



## **The importance of green accounting and its impact on promoting sustainable development in Iraq**

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### **Summary**

This study aimed to know the impact of green accounting in promoting sustainable development in Iraq from

Through its environmental, economic and social dimensions.

The study community represented small and medium enterprises in Salah al-Din Governorate, and the study was limited to a sample of managers, accountants and auditors in those institutions, which amounted to 110 individuals. In order to reach the desired goals, and based on the descriptive, analytical and quantitative deductive approaches, a statistical study was carried out using the SPSS program, where a set of tests were carried out to ensure the strength and credibility of the study tool represented by the questionnaire, including the internal stability and consistency test, as well as a descriptive statistical study of the study variables, in addition to the correlation and the linear regression model, in order to reach the objectives of the study.

The study concluded that small and medium enterprises in Salah Al-Din Governorate realize that the application of sustainable development dimensions leads to contributing to the preservation of natural resources, and achieving justice in the social and economic aspect, and they also seek to make sustainable development a goal to reach through the application of environmental, social and economic decisions properly.

In addition to the existence of a statistically significant impact of green accounting on sustainable development through its environmental, economic and social dimensions of small and medium enterprises in Salah Al-Din Governorate.

**Keywords:** Green accounting, Sustainable development, SMEs

## **Introduction**

After the industrial progress witnessed by the contemporary world, the sources of pollution have diversified, as industrial enterprises have tried to dispose of their waste, which is harmful to the environment and humans alike, whether by releasing it into the air, dumping it into the sea, or burying it in the dirt, which has had negative effects on the environment and humans.

This phenomenon of environmental pollution has received public attention, and has been talked about in recent years in many research centers, because human health is related to the cleanliness and safety of the environment, the more pollution in the environment in which a person lives, the greater the percentage of his exposure to danger, because the relationship between nature and humans is mutual interaction relations, hence environmental pollution has become accelerated due to the use of technology and excessive use of natural resources, and the terrible emission of gases emitted from factories and factories that have caused pollution. Noticeable and significant in the environment, which has spoiled natural life, and the threat of environmental pollution is raiding the world and there are no borders to prevent it.

From this standpoint, it was necessary to hold green accountability, and to address this great danger through the green economy, which has been interested in reducing this pollution, by trying to work to stop the causes of pollution, and encouraging, raising awareness and stimulating the achievement of environmental protection, as a result of the disposal of waste resulting from production processes, without any treatment, which reflected on the environment, which was greatly polluted, in addition to the oil industry, which negatively affected the environment, whether at the level of Air or earth (radiation, toxic gases, waste), which requires the establishment of a green belt to reduce the spread of dust and gases in the atmosphere. Hence, green accounting has an important role in the application of cost accounting, as its importance emerges, which must include the measurement process, and integrate with it with the need for accounting and economic disclosure for all activities, and for everything that would negatively affect the environment, which is carried out by institutions to reach a sound accounting system that corresponds to the actual state of institutions, through planning a green accounting management system of leaders, accountants and auditors, to work to promote sustainable development, as green accounting looks at How to affect the environment and achieve sustainable development, in terms of costs and benefits, as factories contribute to the pollution of the environment, and this matter costs the owners of these factories a lot of money to protect the environment from these damages, in an attempt to preserve the capabilities of future generations, which will in turn maintain a clean environment free of pollution, which meets the needs of these generations of social needs and care in the coming days, and the preservation of human resources and rationalization of consumption of natural resources, which requires A balance between economic and social development, resource management and environmental protection at the same time.

Since Iraqi institutions are among the actors that cause environmental degradation, they must contribute to the promotion of sustainable development, the application of green accounting at the national level, the preservation of the environment and a contribution to the achievement of sustainable development in response to several considerations, including environmental considerations, and this is what this study will address through the role of green accounting in promoting sustainable development.

### **The problem of the study**

Most studies have stressed the need to consciously preserve nature and the environment more positively, especially in the current era, in order to protect them from the damage and dangers of environmental pollution, and to create a better environment for production and living.

The environment poses major challenges for all humanity, and it is imperative for all countries to face the common destiny, including (Iraq) and cooperate together positively to raise sustainable development globally, and join hands and cooperate to carry out activities that contribute to achieving sustainable development, through accounting for environmental costs, as the information provided by accountants in their financial statements may not be sufficient for environmental purposes. This requires that accountants and auditors focus on environmental, economic and social performance together, and on the benefits that can be achieved through green accounting that promotes and achieves sustainable development, and here lies the problem of the study that can be formulated in the following main question:

**"What is the impact of green accounting in promoting sustainable development in SMEs in Salah al-Din Governorate?"**

From this question, several sub-questions branch, including:

1- What is the impact of green accounting on promoting sustainable development through its environmental dimension?

2- What is the impact of green accounting on promoting sustainable development through its economic dimension?

3- What is the impact of green accounting on promoting sustainable development through its socio-environmental dimension?

### **The importance of the study**

#### **Scientific significance:**

Sustainable development is one of the interesting topics, due to the role played by environmental accounting in achieving it, considering that green accounting has an important role through which it can be judged on the extent of the commitment of industrial institutions in

Iraq in preserving the environment, through the information they provide regarding environmental costs, which are consistent in this area, and here lies the importance of this study, which indicates that sustainable development emerged as a reaction to the problems that Iraq suffers from, especially the serious environmental problem, He was confronted with several policies, including green accounting implemented by accountants and auditors in institutions, through accounting disclosure, and in accordance with internationally recognized standards.

**Scientific importance:** The importance of this study is embodied in the following points:

1- Explain the role of green accounting and the benefits that Iraq derives from green accounting, as an important and useful element of achieving sustainable development and ways to enhance it.

2- Activating the environmental and economic dimension through the relationship between green accounting and achieving the social and economic goals of sustainable development.

3- Environmental awareness and shedding light on the inclusion of environmental activities in Iraq, and linking them to sustainable development.

4- Increasing the interest of governments, institutions and members of the local environmental community in maintaining a green environment free of pollution.

### **Objectives of the study**

There is no doubt that the environment affects the behaviors of individuals in society, and affects their health and living conditions and various activities, which makes the success of sustainable development closely linked to achieving balance and harmony between nature and man, in a way that ensures the safety of the environment and at the same time preserves the rights of future generations to enjoy a clean environment, as the relationship between sustainable development and the environment is a close relationship, hence the importance of green accounting, to play an active role in this field, and here lies this study, through several Points summarized as follows:

1- Clarifying the role of green accounting in promoting sustainable development in small and medium enterprises in Salah Al-Din Governorate.

2- Explaining and demonstrating the importance of preserving the environment, the need to protect it, follow up the development of its production, and take appropriate decisions.

3- Clarifying the role of environmental accounting in the sustainability of development in small and medium enterprises in Salah Al-Din Governorate, through its environmental, economic and social dimensions.

## **Reasons for choosing a topic**

After the emergence of the importance of sustainable accounting and its important role, as it is considered an effective tool through the expansion of social and environmental information, on the basis of which decisions are made in institutions, through which environmental and social information is extracted and analyzed, with the aim of improving environmental performance, by identifying the role of green accounting in promoting sustainable development in Iraq, which was among the incentives that drive research on this topic, in addition to several reasons, including:

1- Attention to the study of topics related to sustainable development, and their positive impact on the general situation in Iraq.

2- The desire and inclination to study the subject of green accounting, to identify its role in promoting sustainable development in Iraq, after the spread of environmental pollution.

3- Paying attention to studying the subject of green accounting, and clarifying the relationship between green accounting and reducing the risks of environmental pollution in Iraq.

4- The distinction and modernity of the subject in Iraq.

## **Hypotheses of the study**

To answer the problem of the study, and to reach its objectives, a number of hypotheses were relied upon, namely:

**Main hypothesis: There is no statistically significant impact of green accounting on achieving sustainable development in small and medium enterprises in Salah Al-Din Governorate.**

There are three hypotheses, as follows:

1- The first hypothesis: There is no statistically significant impact of green accounting in achieving sustainable development, through the environmental dimension in small and medium enterprises in Salah Al-Din Governorate.

2- The second hypothesis: There is no statistically significant impact of green accounting in achieving sustainable development, through the economic dimension in small and medium enterprises in Salah Al-Din Governorate.

3- The third hypothesis: There is no statistically significant impact of green accounting in achieving sustainable development, through the social dimension in small and medium enterprises in Salah Al-Din Governorate.

## **Curriculum**

This study is an attempt to identify the extent of the impact of green accounting in achieving sustainable development in Iraq, by applying to small and medium enterprises in Salah al-Din Governorate, by adopting the descriptive analytical approach, and based on the theoretical ideas collected through the desktop survey, and research via the Internet, to benefit from reviewing previous studies, in addition to the deductive quantitative approach, to process and analyze data related to the questionnaire list, which was distributed and collected from the study sample.

### **Applied Field Study**

This chapter includes a comprehensive and detailed presentation of the procedures and results of the field study, in four sections. The first section presents the methodological procedures of the field study, a description of the population and sample of the study, and the tools used in data collection. The second section deals with the results of the questionnaire analysis in terms of demographic variables. While the third section presents the analysis and discussion of the answers to the paragraphs of the questionnaire axes. The fourth section deals with the results of testing the hypotheses represented by green accounting, and its impact on promoting sustainable development through its environmental, social and economic dimensions, and the researcher has used inferential statistical analysis.

#### **The first topic: the methodological procedures of the field study**

This section includes the methodological steps and procedures of the field study, where the population and sample of the study were addressed, as well as how to design the study tool, and the type of tool used to collect data.

##### **First: Study Community**

The study population consists of senior management, accountants and auditors of small and medium enterprises in Salah Al-Din Governorate, and they have great professional experience in their field, which helps to give accurate scientific results. The community was selected as part of the study to identify the extent to which green accounting contributes to its sustainable development.

##### **Second: Study Sample**

The researcher selected an appropriate sample of senior management, accountants and auditors in small and medium enterprises in Salah Al-Din Governorate, which serve the objectives of the study, in order to clarify their opinions on the impact of green accounting in achieving sustainable development in it. After collecting the completed and completed questionnaires, there were 110 questionnaires.

### Third: Study Management

The field side relied on a necessary means in collecting data and information on this aspect of the study, which is the questionnaire, as an important tool of the main tools for obtaining data and information, as the research took into account in its formulation clarity and simplicity, which helps in diagnosing the variables of the study, as it was developed according to what serves the objectives and hypotheses of the research.

### Fourth: Data Collection Method

In this study, the researcher used the survey method through the questionnaire in collecting data, and the questionnaire was designed and divided into two parts, namely:

**1- The first section:** contains demographic data in terms of (gender, educational attainment, years of experience, job level).

**2- The second section:** contains the measures or axes of the study variables on the extent of the contribution of green accounting to achieving sustainable development in Iraq, by applying to cement and steel companies in Basra Governorate according to Table (1).

**Table 1: Questionnaire Themes**

axes	Number of phrases
<b>First Theme: Green Accounting</b>	5
<b>Second Theme: Sustainable Development</b>	15
<b>Total</b>	20

Source: Prepared by the author

The five-score Likert scale was used to evaluate the responses of the sample members about the study variables, so that a number was given to each degree of the scale, in order to facilitate the process of processing it, so that whenever the score approached 5, it indicated high approval of the statements. See Table 2 for detailed explanation.

**Table 2: Likert five-degree scale**

Answer	Strongly disagree	Disagree	neutral	I agree	Strongly agree
Grade	1	2	3	4	5

Reference: Abdel Fattah Ezz, Introduction to Descriptive and Inferential Statistics Using SPSS Scientific Algorithm for Publishing and Distribution, Saudi Arabia, 2008, p. 540.

Based on the weights shown in Table (2), and to calculate the length of the cells of the Likert quintuple scale, the range (4=1-5) was calculated and then divided by the number of scale categories (0.8=5/4) to obtain the cell length. Then add the result to the lowest value in the scale to calculate the weighted averages, and continue in addition until the highest value on the scale is reached which is 5. The results can be illustrated in Table 3.

**Table 3: Weighted averages and corresponding trend**

<b>Weighted average</b>	<b>Direction</b>
<b>1.79-1</b>	<b>Disagree</b>
<b>2.59-1.8</b>	<b>Strongly disagree</b>
<b>3.39-2.6</b>	<b>neutral</b>
<b>4.19-3.4</b>	<b>Ok</b>
<b>5-4.2</b>	<b>Strongly agree</b>

Source: (Exploring Statistical Analysis and Botstrap, Likert Scale, 2013)

#### **Fifth: Data Analysis Methods**

SPSS 25 was used in the process of unloading, statistical analysis of data and testing of the hypotheses of the study, as it included the following statistical methods:

- 1- Cronbach's Alpha coefficient for testing the stability of the study instrument.
- 2- Frequencies and percentages: to display the characteristics of the sample and to know the extent to which its members agree with the questionnaire statements.
- 3- Arithmetic mean (mean): It is a value around which the values of a group are gathered, through which the rest of the values of the group can be judged, so this value is the arithmetic mean.
- 4- Standard deviation (standard deviation): It is used to measure the extent of statistical scattering, that is, it indicates the extent to which the value domains within the statistical data set are extended.
- 5- Correlation coefficient in order to test the hypotheses of the study.
- 6- Regression coefficient in order to verify the model of the relationship between the independent variable with the dependent variable.



### **Sixth: Testing the study tool**

It was confirmed the stability of the study tool (questionnaire), which means the stability of this tool and not contradictory with itself, i.e. its ability to obtain the same results if it is redistributed to the same sample under the same conditions. The Cronbach alpha coefficient was calculated to measure the stability of the questionnaire statements, as shown in Table 4. It is noted that the Cronbach alpha coefficient of stability for the study variables is greater than 0.80, which means that the measurement tool for each of the study variables has stability for the study sample. Therefore, the questionnaire can be relied upon to measure the studied variables due to its ability to give consistent results.

**Table 4: Stability test of study variables using Cronbach's alpha**

<b>Variable</b>	<b>Number of phrases</b>	<b>Alpha Cronbach</b>
Total Green Accounting Phrases	5	0.807
Total Environmental Sustainable Development Phrases	5	0.817
Total Social Sustainable Development Phrases	5	0.847
Total phrases for sustainable economic development	5	0.846
Total phrases for sustainable development	15	0.927
Total	20	0.933

Source: Prepared by the researcher based on SPSS outputs

### **Seventh: The sincerity of the internal consistency of the dimensions of the study**

To ensure the truthfulness of the study tool through the sincerity of the internal consistency of the study axes, the researcher studied the correlation coefficient between each axis with the dimensions to which it belongs, each separately.

In order to know the appropriate test for the correlation coefficient, a Kolmogorov-Sminrov Test was performed for the axes and dimensions of the study, and Table (5) shows the results that were done.

**Table 5: Kolmogorov-Sminrov Test of the axes and dimensions of the study**

axes	Sage
<b>First Theme: Green Accounting</b>	<b>0.00</b>
<b>Second Theme: Sustainable Development in its Three Dimensions</b>	<b>0.00</b>

Source: Prepared by the researcher based on SPSS outputs

We can see from Table (5) that the statistical significance of all axes and dimensions is equal to (0.00), which is less than the level of significance (0.01), and this indicates that the data do not follow the normal distribution. Therefore, the Spearman correlation coefficient between the axes and their dimensions will be used. Table (6) shows the results reached.

**Table 6: Spearman correlation coefficient between axes and their dimensions**

axes	Dimensions	Correlation coefficient	Sage
The first axis:  Sustainable Development	<u>The first dimension:</u> environmental	0.914	0.00
	<u>The second dimension:</u> economic	0.912	0.00
	<u>The third dimension:</u> social	0.876	0.00

Source: Prepared by the researcher based on SPSS outputs

Through Table (6), we can see that the statistical significance of the Sig correlation between the axes and their dependent dimensions is equal to (0.00), which is less than the significance level (0.01), and this indicates that the relationship between the axes and their dependent dimensions is statistically significant at the level of significance (0.05). Also, all the correlation coefficient is very close to the value of 1, which means that the relationship is strong and positive, and therefore the axes of the study are characterized by internal consistency.

**Eighth: The sincerity of the internal consistency of the study phrases**

To ensure the validity of the study tool through the validity of the internal consistency of the study statements, the researcher studied the correlation coefficient between each dimension with the statements to which they belong, each separately. Since the data does not follow the normal distribution, the Spearman correlation coefficient between dimensions and their dependent statements will be used. Table 7 shows the results reached.

**Table 7: Spearman's correlation coefficient between dimensions and dependent statements**

<b>axles</b>	<b>Dimensions</b>	<b>Phrases</b>	<b>Correlation coefficient</b>	<b>Sage</b>
First Theme: Green Accounting		<b>1</b>	<b>0.717</b>	0.00
		<b>2</b>	<b>0.814</b>	0.00
		<b>3</b>	<b>0.808</b>	0.00
		<b>4</b>	<b>0.715</b>	0.00
		<b>5</b>	<b>0.760</b>	0.00
The second axis: Sustainable Development	The first dimension: environmental	<b>1</b>	<b>0.835</b>	0.00
		<b>2</b>	<b>0.828</b>	0.00
		<b>3</b>	<b>0.839</b>	0.00
		<b>4</b>	<b>0.899</b>	0.00
		<b>5</b>	<b>0.798</b>	0.00
	The second dimension: economic	<b>1</b>	<b>0.822</b>	0.00
		<b>2</b>	<b>0.857</b>	0.00
		<b>3</b>	<b>0.743</b>	0.00
		<b>4</b>	<b>0.799</b>	0.00
		<b>5</b>	<b>0.728</b>	0.00
	The third dimension: social	<b>1</b>	<b>0.755</b>	0.00
		<b>2</b>	<b>0.610</b>	0.00
		<b>3</b>	<b>0.852</b>	0.00
		<b>4</b>	<b>0.836</b>	0.00
		<b>5</b>	<b>0.852</b>	0.00

Source: Prepared by the researcher based on SPSS outputs

Through Table (7), we can see that the statistical significance of the Sig correlation between dimensions and all their dependent statements is equal to (0.00), which is less than the level of significance (0.01). Also, all correlation coefficients are close to the value of 1, which means that the relationship is strong and positive and therefore the dimensions of the study are internally consistent.

## **Second Theme: Results of Questionnaire Analysis According to Demographic Variables**

### **First: Gender**

**Table 8: Distribution of impotence by sex**

<b>Variable</b>	<b>Category</b>	<b>Iteration</b>	<b>Percentage</b>
<b>Sex</b>	<b>male</b>	<b>81</b>	<b>84.2</b>
	<b>female</b>	29	<b>15.8</b>
<b>Total</b>		<b>110</b>	<b>100%</b>

Source: Prepared by the researcher based on SPSS outputs

It is clear from the above table that the majority of the study sample are males (84.21%), i.e. a total of 48 people out of 57 people representing the sample group, and that (15.79%) are females and their total number is 9 females.

### **Second: Educational Attainment**

**Table 9: Distribution of the sample by educational attainment**

<b>Variable</b>	<b>Category</b>	<b>Iteration</b>	<b>Percentage</b>
<b>Education</b>	Preparatory	10	10.5
	Bachelor	49	50.9
	Master	13	31.1
	Doctor	38	3.5
<b>Total</b>		<b>110</b>	<b>100%</b>

Source: Prepared by the researcher based on SPSS outputs

It is clear from the above table that the majority of the study sample have a bachelor's degree (50.88%), i.e. a total of 29 people out of 57 people representing the total sample, and that 35.09% have a master's degree (20 people), 10.53% have a preparatory degree (6 people), and 3.51% have a doctorate degree, i.e. two people.

### **Third: Experience**

**Table 10: Sample distribution by years of experience**

<b>Variable</b>	<b>Category</b>	<b>Iteration</b>	<b>Percentage</b>
<b>Years of Experience</b>	From one to 5 years	<b>15</b>	12.3
	From 5 to 10 years	45	26.3
	From 10 years and above	40	<b>61.4</b>
<b>Total</b>		<b>110</b>	<b>100%</b>

Source: Prepared by the researcher based on SPSS outputs

It is clear from the above table that the majority of the study sample has more than 10 years of experience (61.40%), i.e. a total of 35 people out of 57 people praying the total sample, and 26.32% have experience of 5 years to 10 years, and their number is 15 people. The remaining 12.28% have less than 5 years of experience, and a total of 7 people.

**Fourth: Job Title**

**Table 11: Distribution of sample by job title**

Variable	Category	Iteration	Percentage
<b>Job Title</b>	manager	<b>6</b>	<b>7</b>
	Head of Department	19	<b>15.8</b>
	Checker	19	<b>15.8</b>
	accountant	56	<b>61.4</b>
<b>Total</b>		<b>110</b>	<b>100%</b>

Source: Prepared by the researcher based on SPSS outputs

It is clear from the above table that the majority of the study sample are accountants (61.40%), i.e. a total of 35 people, out of 57 people representing the sample group. 15.79% are 9 auditors, 15.79% are 9 department heads, and the remaining 7% are teachers, totaling 4.

**Third Theme: Analysis and discussion of the answers to the questionnaire paragraphs**

This section presents the analysis and discussion of the answers of the questionnaire paragraphs in terms of the impact of green accounting in achieving sustainable development, to show the extent to which the study sample agrees with the paragraphs of the questionnaire, the frequencies and percentages of the responses of the study sample were extracted on the statements of each axis, according to the approved Likert five-point scale, and the arithmetic averages and standard deviations were extracted.

**First: The extent to which respondents agree with the statements of the green accounting axis**

the extent to which the respondents agree with the statements of the first axis "green accounting", according to frequencies and percentages, according to the arithmetic mean and standard deviation. Through the table, it was found that the general arithmetic mean is equal to 4.16 and it follows the trend (OK) with a weak dispersion of 0.705 in the sample answers, which indicates that most of the respondents agree on the statements of the green accounting axis.

**Table 12: Extent to which respondents agree with the statements of the green accounting axis**

Source: Prepared by the researcher based on SPSS outputs

**Second: The extent to which the respondents agree with the statements of the sustainable development axis through the environmental dimension**

the extent to which the respondents agree with the statements of the second axis "sustainable development through the environmental dimension", according to frequencies and percentages, according to the arithmetic mean and standard deviation. Through the table, it was found that the general arithmetic mean is equal to 3,894 and it follows the trend (OK) with a weak dispersion of 0.758 in the sample answers, which indicates that the majority of respondents agree on the statements of the sustainable development axis through the environmental dimension.

**Table 13: The extent to which respondents agree with the statements of the first axis**

Source: Prepared by the researcher based on SPSS outputs

**Third: The extent to which respondents agree with the statements of the sustainable development axis through the economic dimension**

the extent to which the respondents agree with the statements of the third axis "sustainable development through the environmental dimension", according to frequencies and percentages, according to the arithmetic mean and standard deviation. Through the table, it was found that the general arithmetic mean is equal to 3.78 and it follows the trend (OK) with a weak dispersion of 0.778 in the sample answers, which indicates that most of the respondents agree on the statements of the sustainable development axis through the economic dimension.

**Table 14: The extent to which respondents agree with the statements of the second axis**

Source: Prepared by the researcher based on SPSS outputs

**Fourth: The extent to which the respondents agree with the statements of the sustainable development axis through the social dimension**

the extent to which the respondents agree with the statements of the third axis "sustainable development through the environmental dimension", according to frequencies and percentages, according to the arithmetic mean and standard deviation. Through the table, it was found that the general arithmetic mean is equal to 3.59 and it follows the trend (OK) with a weak dispersion of 0.757 in the sample answers, which indicates that the majority of the sample members agree on the statements of the sustainable development axis through the social dimension.

**Table 15: The extent to which respondents agree with the statements of the second axis**

Source: Prepared by the researcher based on SPSS outputs

#### **Fourth Theme: Analysis and testing of study hypotheses**

This research is devoted to proving hypotheses, which can be built upon in addressing the subject of study.

##### **First: Analysis of correlation coefficients between study variables**

The researcher will present and analyze the correlation coefficients between the study variables, using the correlation coefficient (Pearson Correlation), which is one of the statistical methods used to measure the strength and direction of the relationship between two quantitative variables at the level of the studied sample. Table (16) shows the types of correlation and the direction of the relationship:

##### **Table 16: Types of correlation and direction of relationship**

##### **Table 17: Correlation coefficients between study axes**

**Table 17 shows the correlation coefficients between the study axes, and it is shown that:**

1- The existence of an average correlation of 54.8% statistically significant (where the significant value is  $0.000 > .-0,01$ ) between green accounting and sustainable development through the environmental dimension.

2- The existence of an average response correlation of 57.4% statistically significant (where the significant value is  $0.000 > .-0.01$ ) Between green accounting and sustainable development through the economic dimension.

3- The existence of an average response correlation of 50.3% statistically significant (where the significant value is  $0.000 > .-0.01$ ) Between green accounting and sustainable development through the social dimension.

##### **Second: Testing the first hypothesis**

$H_0$ : There is no statistically significant impact of green accounting on sustainable development through its environmental dimension in small and medium enterprises in Salah Al-Din Governorate.

$H_1$ : There is a statistically significant impact of green accounting on sustainable development through its environmental dimension in small and medium enterprises in Salah Al-Din Governorate.

**Table 18: Simple Linear Regression Model for First Hypothesis**

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.648 <sup>a</sup>	.420	.410	.58299	.420	39.882	1	55	.000
a. Predictors: (Constant), المحاسبة الخضراء									

  

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.555	1	13.555	39.882	.000 <sup>b</sup>
	Residual	18.693	55	.340		
	Total	32.248	56			
a. Dependent Variable: التنمية المستدامة من خلال البعد البيئي						
b. Predictors: (Constant), المحاسبة الخضراء						

  

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.989	.467		2.120	.039
	المحاسبة الخضراء	.698	.110	.648	6.315	.000
a. Dependent Variable: التنمية المستدامة من خلال البعد البيئي						

The typical summary table shows the value of the coefficient of determination ( $R^2$ ), which amounted to

(0.420), which means that (green accounting) explains (42.0%) of the difference in (sustainable development through its environmental dimension), and that (58.0%) are factors that did not enter the regression model.



As for the ANOVA table, it shows that the significant value Sig. is 0,000, which is less than the statistical significance of -10,0, thus rejecting the null hypothesis and accepting the alternative hypothesis, according to which there is a statistically significant impact of green accounting on

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.574 <sup>a</sup>	.330	.318	.64273	.330	27.084	1	55	.000
a. Predictors: (Constant), المحاسبة الخضراء									

  

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.188	1	11.188	27.084	.000 <sup>b</sup>
	Residual	22.721	55	.413		
	Total	33.909	56			
a. Dependent Variable: التنمية المستدامة من خلال البعد الإقتصادي						
b. Predictors: (Constant), المحاسبة الخضراء						

  

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.146	.514		2.228	.030
	المحاسبة الخضراء	.634	.122	.574	5.204	.000
a. Dependent Variable: التنمية المستدامة من خلال البعد الإقتصادي						

sustainable development through its environmental dimension in small and medium enterprises in Salah Al-Din Governorate.

Through the coefficients table, we notice that the value of the fixed limit is 0.989 and that the value of the marginal slope of the green accounting dimension has reached (b = 0.698), which are the two statistic functions as their significant value is smaller than the statistical significance, and thus the following matrix can be obtained:

$$y = 0.989 + 0.698 x$$

Y: Sustainable development through its environmental dimension

X: Green Accounting

### Third: Testing the second hypothesis

H<sub>0</sub>: There is no statistically significant impact of green accounting on sustainable development through its economic dimension in small and medium enterprises in Salah al-Din Governorate.

H<sub>1</sub>: There is a statistically significant impact of green accounting on sustainable development through its economic dimension in small and medium enterprises in Salah al-Din Governorate.

#### Table 19: Simple linear regression model of the second hypothesis

The model summary table shows the value of the coefficient of determination (R<sup>2</sup>) which amounted to (0.253), which means that (**green accounting**) explains (25.3%) of the difference in (**sustainable development through its economic dimension**), and that (74.7%) are factors that did not enter the regression model.

The ANOVA table shows that the significant value Sig is 0.000, which is smaller than the statistical significance of -10.0, and thus we reject the null hypothesis and accept the alternative hypothesis, which is that there is a statistically significant impact of green accounting on sustainable development, through its economic dimension in small and medium enterprises in Salah Al-Din Governorate.

Through the table of coefficients, we notice that the value of the fixed limit is 1,348 and that the value of the marginal slope of the green accounting dimension has reached (b = 0.540), which are the two statisticals as their significant value is smaller than the statistical significance, and thus the following matrix can be obtained:

$$y = 1.348 + 0.540 x$$

Y: Sustainable development through its economic dimension

X: Green Accounting

### Fourth: Testing the third hypothesis

H<sub>0</sub>: There is no statistically significant impact of green accounting on sustainable development through its social dimension in small and medium enterprises in Salah al-Din Governorate.

H<sub>1</sub>: There is a statistically significant impact of green accounting on sustainable development through its social dimension in small and medium enterprises in Salah Al-Din Governorate.

**Table 20: Simple linear regression model of the third hypothesis**

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.503 <sup>a</sup>	.253	.239	.66064	.253	18.592	1	55	.000
a. Predictors: (Constant), المحاسبة الخضراء									

  

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.115	1	8.115	18.592	.000 <sup>b</sup>
	Residual	24.005	55	.436		
	Total	32.119	56			
a. Dependent Variable: التنمية المستدامة من خلال البعد الاجتماعي						
b. Predictors: (Constant), المحاسبة الخضراء						

  

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.348	.529		2.550	.014
	المحاسبة الخضراء	.540	.125	.503	4.312	.000
a. Dependent Variable: التنمية المستدامة من خلال البعد الاجتماعي						

The model summary table shows the value of the coefficient of determination ( $R^2$ ) which amounted to (0.253), which means that (**green accounting**) explains (25.3%) of the difference in (**sustainable development through its social dimension**), and that (74.7%) are factors that did not enter the regression model.

The ANOVA table shows that the significant value Sig is 0.000, which is smaller than the statistical significance of -10.0, and thus we reject the null hypothesis and accept the alternative hypothesis, which is that there is a statistically significant impact of green accounting on sustainable development, through its social dimension in small and medium enterprises in Salah Al-Din Governorate.

Through the coefficients table, we notice that the value of the fixed limit is 1,348 and that the value of the marginal slope of the green accounting dimension has reached ( $b = 0.540$ ), which are the two statistic functions as their significant value is smaller than the statistical significance, so the following matrix can be obtained:

$$y = 1.348 + 0.540 x$$

Y: Sustainable development through its social dimension

X: Green Accounting

### Fifth: Testing the main hypothesis

H<sub>0</sub>: There is no statistically significant effect of green accounting on sustainable development in SMEs in Salahaddin Governorate.

H<sub>1</sub>: There is a statistically significant impact of green accounting on sustainable development in small and medium enterprises in Salah al-Din Governorate.

**Table n° 21: Simple linear regression model of the main hypothesis**

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Sig. F Change
					R Square Change	F Change	df1	df2	
1	.639 <sup>a</sup>	.408	.397	.53496	.408	37.862	1	55	.000
a. Predictors: (Constant), المحاسبة الخضراء									

  

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.836	1	10.836	37.862	.000 <sup>b</sup>
	Residual	15.740	55	.286		
	Total	26.576	56			
a. Dependent Variable: التنمية المستدامة						
b. Predictors: (Constant), المحاسبة الخضراء						

  

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.161	.428		2.712	.009
	المحاسبة الخضراء	.624	.101	.639	6.153	.000
a. Dependent Variable: التنمية المستدامة						

The model summary table shows the value of the coefficient of determination (R<sup>2</sup>) which amounted to (0.408), which means that (**green accounting**) explains (40.8%) of the difference in (**sustainable development**), and (59.2%) are factors that did not enter the regression model.

The ANOVA table shows that the significant value Sig is 0.000, which is smaller than the statistical significance -01, thus rejecting the null hypothesis and accepting the alternative

hypothesis that there is a statistically significant effect of green accounting on sustainable development in small and medium enterprises in Salah Al-Din Governorate.

Through the coefficients table, we notice that the value of the fixed limit is 1,161 and that the value of the marginal slope of the green accounting dimension has reached ( $b = 0.624$ ), which are statistical functions as their significant value is smaller than the statistical significance, and thus the following matrix can be obtained:

$$y = 1.161 + 0.624 x$$

Y: Sustainable Development

X: Green Accounting

## **Conclusions and recommendations**

### **First: Results**

Through the above study of the theoretical framework of the research, and the field framework of the questionnaire analysis, it is clear that the research aims to show the impact of green accounting in achieving sustainable development, as this research raised some questions, and presented some hypotheses related to the nature of the relationship between green accounting and sustainable development, as many conclusions were reached that contributed to solving the problems of research and answering questions and hypotheses, and these are some conclusions:

1- Green accounting seeks to achieve the economic dimension, the environmental dimension and the growth of profits.

2- The environmental dimension of green accounting is a mandatory and necessary measure, which is imposed by laws and legislations.

3- It was found that sustainable development emerged due to many environmental problems, through the social dimension, through private accounting and environmental accounting.

4- The interest in the application of green accounting still suffers from many problems due to the lack of efficient expertise in this field.

5- Small and medium enterprises in Salah al-Din Governorate seek to find appropriate solutions in order to reduce the problem of environmental pollution, which contribute to achieving sustainable development.

6. Institutions recognize that the application of the dimensions of sustainable development leads to contributing to the preservation of natural resources and achieving justice in the social and economic aspect.

7- Institutions seek to make sustainable development accessible through the application of environmental, social and economic decisions well and rationally.

8- The results of this study indicate that most institutions are interested in preserving the environment and its resources, through commitment to the application of regulations and laws related to environmental protection.

9- The existence of a statistically significant impact of green accounting on sustainable development through its environmental, economic and social dimensions in those institutions.

## **Second: Recommendations**

Based on the above, this research considers that green accounting has a clear impact on achieving sustainable development, and based on the results of the questionnaire, some suggestions and recommendations are necessary to contribute to reducing the process of environmental pollution through green accounting, including:

1- The need to highlight the obstacles that hinder environmental auditing and how to get rid of them, by benefiting from the expertise possessed by developed countries in this field.

2- There is a need for institutions to seek to achieve sustainable development, by finding a balance between the availability of green accounting and finding appropriate solutions to environmental problems.

3- The need to develop laws and regulations of legislation that oblige institutions and institutions to take all necessary measures to reduce the phenomenon of pollution resulting from their productive activities.

4- The need to conduct courses and seminars for workers in institutions and institutions that improve the quality of accounting information, because this is important in achieving sustainable development.

5- The need to encourage the preservation of the environment through spreading awareness and participation of civil society to reduce pollution in society.

6- Paying special attention to costs related to the environment for their important impact on improving quality, as the application of environmental accounting requires expertise in this subject.

7- It is necessary to conduct more studies and research related to green accounting because of its role in reducing pollution and sustainable development, analyzing the costs of this and improving the quality of accounting information.

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