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Article

Cleaner Production and Its Role in Improving The Level of Performance (A Survey Study of The Opinions of A Sample Of Workers in The General Company For Fertilizer Industry in The Southern Region)

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Abstract: The main objective of the research is to know the extent of cleaner production in improving the level of performance in the researched company. The research was launched from a problem summarized in a set of questions, the most important of which was (What is the impact of cleaner production on the company's performance?) In order to answer the research questions and achieve its objectives, the General Company for Fertilizer Industry in the Southern Region was adopted as a field for applying the research. The research sample consisted of individuals working in different departments within the company, numbering (44) individuals as a sample responding to the research. After collecting data and information through the questionnaire form from the research sample, it was analyzed using the program (Smart pls 4). After analyzing the results, a set of conclusions were reached, the most important of which is: Cleaner production as an (independent variable) has an impact on the company's performance as a (dependent variable).

Keywords: Cleaner Production, Performance Level, Substitution Of Raw Materials, Recycling, Administrative Procedures, Task Performance, Proactive Performance, Counterproductive Work Behavior

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1. Introduction

Improving performance in industrial enterprises is one of the main challenges facing many companies in the modern era. In light of the increasing environmental changes and the increasing awareness of the importance of sustainability, cleaner production has become one of the effective strategies that can enhance the economic and environmental performance of enterprises. Cleaner production practices are considered one of the essential elements that contribute to improving the level of performance in industrial and service enterprises. This approach aims to enhance efficiency and reduce resource waste, which contributes to achieving economic and environmental sustainability. By implementing cleaner production strategies, companies can reduce costs associated with waste and energy consumption, improve product quality, and increase customer satisfaction. In addition, these practices contribute to enhancing innovation within the organization and raising employee morale. Thus, cleaner production becomes an effective

tool not only to achieve economic goals, but also to achieve a positive impact on society and the environment.

This research aims to explore the impact of applying cleaner production principles on the performance of organizations, focusing on how to improve efficiency and reduce waste, in addition to enhancing competitiveness. In this research, we will discuss the basic concepts of cleaner production, methods of its application, and study practical cases that reflect the success of this strategy in improving performance. We will also highlight the environmental and social benefits associated with adopting these practices, and how they can contribute to achieving sustainable development. Through this research, we hope to provide valuable insights for organizations seeking to improve their performance by applying cleaner production methods.

2. Materials and Methods

The research problem Cleaner production is one of the most important determinants of the success of modern and advanced institutions. It is considered the modern approach to management. Since the environmental dimension has become integrated into the overall performance, in addition to both economic and social performance, especially after the issue of protecting and preserving the environment has become one of the most important features of the new international business environment. This is what made cleaner production technology the most important goals that industrial institutions seek at the present time, in response to the requirements of the modern manufacturing environment, as well as external pressures that aim to preserve the environment, in addition to the awareness of societies and consumers and their orientation towards environmentally friendly products. Accordingly, the problem of the study lies in answering the following main question:

What is the impact of cleaner production in improving the level of performance in the organization under study?

The following sub-questions branch out from this question:

1. *What is the impact of substituting raw materials on the level of performance in the organization under study?*
2. *What is the impact of recycling on the level of performance in the organization under study?*
3. *What is the impact of administrative procedures on the level of performance in the organization under study?*

Research objectives

This research sheds light on an important topic related to cleaner production and its role in improving the level of performance, which appears through the application of the cleaner production strategy in the organization under study. It also aims to highlight the most important gains that the organization can achieve through its application of this strategy. This was done through:

1. Shedding light on the term cleaner production and the most important elements it contains.
2. Shedding light on the term performance and the most important elements it contains.
3. Highlighting the impact of cleaner production on performance in the organization under study.
4. Identifying the interactive relationship between the variables of cleaner production and performance.

The importance of the research

Cognitive importance: The presentation of a very important topic, which is the topic of cleaner production and performance, which combines the field of production and operations management and human resources management, and this is considered a theoretical contribution to administrative literature in these two fields.

Field importance: It lies in combining one of the concepts of sustainability that leads to the survival and continuity of business organizations, which is cleaner production and performance, which leads to exploring and exploiting opportunities in the contemporary environment, and thus combining them is of great importance to the company under study.

Research hypotheses

The research is based on a main hypothesis, which is:

H1: There is a statistically significant correlation between cleaner production and the level of performance at a significance level of 0.05.

Five secondary hypotheses branch out from the main hypothesis:

H1.1 There is a statistically significant correlation between the substitution of raw materials and the level of performance

H1.2 There is a statistically significant correlation between recycling and the level of performance

H1.3 There is a statistically significant correlation between administrative procedures and the level of performance.

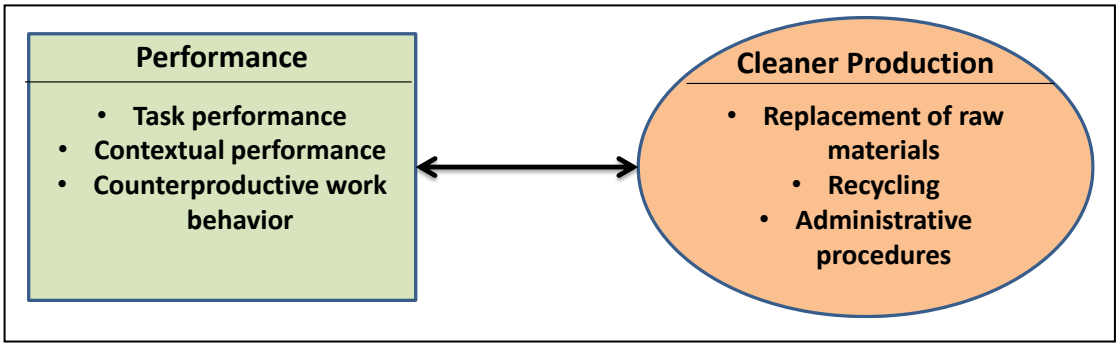

Figure 1. The hypothetical model of the research.

Research Methodology

The descriptive and analytical method was relied upon to analyze the data received through the questionnaire that was distributed to the research sample members in order to reach the results and discuss them scientifically.

Data Collection Methods

Reviewing various scientific sources such as reviewing a group of books, publications, master's theses, doctoral dissertations, and research related to the research variables. Field visits and personal interviews were also conducted for the research sample members, in addition to the questionnaire that was used to collect the descriptive data obtained from the research sample members.

Statistical Methods Used

The data were statistically processed by extracting percentages, arithmetic means, and standard deviations. The study hypotheses were examined at the 0.05 level using the following statistical tests (simple linear regression t-test)) and the Cronbach's F-test reliability equation using the statistical package program (SPSS V24.)

Sample and research

Boundaries The spatial boundaries of the research were represented by (the Southern General Company for Fertilizers Industry) and the human sample consisted of employees of the Southern General Company for Fertilizers Industry. The sample was determined at (50) individuals, as (50) questionnaires were distributed to the research sample and (44) valid questionnaires were retrieved for analysis. The time boundaries of the research were the period extending from 11/1/2023 to 10/20/2024.

3. Results

Cleaner production

Cleaner production is a basic condition for reconciling environmental and economic goals at the global, national and local levels. International organizations, national governments, industrial associations and environmental bodies are making greater efforts to establish awareness of the importance of cleaner production. The concept of cleaner production also differs from one researcher to another (65: 2018, El-Mashad).

The concept of cleaner production.

Tabel 1. The concept of cleaner production.

Researcher	Concept
(Hens et al,2018:3323)	It is a less and more efficient use of energy and materials and replacing products that are more harmful to the environment and health with less hazardous products
(Panameno et al,2019:1)	The continuous application of a preventive strategy that includes various activities related to manufacturing, marketing and services and aims to increase the clean green value and reduce potential risks surrounding human health and the environment
(Silva&gouveia,2020:45)	A set of preventive administrative rules that aim to protect the environment from the harmful effects of products and manufacturing processes
(Al-Qara Ghoul, 310:2022)	It is a strategy that aims to protect the environment from pollution and reduce resource losses to obtain a sustainable environment
(Sultan and Baamrni, 310:2022)	The continuous application of a preventive strategy that includes various activities related to manufacturing, marketing and services and aims to increase the clean green value and reduce potential risks surrounding human health and the environment.

Objectives of Cleaner Production

(Sultan and Bamarni , 2021: 311) see that the objectives are summarized as follows:

1. Preventing defects instead of inspection and rework to build quality in processes
2. Changes allow machines and equipment to produce different products through the production of small and intermittent batches
3. Integrated horizontal relationship with the integration of the supply chain in raw materials to the final product and replacing the orientation with participation in relationships with suppliers and distributors

While (Khokha and Suwaalem, 2022: 405) stated that the objectives are:

1. Reducing the depletion of natural resources, increasing production, and saving energy and water consumption.
2. Improving the work environment and achieving benefits in the areas of occupational and environmental safety.
3. Modifying manufacturing processes by eliminating processes that produce substances that are harmful to health and the environment
4. Improving the quality of products and increasing competitiveness.

The importance of cleaner production

Many writers and researchers in the field of cleaner production have mentioned many points of importance that emerge from the use of cleaner production, and we will mention some of those opinions

(Hamza & Nasreen , 2018: 29) believe that the importance is to eliminate or reduce the generation of hazardous waste and prevent accidental spills and emissions, reduce workers' exposure to risks, reduce health effects, reduce costs related to the management of hazardous materials and waste and the process of disposing of them, enhance efficiency and prevent product loss and rationalize the consumption of raw materials and energy

While (Zamfir , 2018: 89) stated that the importance of cleaner production is to enhance the image of the environmentally friendly organization and gain a competitive advantage through the organization's commitment to environmental legislation, which leads to improving the organization's image in society

While (Jayasinghe,2020:125) mentions several points on the importance of cleaner production, including:

1. Reducing the consumption of raw materials.
2. Reducing energy consumption.
3. Eliminating or reducing waste generation.
4. Using optimal technologies in the manufacturing process.
5. Increasing efficiency and productivity.

Finally, (Al-Gharibawi and Al-Zubaidi, 2022: 73) see that the importance of cleaner production is that its application leads to reducing the costs of the production process by reducing the use of energy and raw materials, improving productivity levels to the ideal level as a result of time savings and, as a result, increasing production, and improving the general image of the organization.

Dimensions of Cleaner Production:

In light of the study (Al-Jabouri and Al-Naama , 5:2018) and based on the model adopted in it, the dimensions were prepared in the table below:

Tabel 2. Dimensions of cleaner production.

Product design	Process improvement and control	Administrative procedures	Product development	Changing production technology	Recycling	Substitution of raw materials	Researcher and Year
-	-	-			-	-	Hilson,2019
		-		-	-	-	Berkel,2020
-	-	-	-		-	-	Newman,2019
		-	-	-	-	-	Yaacoup,2018
%50	%50	%100	%50	%50	%100	%100	الناتج

It is noted in the table above that the most frequently mentioned dimensions by researchers and which achieved the highest rates of agreement between them are the replacement of raw materials, recycling, and administrative procedures, which we will adopt in our current research and will review as follows:

1. Replacement of raw materials : This is related to changes in raw materials that lead to reducing cleaner production by reducing and eliminating hazardous and toxic materials that enter into the production process (Mahmoud, 2018: 218).
2. Recycling : The primary goal of most organizations is to make the most of the materials entering into their production processes and the outputs of those processes and to reduce waste and emissions generated throughout the life cycle. Recycling is the use

of secondary products and waste to the maximum extent possible (Fatima and Shafiq, 2021: 6).

3. Administrative procedures : A set of appropriate administrative and operational procedures adopted by the institution in the form of improvements to work and proper maintenance. Good management works to ensure that its internal activities are achieved in the best ways and means and to follow the methods and practices of cleaner production and its role in improving the level of performance. It also supports cleaner production such as preventing the leakage of materials, isolating waste, good hygiene, and rationalizing the consumption of raw materials and energy to operate production process systems. It can be used to reduce emissions and pollutants to improve efficiency and reduce costs (Othman, 2019: 159).

Second : Performance The concept of performance is generally one of the administrative concepts that has received a great level of attention in organizations because it is closely linked to the success of the organization in light of the changing competitive environment. Despite the disagreement of many researchers and writers about highlighting a specific definition of performance, we will review a number of definitions later (Abdellaal et al.,2021:23).

Performance Concept:

Tabel 3. Performance Concept.

Researcher	Concept
Mohammed et al,2019:87	It is a set of achievements that have been achieved through the implementation of a set of practices
Hussein, 123:2020	A reflection of how the organization works to exploit its material and human resources efficiently and effectively in a way that enables it to achieve its goals
Umar et al ,2021:279	It is the organization's ability to develop and exploit its resources to achieve its goals effectively and efficiently
Hermas et al,2021:279	The organization's success in achieving the goals it has set in terms of finance, customer, internal operations, learning and growth

The importance of performance

The importance of performance appears through the use of most studies and performance includes all administrative starting points that contain administrative content and implications, whether implicitly or directly, as it represents the center of strategic management. The reason for this is that performance represents a time test for the strategy followed by management. Its importance also appears clearly through the transformations that take place in these institutions based on the results of performance (Taher, 2018: 50(.

It is also considered a guidance tool for the institution in order to achieve goals, and a tool to know the status of the institution, and it is used as a tool to know the imbalance that occurs when achieving goals, and to determine ways to develop employees and push them towards developing themselves (Hamid, 2018: 58).

(Mohammad & Ibrahim,2023:19) mentions that performance is of great importance in the organization because it is:

1. Able to maintain a distinguished level that enables the organization to achieve the highest competitive positions to achieve its goals
2. Protect it from fluctuations and challenges of external environmental factors that it faces.
3. Distinguished performance enables employers to solve current and future problems and predict them by developing appropriate strategies for them.

4. Performance helps in the decision-making process by determining their capabilities and efficiency in completing their work within a specific period of time.

Performance dimensions In light of Al-Bahadli's study (2023:78) and based on the model adopted therein, the dimensions were prepared in the table below:

Tabel 4. Performance dimensions.

Perseverance	Work Quality	Work Volume	Knowledge Requirements	Adaptive Performance	Counterproductive Work Behavior	Contextual Performance	Task Performance	Researcher and Year
-	-	-	-		-		-	Mohamed, 2018
					-	-	-	Kamal, 2019
	-			-	-	-		Marzouq, 2020
			-		-	-	-	Omar, 2021
						-	-	Jabbar, 2022
%20	%40	%20	%40	%20	%80	%80	%80	

It is noted in the table above that the dimensions most mentioned by researchers and which achieved the highest rates of agreement between them are task performance, proactive performance, and counterproductive behavior performance) and my agencies:

1. Task performance : Employee behaviors differ according to jobs and contribute to the production of a product or the provision of a service, and are described according to the roles included in the job description because they are related to the basic job tasks, so it is difficult to find general frameworks for task performance. Instead, context-specific frameworks can be used (Fernández et alm,.2019:196)

Task performance is also behaviors that contribute to the conversion of raw materials into goods or services where they are distributed in the form of a final product and have an effective role in planning the completion of tasks and activities that improve the efficiency of work performance, so task performance is considered one of the behaviors that are mentioned officially in the job description because it is one of the basic and essential requirements of the job, as it differs from one job to another according to the nature of the job practiced in the institution (Marzouq et al., 2020:27 2)

2. Contextual performance : Contextual performance is considered a form of The forms of performance that contribute to organizational effectiveness and in ways that shape the organizational, social and psychological context and include several behaviors such as adhering to workplace regulations even if they are inappropriate, volunteering to perform additional tasks or helping others, and supporting positive attitudes to confront setbacks faced by employees in the work environment (Meyers et al, 2020: 488). The most important measures of contextual employee performance are support from colleagues, customer satisfaction, and institutional compliance. Contextual performance is a positive social behavior that individuals display in the work environment (Edeh et al., 2023: 370) .

3. Counterproductive work behavior: It represents deviant behaviors that employees engage in, such as unproductive personal behaviors, theft, loitering, absenteeism, tardiness, withdrawal, and other behaviors that harm the well-being of the organization. Counterproductive work behavior harms the overall effectiveness of the organization and causes organizational deviation in it. Organizational deviation is considered a voluntary behavior that the employee engages in at work as a result of organizational violations that harm the well-being of the organization. This deviation is represented by procedures related to performance that violate the main requirements of the organization (Chen et al.,2020:33)

4. Discussion

About the organization under study

The Ministry of Construction began the first study to establish a factory for the production of chemical fertilizers in 1953. After completing economic and technical studies by international companies, a contract was signed on 10/4/1967 with Mitsubishi Heavy Industries of Japan to establish a fertilizer factory in Abu Al-Khaseeb District in Basra Governorate with daily design capacities:

325 tons/day of sulfuric acid
420 tons/day of ammonium sulfate
200 tons/day of ammonia
160 tons/day of urea fertilizer

On 11/2/1969, the company's founding contract was issued under the name of the General Company for the Manufacture of Chemical Fertilizers in Basra with a capital of (12) million dinars in capacity. At the beginning of 1971, the factory units were operated and production appeared at maximum capacity on 6/27/1971. Since the goals of agricultural development express the aspirations of the Iraqi people and since this fertilizer factory was no longer sufficient to achieve the dimensions of the goals of agricultural development, it was decided to expand. The first plant to establish a second plant to produce urea fertilizer in the same location (Abu Al-Khaseeb) with a capital estimated at 32 million dinars and with the following daily design capacities:

1300 tons/day urea fertilizer
800 tons/day ammonia

In September 1973, a contract was signed with the Japanese Mitsubishi Company to establish the project, which was officially received from the contracting company on 1/1/1978. Due to the need for urea fertilizer in agricultural and industrial development at the same time, it was decided to establish two giant factories to produce urea fertilizer at a cost of (192) million dinars and at the Khor Al-Zubair site with a total production capacity for the two factories

3200 tons/day urea fertilizer
2000 tons/day ammonia

In September 1975, a contract was signed with the Japanese Mitsubishi Company to establish the project and the first factory was received in 1979 and the second factory in June 1979. In the same year 1979, the two companies were merged (Abu Al-Khaseeb Khor Al-Zubair into one facility It was named the General Fertilizers Manufacturing Establishment in Basra. In 1988, the northern facility was merged with the southern facility under the name of the General Fertilizers Manufacturing Establishment. In 1994, the northern facility was separated from the southern facility under the name of the General Fertilizers Manufacturing Establishment - Southern Region in Khor Al-Zubair.

Research tool

In our study, we used a set of tools that are compatible with the nature of the study and the approach followed, most notably the questionnaire form, which is known as the scientific method for collecting data on social phenomena common in social research. It is a scientific tool built according to scientific stages through which it gains its validity and

stability. Its items include the possibility of measuring research hypotheses and determining the relationships between variables. The first stage was our visit to the Southern General Company for Fertilizers Industry to find out the answers of the respondents. (50) questionnaires were distributed to a sample of the company's employees. The number of valid questionnaires for analysis was (44) questionnaires. The questionnaire was distributed to them using the intentional sample method and using the comprehensive survey method, i.e. a response rate of (88). Table (5) shows the number of questionnaires that were distributed and received from the study sample.

Tabel 5. Number of questionnaires distributed and returned from the study sample individuals.

Questionnaires valid for analysis	Questionnaires not returned	Distributed questionnaires	Measurement
44	6	50	First
%88	%12	%100	Second

Demographic distribution of respondents

Table (6) shows the distributions of sample individuals according to demographic variables as follows:

Tabel 6. Frequency distribution and percentages of respondents according to demographic information.

Percentage	Frequency	Category	Variable
%54.5	24	Males	**Gender**
%45.5	20	Females	
%100	**44**	**Total**	
%11.4	5	30	**Age**
%18.2	8	40-31	
%59.1	26	50-41	
%11.4	5	and more51	
%100	**44**	**Total**	
%13.6	6	PhD	**Educational qualification**
%29.5	13	Master	
%34.1	15	Bachelor	
%9.1	10	Diploma	
%100	**44**	Total	
%6.8	3	Less 10	**Number of years of service**
%15.9	7	15-11	
%38.7	17	20-16	
%38.7	17	and more20	
%100	**44**	Total	

Testing the research hypothesis

The researcher used the five-point Likert scale (Like Scale) to estimate the degree of response to the questionnaire statements, where he gave grades from (1) starting with the alternatives (completely agree), neutrally agree, disagree, completely disagree), which measure the trends and opinions of the respondents, and the answers were distributed into five equal levels and the length of the cells in the five-point Likert scale was determined by calculating the range between the scale degrees (5-41) and then dividing it by the largest value in the scale to obtain the length of the cell, i.e. 4 0.805), and then this value was added to the lowest value in the scale at the beginning of the scale, which is the correct one, in order to determine the upper limit of this cell, and this is what was applied to the questionnaire axes statements, and Table No. (7) shows the answers to the statements and their statistical significance:

Tabel 7. Answers to the phrases and their meanings.

5-4.20	4.19-3.40	3.39-2.60	2.59-1.80	1.79-1	mean
Totally agree	Agree	Neutral	I disagree	I completely disagree	Answer
Very High	High	middle	Low	Very Low	Rating

Validity and reliability of the study tool

The reliability coefficients for all study variables are very high as shown in Table No. (8), where the reliability coefficient for all paragraphs of the study tool reached 85.3, and also the rates of the remaining axes were higher than the significance rate of 60%, which is a high and acceptable reliability rate for the purposes of conducting the study, and the questionnaire form can be adopted.

Tabel 8. Cronbach's alpha test results to measure the reliability of the questionnaire.

Alpha Coefficient	Variable	Paragraph No
66.4	Cleaner Production	5-1
85.3	Performance	10-6
82.6	Overall Stability Coefficient	10-1

Analysis of the results of the variables

1. Analysis of the results of the independent variable (cleaner production)

Tabel 9. Evaluation of cleaner production components.

Criteria	T-test	Standard Deviation	Mean	Paragraph	
High	4.803	0.645	4.34	The company's management is keen to purchase raw materials from sources that believe in the need to protect the environment.	1
High	4.574	0.587	4.07	Hazardous materials are replaced with less hazardous materials as much as possible.	2

High	3.133	0.728	4.00	The company's management chooses raw materials that can be reused or recycled.	3
High	4.618	0.624	4.27	The company is based on positively treating the waste of the production process.	4
High	4.453	0.695	3.77	When choosing raw materials, the degree of their effects is taken into account	5
High	4.843	0.634	4.33	The company treats the waste of the production process positively	6
High	4.567	0.576	4.45	The company recycles the waste resulting from the production process	7
High	3.176	0.778	4.54	The products are designed according to environmentally friendly standards.	8
High	4.621	0.612	4.42	The arrangement and design of equipment The company deals with suppliers who believe in the idea of recycling waste and machinery locations in the company contributes to reducing and limiting waste.	9
High	4.419	0.643	3.71	The company relies on controlling industrial processes to ensure efficiency in resource consumption	10
High	4.622	0.619	4.78	The company's management maintains the arrangement of workplaces in a way that ensures the smooth and continuous running of work	11
High	4.496	0.694	3.38	The company's management is keen on periodic maintenance to avoid leaks and accidents.	12
High		**0.621**	**3.93**	**Total**	

It is clear from the results of the table above that there is a total agreement among the members of the study sample that cleaner production is available in the organization under study and at a high level, as the total arithmetic mean of the answers to the five statements falls in the range (3.77 - 4.34). It is also noted that most of the results of the

arithmetic mean of the statements are available and at a high level. In general, it can be said that the studied sample strongly supports the idea of cleaner production and believes that this concept must be applied in the production processes in the General Company for the Southern Fertilizer Industry.

Tabel 10. Performance Evaluation Items.

Criteria	T-test	Standard Deviation	Mean	Paragraph	ت
High	6.123	0.618	4.11	Effective performance is a basic necessity in the company	1
High	8.228	0.647	4.00	The necessity of establishing a department concerned with performance evaluation	2
High	6.123	0.594	3.80	The company helps its employees to improve their performance	3
High	9.287	0.493	3.89	Performance is the main indicator for assuming responsibilities	4
High	8.980	0.708	3.68	Employees try to raise their performance to the highest efficiency	5
High	6.553	0.698	4.14	The company seeks to create a culture that supports raising the level of performance	6
High	8.448	0.699	4.98	The company is keen to improve current performance over the previous	7
High	6.151	0.562	3.87	The company's performance is consistent with the planned goals	8
High	9.281	0.449	3.67	Company performance is concerned with the environmental aspect	9
High	8.955	0.761	3.44	The company enhances its growth by providing training programs that are consistent with performance requirements	10
High	6.197	0.609	4.13	The company aims to create differences in performance among employees	11
High	8.228	0.677	4.61	The company seeks to achieve performance efficiency through pre-set items	12
High		**0.395**	**3.84**	**Total**	

It is clear from the results of the table above that there is a total agreement among the members of the study sample that the performance axis is available in the organization under study and at a high level, as the total arithmetic mean of the answers to the five

statements falls in the range (3.68) - (4.11). It is also noted that most of the results of the arithmetic averages are available and at a high level. In general, it can be said that the studied sample strongly emphasizes the need to pay attention to performance in the Southern General Company for Fertilizers Industry.

Hypothesis Testing

1. Main Hypothesis Testing

   There is a statistically significant correlation between cleaner production and the level of performance at a significance level of 0.05 in the Southern General Company for Fertilizers Industry.

To test this hypothesis, the researcher conducted a calculated (T) test and compared with (T-table) the results showed a statistically significant correlation at a significance level of 0.05 between cleaner production and the level of performance in the Southern General Company for Fertilizers Industry, thus the main hypothesis was accepted.

2. Sub-hypothesis Testing:

H1.1 There is a statistically significant correlation between the substitution of raw materials and the level of performance in the Southern General Company for Fertilizers Industry.

To test this hypothesis, the researcher conducted a calculated (T) test and compared with (T-table) the results showed a statistically significant correlation between the substitution of raw materials and the level of performance in the Southern General Company for Fertilizers Industry, thus the first sub-hypothesis was accepted.

H1.2 There is a statistically significant correlation between recycling and the level of performance in the Southern Fertilizers General Company.

To test this hypothesis, the researcher conducted a calculated (T) test and compared with (T-table) the results showed a statistically significant correlation between recycling and the level of performance in the Southern Fertilizers General Company, thus the second sub-hypothesis was accepted.

H1.3 There is a statistically significant correlation between administrative procedures and the level of performance in the Southern Fertilizers General Company.

To test this hypothesis, the researcher conducted a calculated (T) test and compared with (T-table) the results showed a statistically significant correlation between the change in production technology and the level of performance in the Southern Fertilizers General Company, thus the third sub-hypothesis was accepted.

5. Conclusion

The concept of cleaner production is one of the modern concepts that encourages improving performance and increasing its effectiveness in the organization. The cleaner production strategy can be embodied by applying a set of techniques called cleaner production techniques. The use of cleaner production strategies contributes to raising productivity and reducing costs. The sample members showed a great desire to move towards adopting a cleaner production strategy and developing clear plans and policies in this field in order to ensure the protection of the environment and people. There is a statistically significant effect at a significance level of 0.05 for the role of cleaner production in the level of performance. Therefore, it is necessary to establish a specialized department for cleaner production within the organization that undertakes the tasks of planning and implementing cleaner production technologies in coordination with the relevant parties. Proposing material and moral rewards for production units when they apply cleaner production technology at a higher level than their other counterparts is also recommended. Utilizing expertise and competencies to present an action plan in order to raise the level of performance and use cleaner production technologies in the organization is essential. Additionally, increasing the awareness of decision-makers in the organization about the concept of cleaner production and highlighting the various gains that may be achieved as a result of adopting it is crucial.

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