energy required in production processes to enhance efficiency and sustainability.

- **Technology and Equipment Modification:** Modification achieves this by adopting new tools that contribute to enhancing productivity while simultaneously reducing material waste, waste, and energy consumption. Modern technology can be integrated into existing systems as a supportive addition or by partially or completely replacing the system. Technology modification ensures this element by making adjustments to machinery and equipment, removing polluting machinery either partially or, sometimes, completely renewing machinery, and identifying cost-effective machinery to ensure the organization's cleaner production capability, high efficiency, and lower environmental pollutant discharge. This includes eliminating processes that cause harmful materials.
- **Waste Recycling:** Recycling is the process in which the form and purpose of a product are altered to transform it into a new product. The resulting waste is utilized by converting it into usable materials or products in industry or elsewhere, through recycling, recovery, or reuse. This aims to reduce waste and lower costs. However, the processes of transporting and collecting recyclable materials require high costs, leading to higher prices for these materials in the market compared to traditional materials available. Recycling receives attention from governments, which set their priorities based on the culture of their populations and consumption behaviors. This trend helps reduce the environmental burden by reusing materials and waste, and creating industrial activities that support job opportunities. Additionally, recycling supports industrial organizations that adopt sustainability as part of their strategies to become more environmentally compatible.
- **Good Administrative Management:** These are the procedural and administrative measures that must be implemented in each department of the organization to reduce costs, emissions, and pollution, and improve efficiency. There are practices as follows:

a) **Management and Employee Practices:** Training programs related to cleaner production practices must be developed and implemented for employees. Furthermore, incentive programs should be developed to reduce emissions and pollutants.

b) **Material Storage and Handling Practices:** This part includes developing staff and practices for handling raw materials and appropriate storage conditions to reduce material damage, leakage, and negative environmental impacts. This committee periodically monitors warehouses, reviews and integrates modern storage methods to match global competitors, or identifies appropriate alternatives to reduce pollution during the storage period.

c) **Dissemination of Policies and Staff Regarding the Reduction of Pollutants and Emissions from Old Machinery and Equipment:** Through periodic evaluation and methods of repairing or replacing them.

Second: Enlightened Marketing

1. **Concept of Enlightened Marketing:** (Thorat et al.,2013,7) indicated that the organization's mission is to identify the needs, wants, and interests of target markets and deliver the desired satisfaction more effectively and efficiently than competitors in a way that maintains or [1] enhances the well-being of the customer and society. Therefore, marketers should strive to meet the needs and wants of their target markets in ways that maintain or enhance the well-being of customers and society as a whole. It focuses on social responsibility and suggests that focusing solely on the exchange relationship with customers may not be appropriate for maintaining long-term success. Instead, the marketing strategy should provide value to customers in a way that maintains or improves the well-being of the customer and society. Meanwhile,(Jafar et al,2022, 55) and(Meemapps ,2021, 1) agreed that it is a process of sustaining organizational activity by working on the integration of sustainable development dimensions. It is social through protecting the customer and working on the well-being of society by preserving and protecting the environment, and economic through achieving profit, formulating a customer-oriented marketing strategy. Meanwhile,(Talib ,2023, 61) explained that it is a strategic process aimed at achieving integration between the elements of the marketing mix in order to meet the needs and desires of customers and [1] achieve organizational profitability without harming the environment.(Kotler et al. ,2024, 606) indicated that organizations thrive by identifying and meeting the current needs and desires of target customers more effectively and efficiently than competitors, and focus on meeting the organizations' needs for sales, growth, and profits by engaging customers and giving them what they want now. However, focusing solely on meeting the immediate needs and desires of customers does not always serve the best future interests of customers, businesses, or society
2. **Dimensions of Enlightened Marketing**

   Based on the opinions and viewpoints of researchers interested in this field, there is agreement on a set of dimensions that form the basis of the enlightened marketing approach, as indicated by(Kotler et al. ,2024) (Meemapps ,2021, 1)(Rodhiah,& Valentina ,2024, 6).

- **Customer Orientation:** This is a key element in product presentation, as it contributes to understanding customer expectations and desires, and that the customer's opinion is paramount in implementing these strategies to ensure rapid response to their desires. It also includes the organization's ability to sense changes occurring in the market and link them to customer needs through the availability of an organizational culture that creates the necessary behaviors to create superior value for customers and then continuous superior performance for the organization or its business. Focusing on customer orientation is a priority for organizations in the current era of modern marketing. Organizations use customer concepts. Understanding customer needs is the first step in

the marketing process, which continues until the organization develops a product or service to meet those needs. It also provides a range of benefits, as outlined by(Domi et al. ,2020, 130) as it is a long-term approach to building customer relationships, proactively gathering feedback from customers, and the ability to develop strategies that focus on creating superior value, to obtain important information about their customers' needs and provide them with profitable offers.

- **Customer Value:** Value marketing reflects the benefits a customer receives from a product, or the perceived value of the product, and the cost incurred to obtain these benefits, taking into account both qualitative and quantitative measures. Marketing that seeks to create customer value requires a significant amount of effort and resources to continuously increase the added value in the offering. When an organization creates value for customers, customers, in turn, create value for the organization (Najm, 2008, 342).
- **Innovative Marketing:** Achieving harmony between the organization's economic goals and the social interests of customers in society, ensuring a balance between profitability and responsibility. The principle of innovative marketing requires the organization to continuously seek genuine product and marketing improvements. An organization that overlooks new and better ways of doing things will eventually lose customers to other organizations that have found a better way. Thus, innovative marketers never stop looking for new and better ways to create value for customers. Innovative marketing represents a combination of activities, processes, and ideas to deliver products to markets better by generating and applying new innovative ideas, ensuring the achievement of the strategic goals of marketing management in particular and the strategic goals of the organization as a whole. (Kamel & Hassan ,2019, 273) believe that the importance of innovative marketing is represented by the following:

  a. Satisfying customers better by skillfully identifying and meeting their needs and desires accurately and clearly.
  b. Making the organization stand out from other competitors.
  c. Successfully exploiting new ideas to be useful and practical for the organization.
  d. Innovative marketing is not limited to a specific marketing field but extends to other marketing areas or practices.

- **Societal Marketing:** This is reflected through the process of planning and implementing the overall conception of pricing and promoting ideas, goods, and services to create an exchange process that satisfies the needs of individuals and the organization. It is a management process aimed at implementing exchange operations for the benefit of the individual and the organization, and it is not limited to goods but extends to ideas, values, services, and community organizations, making marketing decisions by considering customer desires, organizational requirements, customer interests, and long-term societal interests. Its objectives can be defined through what(Raouf ,2019, 93) indicated as follows:

  - ✓ **Behavioral Change:** This is the distinguishing mark between societal marketing and social initiatives that aim to build a good reputation, earn money, or raise awareness. Societal marketing aims to stimulate behavioral changes in target customers, resulting in new behavioral patterns.

- ✓ **Achieving Benefit:** It achieves many benefits, whether in the field of environmental preservation, health, or social security. The reality of these areas is improved through continuous adaptation to the required behaviors, as societal marketing relies on rewarding targeted correct behaviors rather than punishing those who commit incorrect behaviors included in mandatory laws.

- ❖ **Mission-Sense Marketing:** The organization must define its mission on a broad social scale by identifying an effective and compelling social mission that makes employees come to work fully energized every day. Brands associated with broader missions can better serve the long-term interests of all stakeholders. It helps the organization convey a sense of seriousness to its customers, and this also conveys a message that organizations are interested in market profitability and both want to give something back to society. It aims for every marketing activity to have a deeper purpose beyond profitability, where organizations seek to achieve a positive impact on society, raise awareness of important issues, and communicate their values through their products and services. When marketing is driven by a clear and impactful message, it not only helps build brand identity but also enhances customer trust and emotional connection with the organization (Kotler, 2020, 625).

Section Three: Field Aspect
Testing the Validity of the Current Research Hypotheses"

The content of this study refers to the analysis of the correlation and impact relationships between the variables of cleaner production and enlightened marketing, based on the dimensions of each as expressed in the respondents' answers.

First: Correlation Analysis

The first main hypothesis states that there is no statistically significant correlation between cleaner production and enlightened marketing at a significance level of ($\alpha \leq 0.05$) from the perspective of a sample of employees in the ready-made clothing factory in Mosul.

A. The results of Table (1) and Figure (2) indicate a positive correlation between cleaner production and enlightened marketing, as evidenced by the correlation coefficient value, which was (0.91). This relationship is significant based on the p-value (0.002), which is less than (0.05). Moreover, the lower (Lower) and upper (Upper) bounds of the confidence interval (95% Confidence Interval) share the same sign at a significance level of (0.05).

B. This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states that there is a significant positive correlation between cleaner production and enlightened marketing at a significance level of ($\alpha \leq 0.05$).

Table (1): Relationship Between Cleaner Production and Enlightened Marketing

First Variable	Relationship Direction	Second Variable	Correlation Value	95% Confidence Interval		probability-value
				Lower	Upper	
Cleaner Production	<-->	Enlightened Marketing	0.91	0.845	0.951	0.002

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

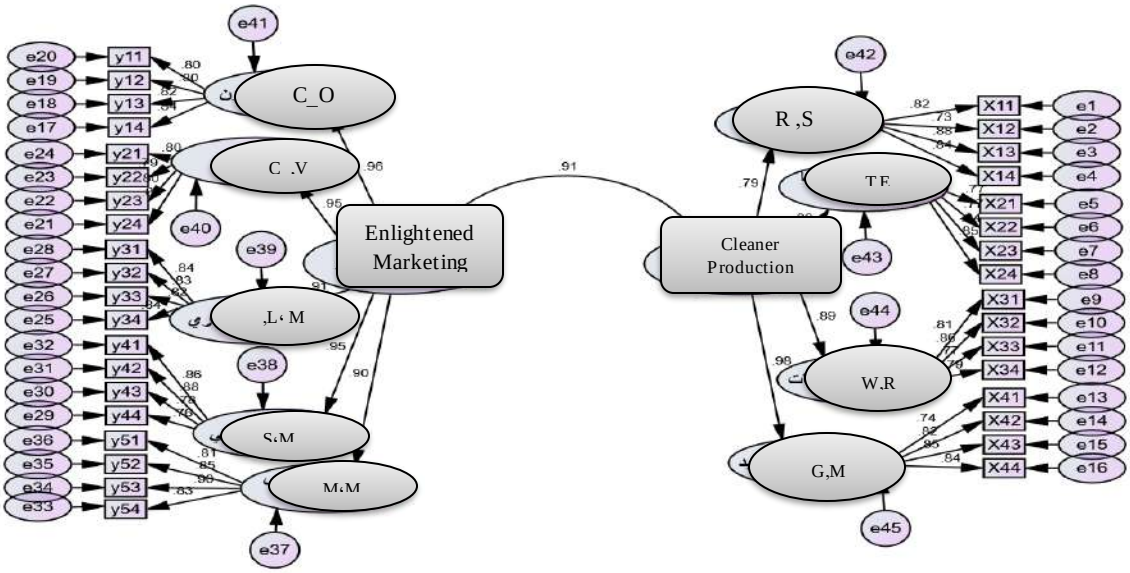

Figure (2): Correlation Between Cleaner Production and Enlightened Marketing

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

While the sub-hypotheses derived from the first main hypothesis state that there is no statistically significant correlation between the dimensions of cleaner production and enlightened marketing at a significance level of ($\alpha \leq 0.05$) from the perspective of a sample of employees in the ready-made clothing factory in Mosul. Based on the results of Table (2) and Figure (3), a positive correlation was found between raw material substitution and enlightened marketing, as indicated by the correlation coefficient value of (0.68). This relationship is significant according to the p-value (0.002), which is less than (0.05). Additionally, the lower (Lower) and upper (Upper) bounds of the 95% Confidence Interval have the same sign at a significance level of (0.05). This leads to the rejection of the null hypothesis and acceptance of the alternative hypothesis, which states that there is a significant positive correlation between raw material substitution and enlightened marketing at a significance level of ($\alpha \leq 0.05$).

A. There is a positive correlation between technology and equipment modification and enlightened marketing, as indicated by the correlation coefficient value of (0.79). This relationship is significant based on the p-value (0.002), which is less than (0.05). Moreover, the lower and upper bounds of the confidence interval share the same sign. This indicates the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states that there is a significant positive correlation between technology and equipment modification and enlightened marketing at a significance level of ($\alpha \leq 0.05$).

B. There is a positive correlation between waste recycling and enlightened marketing, as indicated by the correlation coefficient value of (0.82). This relationship is significant based on the p-value (0.003), which is less than (0.05). Furthermore, the lower and upper bounds of the confidence interval at a significance level of (0.05) have the same sign. This suggests the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states

that there is a significant positive correlation between waste recycling and enlightened marketing at a significance level of ($\alpha \leq 0.05$).

C. There is a positive correlation between good administrative management and enlightened marketing, as indicated by the correlation coefficient value of (0.91). This relationship is significant based on the p-value (0.003), which is less than (0.05). Additionally, the lower and upper bounds of the confidence interval at a significance level of (0.05) have the same sign. This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states that there is a significant positive correlation between good administrative management and enlightened marketing at a significance level of ($\alpha \leq 0.05$).

Table (2): The Relationship Between the Dimensions of Cleaner Production and Enlightened Marketing

First Variable	Relationship Direction	Second Variable	Correlation Value	95% Confidence Interval		probability-value
				Lower	Upper	
substituting raw materials	<-->	Enlightened Marketing	0.68	0.555	0.791	0.002
modifying technology and equipment	<-->		0.79	0.683	0.884	0.002
recycling waste	<-->		0.82	0.720	0.887	0.003
administrative management	<-->		0.91	0.843	0.956	0.003

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

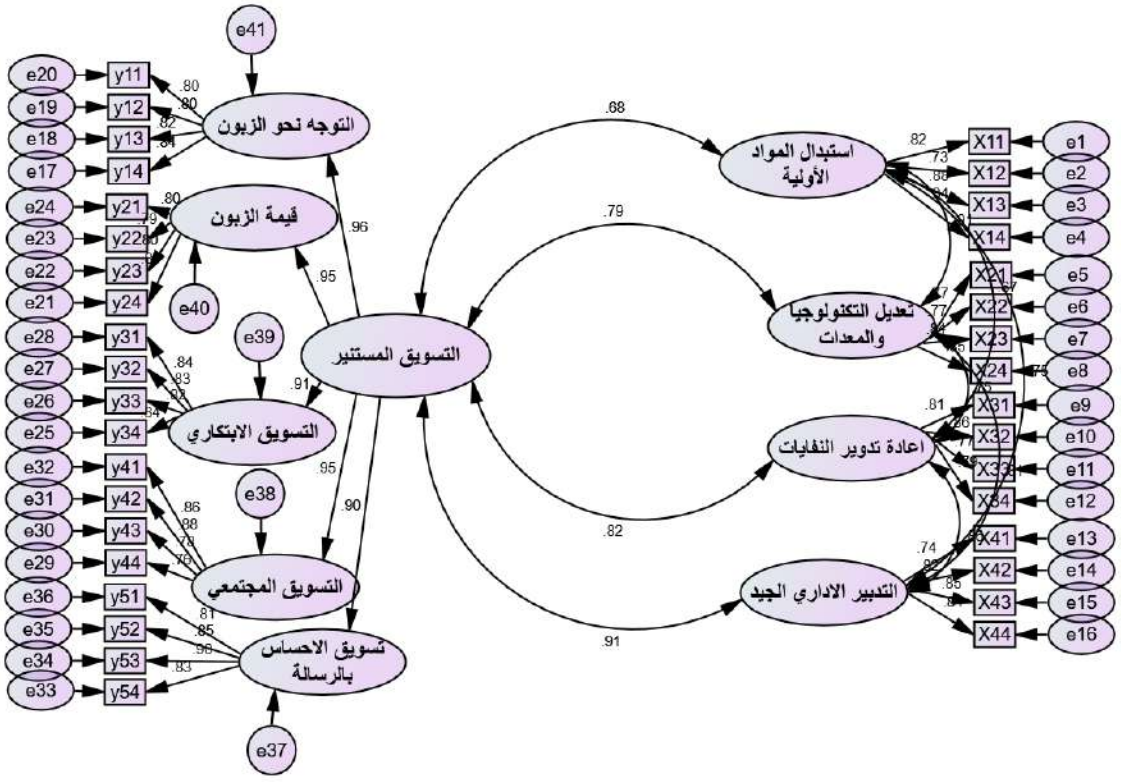

Figure (3): Correlation Between the Dimensions of Cleaner Production and Enlightened Marketing

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

The second sub-hypotheses derived from the first main hypothesis state: There is no statistically significant correlation between cleaner production and each dimension of enlightened marketing at a significance level of ($\alpha \geq 0.05$) from the perspective of a sample of employees in the ready-made clothing factory in Mosul. The results of Table (5) and Figure (3) indicate the following:

A. There is a positive correlation between cleaner production and customer orientation, as indicated by the correlation coefficient value of (0.92). This relationship is significant based on the p-value (0.002), which is less than (0.05). Additionally, the lower (Lower) and upper (Upper) bounds of the 95% Confidence Interval have the same sign at a significance level of (0.05).

This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states that there is a significant positive correlation between cleaner production and customer orientation at a significance level of ($\alpha \leq 0.05$).

B. There is a positive correlation between cleaner production and customer value, as indicated by the correlation coefficient value of (0.85). This relationship is significant based on the p-value (0.002), which is less than (0.05). Moreover, the lower and upper bounds of the confidence interval share the same sign at a significance level of (0.05).

This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states that there is a significant positive correlation between cleaner production and customer value at a significance level of ($\alpha \leq 0.05$).

C. There is a positive correlation between cleaner production and innovative marketing, as indicated by the correlation coefficient value of (0.80). This relationship is significant based on the p-value (0.003), which is less than (0.05). Furthermore, the lower and upper bounds of the confidence interval share the same sign at a significance level of (0.05).

This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states that there is a significant positive correlation between cleaner production and innovative marketing at a significance level of ($\alpha \leq 0.05$).

D. There is a positive correlation between cleaner production and societal marketing, as indicated by the correlation coefficient value of (0.88). This relationship is significant based on the p-value (0.002), which is less than (0.05). Additionally, the lower and upper bounds of the confidence interval share the same sign at a significance level of (0.05).

This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states that there is a significant positive correlation between cleaner production and societal marketing at a significance level of ($\alpha \leq 0.05$).

E. There is a positive correlation between cleaner production and mission-driven marketing, as indicated by the correlation coefficient value of (0.79). This relationship is significant

based on the p-value (0.002), which is less than (0.05). Furthermore, the lower and upper bounds of the confidence interval share the same sign at a significance level of (0.05).

This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states that there is a significant positive correlation between cleaner production and mission-driven marketing at a significance level of ($\alpha \leq 0.05$).

Table (3): The Relationship Between Cleaner Production and the Dimensions of Enlightened Marketing

First Variable	Relationship Direction	Second Variable	Correlation Value	95% Confidence Interval		probability-value
				Lower	Upper	
Cleaner Production	<-->	customer orientation	0.92	0.873	0.963	0.002
	<-->	customer value	0.85	0.748	0.926	0.002
	<-->	innovative marketing	0.80	0.709	0.871	0.003
	<-->	societal marketing	0.88	0.809	0.930	0.002
	<-->	mission–driven marketing	0.79	0.667	0.870	0.002

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

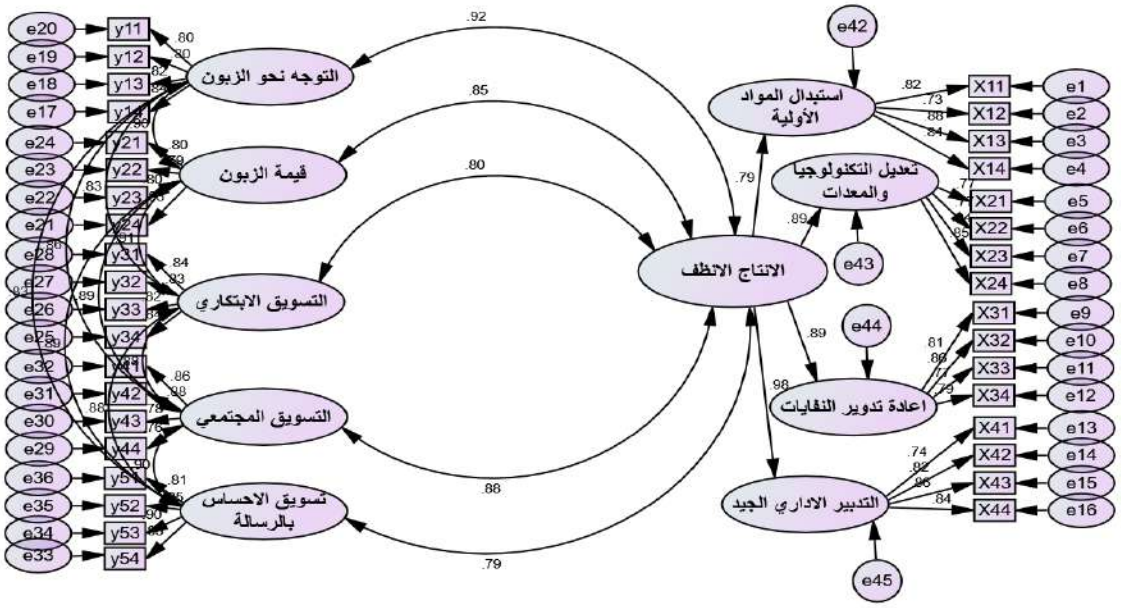

Figure (4) Correlation Between Cleaner Production and Enlightened Marketing Dimensions.

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

Second: Analysis of the Impact Relationship

The content of this analysis reflects the examination of the impact relationships between the independent variable(s) and the dependent variable as follows: **Second Main Hypothesis:** There is no statistically significant impact of the cleaner production variable on the enlightened marketing variable at a significance level of ($\alpha \leq 0.05$) from the perspective of a sample of employees in the ready-made clothing factory in Mosul. Table (4) and Figure (5) indicate the following:

1. There is a positive impact of the cleaner production variable on the enlightened marketing variable, as evidenced by the regression coefficient Estimate (β), which was (0.907). This impact is statistically significant based on the p-value (0.002), which is less than (0.05). The same result is confirmed by the critical ratio (C.R.), which was (32.392), exceeding the tabular t-value (tTab) of (1.96).

   This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, which states that there is a significant positive impact of the cleaner production variable on the enlightened marketing variable at a significance level of ($\alpha \leq 0.05$).

2. The value of the coefficient of determination (R-Square) indicates that (82%) of the variations in **enlightened marketing** are attributed to **cleaner production**, while the remaining (18%) are due to other variables not included in the regression model. In other words, cleaner production explains **82%** of the changes occurring in enlightened marketing.

Table (4) Results of the Impact of Cleaner Production on the Enlightened Marketing Variable

Independent Variable	Direction of Effect	Dependent Variable	Regression Coefficient Estimate(β)	Standard Error of Regression Coefficient Se.(β)	Coefficient of Determination R-square	Critical Ratio C.R.	P-value
Cleaner Production	←	Enlightened Marketing	0.907	0.028	0.82	32.392	0.002

Tabulated value (1.96=tTab)

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

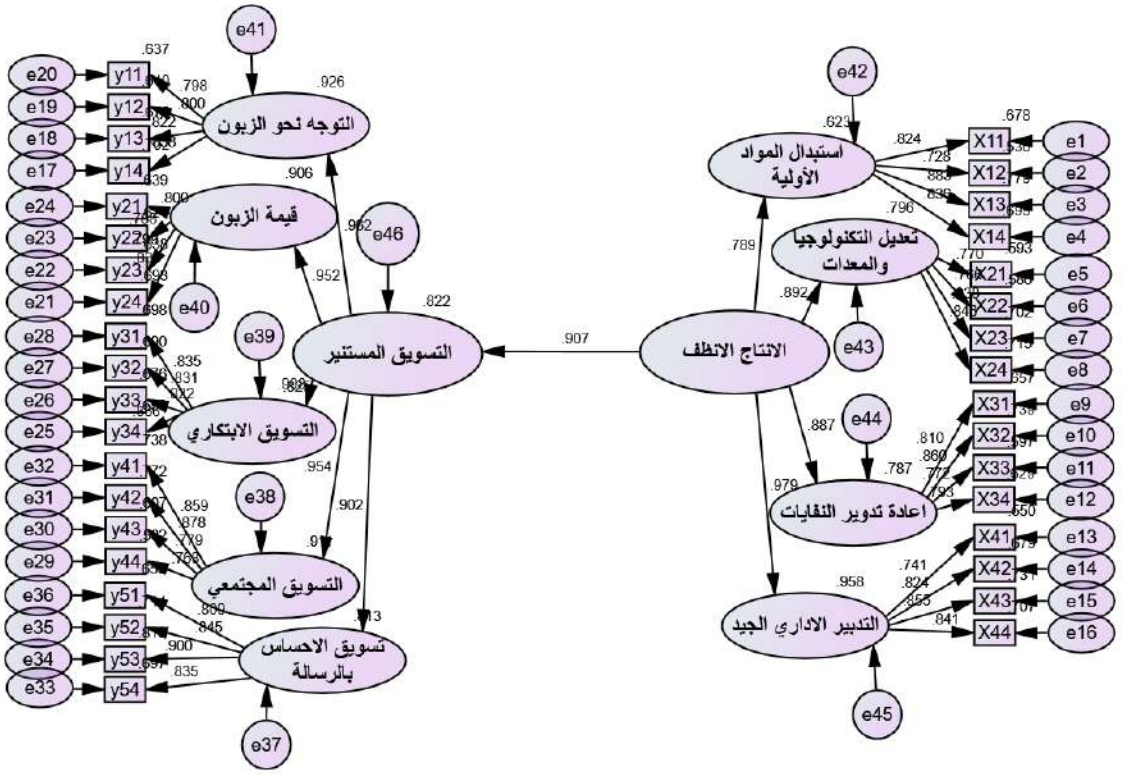

Figure (5) Impact of Cleaner Production on Enlightened Marketing Variable

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

Analysis of the Impact Relationship
First Sub-Hypotheses Derived from the Second Main Hypothesis:

A. There is no statistically significant impact of the raw material substitution dimension on enlightened marketing at a significance level of ($\alpha \leq 0.05$) from the perspective of a sample of employees in the ready-made clothing factory in Mosul.

B. There is no statistically significant impact of the technology and equipment modification dimension on enlightened marketing at a significance level of ($\alpha \leq 0.05$) from the same sample.

C. There is no statistically significant impact of the waste recycling dimension on enlightened marketing at a significance level of ($\alpha \leq 0.05$).

D. There is no statistically significant impact of the good administrative management dimension on enlightened marketing at a significance level of ($\alpha \leq 0.05$).

The results of Table (5) and Figure (6) indicate the following:

1. There is a positive impact of the raw material substitution dimension on enlightened marketing, as evidenced by the regression coefficient Estimate (β), which was (0.601). This impact is statistically significant, with a p-value of (0.002), which is less

than (0.05). The same result is confirmed by the critical ratio (C.R.), which was (7.607), exceeding the tabular t-value (tTab) of (1.96).

This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, stating that raw material substitution positively and significantly impacts enlightened marketing at a significance level of ($\alpha \leq 0.05$).

2. There is a positive impact of the technology and equipment modification dimension on enlightened marketing, as indicated by the regression coefficient Estimate (β) of (0.831). This impact is statistically significant, with a p-value of (0.002), which is less than (0.05). The same result is confirmed by the critical ratio (C.R.), which was (2.920), exceeding the tabular t-value (tTab) of (1.96).

   This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, stating that technology and equipment modification positively and significantly impacts enlightened marketing at a significance level of ($\alpha \leq 0.05$).

3. There is a positive impact of the waste recycling dimension on enlightened marketing, as indicated by the regression coefficient Estimate (β) of (0.829). This impact is statistically significant, with a p-value of (0.003), which is less than (0.05). The same result is confirmed by the critical ratio (C.R.), which was (9.010), exceeding the tabular t-value (tTab) of (1.96).

   This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, stating that waste recycling positively and significantly impacts enlightened marketing at a significance level of ($\alpha \leq 0.05$).

4. There is a positive impact of the good administrative management dimension on enlightened marketing, as indicated by the regression coefficient Estimate (β) of (1.091). This impact is statistically significant, with a p-value of (0.003), which is less than (0.05). The same result is confirmed by the critical ratio (C.R.), which was (3.117), exceeding the tabular t-value (tTab) of (1.96).

   This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis, stating that good administrative management positively and significantly impacts enlightened marketing at a significance level of ($\alpha \leq 0.05$).

Ranking of the Impact Strength of Cleaner Production Dimensions on Enlightened Marketing:

Based on Table (7) and Figure (8), the dimensions of cleaner production vary in their impact strength on enlightened marketing from the perspective of the sampled employees at the ready-made clothing factory in Mosul.

- The good administrative management dimension ranked first in impact strength, as indicated by its standardized regression weight (SRW) of (1.091).
- The technology and equipment modification dimension ranked second, with an SRW value of (0.831).
- The raw material substitution dimension ranked third, with an SRW value of (0.601).
- The waste recycling dimension ranked fourth and last, with an SRW value of (0.522).

Accordingly, the coefficient of determination (R-Square) indicates that 87% of the variations in enlightened marketing are caused by cleaner production dimensions, while the remaining 13% is attributed to other variables not included in the regression model. In other words, cleaner production explains 87% of the changes occurring in enlightened marketing.

Table (7) Results of the Impact of Cleaner Production Dimensions on Enlightened Marketing.

Independent Variable	Direction of Effect	Dependent Variable	Regression Coefficient (Estimate Estimate(β)	Standardized Regression Weight SRW	Standard Error of Regression Coefficient Se.(β)	Coefficient of Determination R-square	Critical Ratio C.R.	P-value	Rank
Raw Materials Substitution	←	Enlightened Marketing	0.601	0.685	0.079	0.87	7.607	0.002	Third
Technology and Equipment Modification	←		0.831	0.797	0.106		2.92	0.002	Second
Waste Recycling	←		0.829	0.824	0.092		9.010	0.003	Fourth
Good Administrative Management	←		1.091	0.909	0.135		3.117	0.003	First

Tabulated value (1.96=tTab)

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

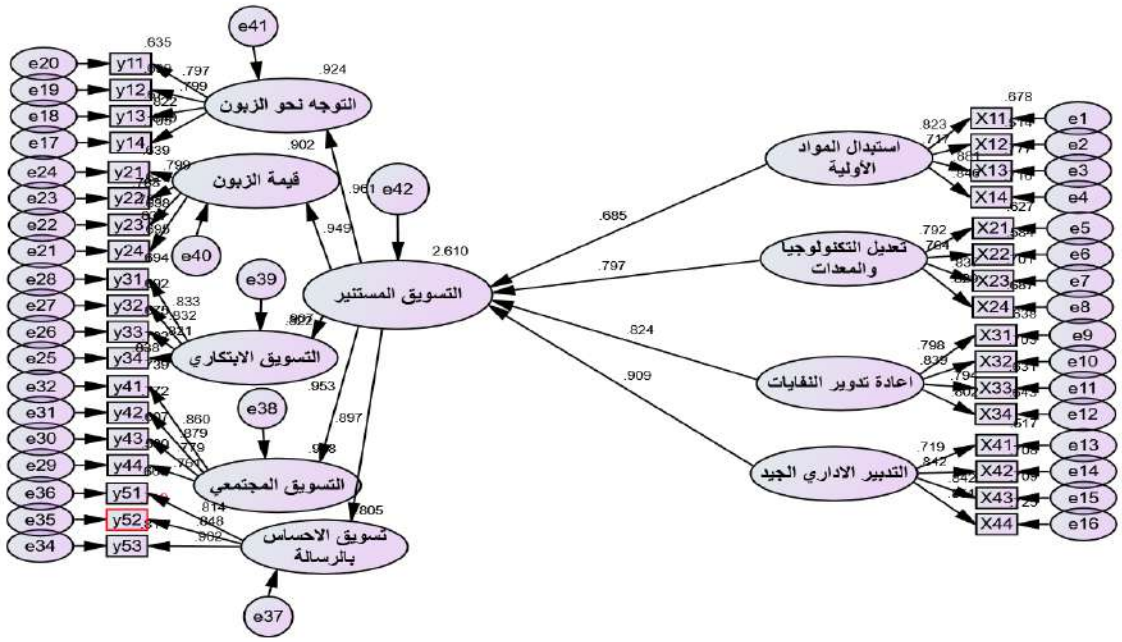

Figure (6) Impact of Cleaner Production Dimensions on Enlightened Marketing.

Source: Prepared by the researchers in light of the statistical analysis results using AMOS V24 software

Chapter Four: Conclusions and Recommendations

First Section: Conclusions

Our current study presents a set of conclusions derived from both its theoretical and practical aspects, aiming to address the research problem questions.

1. It has been found that **cleaner production** is a working approach that seeks to achieve the goals of the ready-made clothing factory by aligning with organizational objectives, customer needs, and societal expectations through policies that minimize waste and reduce resource damage.
2. The dimensions of **cleaner production** discussed in this research—**raw material substitution, technology and equipment modification, waste recycling, and administrative management**—play a key role in distinguishing the ready-made clothing factory and maintaining its competitive edge.
3. Statistical analysis results indicate that **82% of the variations in enlightened marketing are attributed to cleaner production**, reinforcing the importance of adopting clean production practices in achieving the goals of enlightened marketing.
4. The surveyed organization adopts **cleaner production as an operational mechanism** and **enlightened marketing as a means of competition**. This is evident from the consistency in respondents' answers regarding cleaner production and its sub-variables, despite varying degrees of statistical significance among the relationships between cleaner production dimensions and enlightened marketing.
5. Correlation analysis results show **significant relationships between cleaner production and enlightened marketing** and between their respective variables. However, **the weakest correlation was found with raw material substitution**, suggesting that the organization does not follow a specific strategy for replacing harmful materials.
6. The analysis confirms that **cleaner production significantly impacts enlightened marketing**, with sub-analysis revealing an **impact relationship between each cleaner production variable and enlightened marketing**.
7. The explanatory power of **cleaner production variables in predicting enlightened marketing outcomes varies**. The **weakest explanatory value** was observed for **innovative marketing**, indicating **a lack of sufficient proposals to enhance performance** and **a failure to fully capitalize on available strengths to mitigate risks**.

Second Section: Recommendations

The research findings and conclusions should not mark the end of this study's contribution. To further support the studied organization, the researchers propose several recommendations:

1. The organization should **pay attention to all cleaner production variables**, considering it an **integrated system** that contributes to gaining customer and societal satisfaction.
2. Greater emphasis should be placed on **waste recycling**, as it has not received **sufficient focus** compared to other cleaner production variables.
3. The organization should be encouraged to **prioritize innovative and societal marketing**, as these have not been **adequately integrated** compared to other dimensions of enlightened marketing. This can be achieved by **allowing employees greater access to the information necessary for their roles**.
4. The organization should place **greater importance on technology and equipment modification** by **moving beyond traditional production methods** to **maximize the benefits of new products** and **avoid various types of losses**.

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