

THE NECESSITY OF INCLUDING ENVIRONMENTAL ACCOUNTING IN THE ACCOUNTING PROGRAMS OF SUDANESE UNIVERSITIES

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Abstract

The study aimed to explain the necessity of including environmental accounting in accounting programs in Sudanese universities in order to upgrade an accounting knowledge, and to limit failure of the accounting programs to build an accountant who specializes in environment affairs. This present study used descriptive and analytical approach to analyze the data collected through a questionnaire from accounting faculty members in Sudanese universities. The study reveals that there is a necessary need and maximum importance to include environmental accounting in accounting programs which help to increase the ability of accounting programs to provide sufficient reports to purposes of environmental. Furthermore, there are general incentives to support the inclusion of environmental accounting in accounting programs. The study proposes the necessity of including environmental accounting in accounting programs as a separate specialization or as a course within bachelor's and postgraduate diploma programs.

Keywords: Environmental Accounting, Accounting Programs, Sudanese Universities

INTRODUCTION

One of the main objectives of the accounting departments and programs in various Sudanese universities is the constant updating of knowledge and information related to accounting and linking it to the changes of society in order to meet its requirements and to provide students with the knowledge that makes them capable of dealing with the prospective accounting problems and providing the appropriate solutions. There is no doubt that achieving these goals requires the need to develop accounting programs and their curricula to include relevant topics that are subject to update from time to time. So, despite the expansion of accounting programs that the country witness recently as a result of the increase in the number of public and private universities, colleges and specialized centers, but not accompanied by the required vertical expansion in terms of program development and modernization. Since environmental accounting is one of the modern topics that occupied the accounting thought recently, however many studies showed the shortcomings of accounting programs and curricula in covering environmental accounting topics. This shortcoming caused a gap between the accounting programs curricula and the issues of professional practice, which led to many graduates who lack the qualities, skills, and knowledge required to meet the needs of the labor market in terms of environmental accounting.

To define environmental accounting, we find Tüsiad, (2005) defines the Environmental accounting as the process of environment-based categorization of business activities, collecting, analyzing and then monitoring this environment-related to International Symposium

on Sustainable Development, then put all these information into business balance sheet to help an organization's decision making.

The need for this branch of accounting and its importance in solving professional practice issues are: to understand the overall environmental performance of the organization. to identify environmental risks of the organization, to know the environmental policy of the organization, to measure environmental responsibilities of the organization, to assess annual environmental expenditure and to calculating costs and savings of Environmental projects.

The significance of this topic has grown due to the issues emerged as a result of industrial development and have taken various forms and methods. So, these issues really test the ability of accounting profession to address these problems and find solutions. Therefore, some consider it a challenge to the concerned scientific and academic institutions in providing staff specialized in accounting, who can be employed in environmental positions as environmental accountant. So, there has been a need for accountant experts in the field of environmental affairs, which insists on improving the skills of accounting students by developing accounting curricula and allowing enough flexibility to add such important topics in accounting programs. Grippo & Ibex, (2003)

Including environmental accounting in accounting programs is a requirement worthy of attention, especially with regard to the redevelopment and expansion of accounting education knowledge. Environmental accounting knowledge and skills are important in developing accounting profession and career promotion.

Problem of the study

Although the demand for environmental accounting services is increasing, the academic bodies in many countries of the world, especially the developing ones, did not pay attention to environmental accounting and or consider it apart of their programs and curricula. Also, despite the importance of this branch of accounting and its remarkable role, it has been completely neglected as a modern concept and an educational subject in accounting programs in Sudanese universities. This negligence has been reflected in a clear weakness of the role of the environmental accountant, at a time when environmental issues are increasing in both the government and private sector in Sudan. Consequently, the Sudanese universities have been accused of inability of graduating specialists to play this role.

The problem of the study is the shortcomings and inability of the accounting programs in Sudanese universities to graduate accountants specialized in environmental affairs. Besides the lack of environmental accounting courses in the university programs. Therefore, it has become inevitable to include environmental accounting in accounting programs as an integrated study plan with objectives, and also to explain its importance, need, benefits as well as the challenges of including it in the program.

Objectives of the Study

The research aims to achieve the following goals:

- Explaining the importance and necessity of including environmental accounting subjects in accounting programs.
- Identifying the most important forms and types of environmental accounting and the need to include them
- Finding out the basic ingredients to include and teach environmental accounting topics.
- Identifying the advantages and incentives that support the inclusion of environmental accounting in the accounting programs.
- Developing conceptions and suggestions for how to include and add environmental accounting materials within the accounting programs.

Importance of the Study

The significance of the research comes from the following:

- Increasing the scientific and academic qualification of accounting students in Sudanese universities to keep pace with developments and changes.
- Teaching environmental accounting topics provides the necessary cadres to fill the gap in the professional practice of accounting related to environmental aspects.
- Teaching environmental accounting gives a competitive advantage in the labor market and increases the confidence of the local and international labor market in the outputs of accounting programs.
- The study deals with one of the widespread issues internationally and regionally, as it has become a basic requirement of the global financial markets.
- The scarcity of scientific and academic studies in the field of environmental accounting in Sudan, despite the growing international interest.
- The importance of the study comes from the importance of environmental accounting as a prerequisite for sustainable development.

LITERATURE REVIEW

The real consideration of the environment started after the Second World War, which led to a great deterioration of the environment. This deterioration inevitably led to a significant increase in transaction costs, while globalization accentuated the deterioration of the environment, as some companies relocated their activities to countries with little respect for the environment, which means that the deterioration of the environment is the result of many factors. This continuous degradation of the environment has led both public authorities and researchers, in general, to assert that it is unthinkable that human interests should be privileged over ecological

interests, which is in line with the idea of Drechsler (2004), who asserted that human ends should not be privileged at the expense of ecological interests. It is therefore in the context of environmental degradation that environmental accounting was born. Henceforth, any accounting decision must respect environmental prerogatives; it is no longer a question of being interested only in the capital created by man, but also in natural capital. In fact, from now on, a healthy management of the company supposes an optimal combination between human and natural capital. Ben Néfissa Jilani (2022) pointed out to The various events that have taken place in recent years have led to the role of accounting being developed from its traditional status to one that is more in line with economic reality; the new status of accounting encompasses the notion of sustainable development.

Environmental Accounting

Environmental accounting is the measurement of costs, liabilities related to the environment. Environmental accounting is conducted at different scales such as national level, corporate level. Moreover, environmental accounting is at the infancy stage and gaining attention due to many reasons the most prominent being the statutory obligations. Environmental accounting suffers from various issues due to which a void is present between the theoretical framework and its implementation. Identification and measurement of environmental costs and liabilities has been a problem and till date no standard guideline has been published in this regard. Environmental accounting is also known as green accounting. The term was used for the first time back in 1980s by professor peter wood. Environmental accounting is the identification, measurement and disclosure of environment related information in financial statements of the company. Environment accounting is gaining significance due to the increasing awareness of sustainable development in the society. Another reason for adoption of environmental accounting disclosure by organizations is the statutory guidelines issued by the government in this regard. Shaizy Khan, (2020).

The Different Definitions of Environmental Accounting

Odum, H.T. (1996) defines environmental accounting is a subset of accounting proper, its target being to incorporate both economic and environmental information. It can be conducted at the corporate level or at the level of a national economy through the System of Integrated Environmental and Economic Accounting, a satellite system to the National Accounts of Countries, among other things, the National Accounts produce the estimates of gross domestic product otherwise known as (GDP).

Environmental accounting is a field that identifies resource use, measures and communicates costs of a company's or national economic impact on the environment. Costs include costs to clean up or remediate contaminated sites, environmental fines, penalties and taxes, purchase of pollution prevention technologies and waste management costs. Conrad, Klaus (1999).

An environmental accounting system consists of environmentally differentiated conventional accounting and ecological accounting. Environmentally differentiated accounting measures effects of the natural environment on a company in monetary terms. Ecological accounting measures the influence a company has on the environment, but in physical measurements. Soni

(2015), Martin (2004) asserts that environmental accounting is a method of calculating and analyzing the cost of a business or another organization on the natural environment. This accounting may encompass all of an organization's activities or a single decision. Environmental accounting seeks to identify and quantify any potential damages, such as pollution, deforestation, or the creation of dangerous by-products, to reduce their risk and severity. This field uses many traditional accounting techniques but is a relatively new branch. It appeared in the late twentieth century due to increasing public awareness of environmental degradation from human activity. In modern times, many people view environmental accounting as an important aspect of corporate social responsibility. Bennett

Objectives of Environmental Accounting

The objectives of environmental accounting are discussed by Joshi, (2014) as below:

- To established the linkage of Physical Resource Accounts with Monetary Environmental Accounts
- To accounting for the Maintenance of Tangible resources
- To elaborate and Measurement of Indicators of Environmentally Adjusted Product and Income
- Taking the total stock of assets or reserves related to environmental issue & changes therein.
- Estimation of the total expenditure protection or enhancement of environment.
- To identify that part of the gross domestic product which reflects the cost necessary to compensate for the negative impact of economic growth i.e. the so- called defensive expenditure to protect environment.

Need to environment accounting

Chauhan (2005) explain that the need to environmental accounting is increasing because of increasing of environment problems, economic, social and technological developments. Environmental accounting which is for sustainable development is required.. Need of Environmental Accounting in corporate level: EA helps management to determine sustainability of the organization in the global business. Corporations are doing business and playing game in the corporate world by destroying environment. By using EA, corporate business can increase its accountability in the contaminating business world. Moreover, a company can produce EA for the following needs which explained by Bose, Sudipta. (2006):

- To understand the overall environmental performance of the organization.
- To identify environmental risks of the organization.
- To know the environmental policy of the organization.
- To measure environmental responsibilities of the organization.

- To assess annual environmental expenditure.
- Calculating costs and savings of Environmental projects.
- To show eco-design projects.
- Design and implementation of environmental management systems.
- Developing of environmental performance measures, evaluation, indicators, and benchmarking for internal and external disclosure of environmental expenditure, investments and liabilities and opportunities.
- To publish sustainable reporting.
- An environmental accounting system to contribute maximizing shareholder wealth.
- To disclose different preventative measures taken by the management.
- Operating in a way that environmental damages do not occur.

Scope of Environment Accounting

EA has a wide range of scope. It includes corporate level, national and international level, qualitative and quantitative, positive and negative, good, bad or neutral information of environment. Some scopes of EA are given below; Sayaduzzaman, & Masud. (2012)

Investment made into the environment friendly equipment.

Stopping pollution like soil erosion, loss of bio diversity, air pollution, water pollution, problem of solid waste, coastal & marine pollution.

- Working on nonrenewable natural resources.
- Encouraging nonrenewable energy sector.
- Climate change issues.
- Deforestation and contamination of land uses.
- Assessment of annual environmental expenditure, assets, liability and investment.
- Internal and external disclosure of environmental expenditure, investments and liabilities.
- Global environmental or sustainable reporting.
- Evaluating environmental risks of different projects.
- Warning organization about environmental hazards.

Forms of Environmental Accounting

There are four form of environmental accounting.

1. Environmental financial accounting (EFA), data about financial events collects, analyzes, records and reports. Data of EFA make up generally environmental cost. Environmental

information of business is shown in financial statements by means of EFA. Gray & Bebbington & Walters, (1993).

2. Environmental Cost Accounting (ECA) An advanced step of development of environmental accounting is development of environmental cost accounting (ECA) Environmental cost accounting directly places a cost on every environmental aspect, and determines the cost of all types of related action. Environmental actions include pollution prevention, environmental design and environmental management. Environmental costs comprise both internal and external costs and relate to all costs occurred in relation to environmental damage and protection. Yakhou & Dorweiler, (2004).

3. Environmental Management Accounting (EMA) Environmental management accounting (EMA) is defined as the generation, analysis and use of financial and related non-financial information, to support management within a company or business. EMA integrates corporate environmental and business policies, and thereby provides guidance on building a sustainable business. EMA is broadly defined to be the identification, collection, analysis and use of two types of information for internal decision making Physical information on the use, flows and destinies of energy, water and materials (including wastes) and - Monetary information on environment-related costs, earnings and savings. Chauhan, (2005).

4. Environmental National Accounting (ENA) National Level Accounting with a particular focus on natural resources stocks & flows, environmental costs & externality costs etc. Need of Environmental Accounting at Business Level: It helps to know whether business has been discharging its responsibilities towards environment or not .Chauhan, (2005). Evaluation of the Environmental Accounting in the Framework of preparers of financial information in the information recording and reporting process and set of standards published in order to create a common language between users. Aktürk, Akcanl, Senol, Akyüz, (2011).

Benefits of environmental accounting

There are several benefits of accounting for the environment. Few important ones are listed by Shaizy (2020):

- Provides better estimate of product pricing, process pricing, hence, helps the managers to take improved decisions while deciding the true cost of the products
- Help organizations in waste management activities. It helps the organizations to reduce waste.
- Increase the firm reputation among the society by incorporating sustainable development activities and hence, greater acceptance of products by customers.
- Assists the firms in complying with the legal obligation towards the country.
- Government can use the environment related information published by various companies in their reports for better allocation of resources.
- Investors require environment related information for taking better investment decisions.

- Increased awareness among employees about the optimum usage of resources and the need to reduce wastage.
- The various international monetary bodies such as IMF, World Bank, United Nations check the environmental information before financial assistance extension to the countries.

Challenges of environmental accounting

Antherjanam, (2014) explain different challenges of environmental accounting:

- Problem of environmental cost identification: Corporate executives and other concerned authorities find the identification of environmental costs a difficult task.
- No proper standardized framework: There is no standard tool for measurement of environmental costs and benefits developed till date. Moreover, there is no legal compulsion on corporates to account for the environment separately.
- Industrial factors: Different types of industries operate within a country. These emit varying amounts of pollution.
- Problem of environmental asset identification and measurement: Corporates face difficulty in identification of environmental assets and liabilities.
- Difficulty in environmental liability identification and measurement: Liability is the future obligation of the firm to pay for the past incidents.

Necessity of Environmental Accounting

The quantitative management of environmental conservation activities is an effective way of achieving and maintaining sound business management. In other words, in carrying out environmental conservation activities, a company or other organizations can accurately identify and measure investments and costs related to environmental conservation activities, and can prepare and analyze this data. By having better insight into the potential benefit of these investments and costs, the company can not only improve the efficiency of its activities, but environmental accounting also plays a very important role in supporting rational decision-making. Spitzer, Marty (2017)

In addition, companies and other organizations are required to have accountability to stakeholders, such as consumers, business partners, investors and employees, when utilizing environmental resources, i.e. public goods, for their business activities. Disclosure of environmental accounting information is a key process in performing accountability. Consequently, environmental accounting helps companies and other organizations boost their public trust and confidence and are associated with receiving a fair assessment. Cetin, (2006)

METHODOLOGY & DATD ANALYSIS

Methodology:

The purpose of this study is to confirm the necessity of including environmental accounting in the accounting programs of Sudanese universities. The following methodology has been used to achieve the aim of this study:

A) Methods of Data Collection:

In this study, the researcher collects all information through a questionnaire. Questionnaire approaches are typically less expensive and easier to implement.

- Primary data: is gathered from 93 respondents via questionnaire to achieve the study objectives.
- Secondary data: Significant data is collected from a variety of books, reports, journals, websites, and other sources.

B) Sampling Design:

A structured survey was administered for research purposes to 93 respondents from 110 questionnaires distributed, representing 85% of the target sample. (See Table 1) on a sample of accounting program staff in Sudanese universities.

The constructs are included in the survey questionnaire:

The importance of including environmental accounting in accounting programs, The necessary including environmental accounting, Benefits and Incentives of including environmental accounting, the basic ingredients to include environmental accounting, The forms / classifications of environmental accounting that must be included, the programs in which environmental accounting is included and The way of include. Personal information is also included.

The survey was available for over one month from January 2023 to February 2023, through email, WhatsApp.

C) Research Tools:

To achieve the objectives of this study, the questionnaire included 38 items. All items were measured using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Cronbach's alpha for all factors scale was 0.937 which exceeded the minimum standard of 0.7 recommended by Nunnally, 1978, and Peterson 1994 for scale reliability, using SPSS version 20.

D) Hypotheses:

1. There is a necessary need and utmost importance to include environmental accounting topics in accounting programs.
2. There are incentives and advantages that support the process of including environmental accounting in accounting programs.

3. The process of including and teaching environmental accounting has special ingredients that must be met.
4. Environmental accounting has its own forms and types should be including in accounting programs.
5. There is specific way to include environmental accounting topics in accounting programs

Data Analysis and Discussion of Findings

110 (Hundred and ten) questionnaires were sent out to your target respondents, there were 93 respondents, representing 85 % from the target. (See Table 1), an exploratory factor analysis was performed for obtaining initial factor structure of the necessity of including environmental accounting in the accounting programs. Reliability and validity of obtained factor structure is tested using Cronbach's alpha.

Demographic Information

The descriptive statistic for the study sample (faculty members in Sudanese universities) shows that the majority of the respondents (68.8%) hold an academic qualification, at least a Ph.D. (see Table 1). 67.7% of the respondents their jobs between Assistant Prof, Associate Prof and Prof. The majority of the respondents (88.2%) have high experience of which they have more than 5 years of working experience. These high percentages indicate that the sample selected with high accuracy and its data can be relied upon to achieve the objectives of the study.

Table I: Frequency

Demographic Factors	Count	Percentage
Facility Qualifications		
Higher Diploma	0	0
Master's degree	29	31.2
PhD	64	68.8
Other	0	0
Total	93	100.0
Facility Job		
Lecturer	30	32.3
Assistant Prof	41	44.1
Associate Prof	17	18.2
Prof	5	5.4
The Teaching Experience		
<5 years	11	11.8
9 – 5	27	29.0
14 – 10	20	21.5
19 – 15	23	24.7
> 20 years	12	12.9
Total	93	100.0

Source: Survey data

To answer the questions sequence and hypotheses of the study, means, standard deviations of the study were extracted and then arranged in descending order according to the arithmetic means for each hypothesis : Table (2) shows means and standard deviations for the paragraphs contained in the questionnaire for the respondents' answers. The level of importance of these paragraphs to each other was determined based on the average consensus.

Decision rule for the Descriptive Analysis:

If mean < 3 the respondents do not agree. If mean ≥ 3 the respondents agree. (The decision rule depends on the 5-point likert scale for each statement, if the respondent scored a maximum of ≥3 points, they would be categorized as having a positive attitude and those who scored ≤3 points would be considered to have a negative attitude. That according to the formula (Sum/N=15/5 = 3). Khalid, (2020).

Table 2: Descriptive Statistics

Axis	Items	Number of Questions	Mean	SD
(1)	The importance of including environmental accounting in accounting programs	4	4.1909	0.7557
(2)	The need to include environmental accounting	4	3.8683	0.7772
(3)	Advantages of including environmental accounting	4	4.1828	0.8068
(4)	Incentives to include environmental accounting	4	4.0753	0.7632
(5)	The basic ingredients to include environmental accounting	5	3.9935	0.8690
(6)	Environmental accounting types and forms that should be included	6	3.9677	0.6929

Source: Survey data 2023

Table 3: Descriptive Statistics (Axis 7)

Axis	Items	Number of Questions	Mean	SD
(7)1	Programs in which environmental accounting is included	4	4.0457	0.6582
	(Intermediate, technical) Diplomas		3.68	1.016
	Bachelor programs		4.20	887.
	Postgraduate diploma programs		4.14	945.
	Master's programs		4.25	836.
(7)2	Including environmental accounting within accounting programs	6	3.7151	0.6568
	Independent program		3.41	1.124
	An independent course		4.08	944.
	Topics within the relevant courses		3.30	1.256
	Seminars and panel discussions		3.59	1.113
	Research for graduate students		3.94	968.
	Practical training in professional institutions		3.84	1.044

Source: Survey data

Discussion the hypotheses of the study

The First Hypothesis

There is a necessary need and utmost importance to include environmental accounting topics in accounting programs. This hypothesis is tested with the help of Table (4) by using Chi-square Test ,the results showed that Mean was (4.06) and the direction of the study sample answers to this hypothesis tends to be (high) based on the decision rule earlier stated, a (mean ≥ 3). This confirms the respondents 'approval of the phrases at high rates, as stated in the table (2) H1, the results also showed that the value of the Chi-Square was (593.7) at the significance level (0.00) and it is less than the level of significance (0.05), This confirms the approval of the respondents sample on all statements of the first hypothesis, and this confirms its validity.

Table 4: Hypothesis Test

The First Hypothesis	Mean	Std. D	Chi-Square	Df	Sig.
There is a necessary need and maximum importance to include environmental accounting topics in accounting programs.	4.0666	.68662	593.726	112	.000

The Second Hypothesis

Table 5: Hypothesis Test

The Second Hypothesis	Mean	Std. D	Chi-Square	Df	Sig.
There are incentives and advantages that support the process of including environmental accounting in accounting programs.	4.1382	.76239	552.045	119	.000

There are incentives and advantages that support the process of including environmental accounting in accounting programs. This hypothesis is tested with the help of table (5) by using Chi-square Test, the results showed that Mean was (4.14) and the direction of the study sample answers to this hypothesis tends to be (high), based on the decision rule earlier stated, a (mean ≥ 3), this confirms the respondents 'approval of the phrases at high rates, as stated in the table (2) H2. The results also showed that the value of the Chi-Square was (552.04) at the significance level (0.00) and it is less than the level of significance (0.05), this confirms the approval of the respondent sample on all statements of the second hypothesis, and this confirms its validity

The Third Hypothesis

The process of including and teaching environmental accounting has special ingredients that must be met. Given the table (6), the results showed that Mean was (4.01) and the direction of the study sample answers to this hypothesis tends to be (high) , based on the decision rule earlier stated, a (mean ≥ 3), This confirms the respondents 'approval of the phrases at high rates, as stated in the table (2).The results also showed that the value of the Chi-Square was (294.3) at the significance level (0.00) and it is less than the level of significance (0.05), This confirms the approval of the respondent sample on all statements of the third hypothesis, and

this confirms its validity, That the process of including and teaching environmental accounting has special components that must be met.

Table 6: Hypothesis Test

The Third Hypothesis	Mean	Std. D	Chi-Square	Df	Sig.
The process of including and teaching environmental accounting has special ingredients that must be met.	4.0111	.84748	294.350	77	.000

The Fourth Hypothesis

Environmental accounting has its own forms and types should be including in accounting programs. Given the table (7), the results showed that Mean was (4.01) and the direction of the study sample answers to this hypothesis tends to be (high) , based on the decision rule earlier stated, a (mean ≥ 3), This confirms the respondents 'approval of the phrases at high rates, as stated in the table (2).The results also showed that the value of the Chi-Square was (485.8) at the significance level (0.00) and it is less than the level of significance (0.05), This confirms the approval of the respondent sample on all statements of the fourth hypothesis, and this confirms its validity, That environmental accounting has its own forms and types should be including in accounting programs.

Table 7: Hypothesis Test

The Fourth Hypothesis	Mean	Std. D	Chi-Square	df	Sig.
Environmental accounting has its own forms and types should be including in accounting programs	3.9727	.70390	485.838	84	.000

The Fifth Hypothesis

There is specific way to include environmental accounting topics in accounting programs. This hypothesis is tested with the help of two tables (8) by using Chi-square Test, the results showed that Mean was (3.90) and the direction of the study sample answers to this hypothesis tends to be (high), based on the decision rule earlier stated, a (mean ≥ 3), this confirms the respondents 'approval of the phrases at high rates, as stated in the table (3) H2. The results also showed that the value of the Chi-Square was (1055.7) at the significance level (0.00) and it is less than the level of significance (0.05), this confirms the approval of the respondent sample on all statements of the second hypothesis, and this confirms its validity

Table 8: Hypothesis Test

The Fifth Hypothesis	Mean	Std. D	Chi-Square	df	Sig.
There is specific way to include environmental accounting topics in accounting programs.	3.8803	.57705	1055.718	217	.000

DISCUSSION OF FINDING & CONCLUSIONS

Discussion of Findings

After reviewing the statistical analysis and the results of the hypotheses, the study concluded that there is a necessary need and utmost importance to include environmental accounting topics in accounting programs. The results of the study indicated that the importance of including environmental accounting represents in the integration between accounting and the environment, which makes the accounting graduate a protector of the environment. Its also considered the main fields to define the characteristics and skills required to build a specialized accountant in environmental affairs. The results of the study indicated that all the respondents agreed that there is a necessary need to include environmental accounting for several reasons, including: The inability of accounting programs to provide sufficient reports to purposes of environmental affairs, the widening gap between accounting standards principles and environmental protection laws and Accelerated economic development without taking into account its environmental impact.

Based on the results of verifying the validity of the second hypothesis, the results revealed that there are incentives and advantages that support the process of including environmental accounting in accounting programs. In this context, the study sample agreed on a sets of incentives that support the inclusion of environmental accounting, namely: The expansion of environmental accounting research and the scientific publication, The Sudanese universities look forward to develop their programs to keep up with the changes in society and Competition between local academic institutions to catch up with international institutions. The study sample also agreed on a number of advantages for including environmental accounting: Correspond with the requirements of environmental protection laws and organizations, Enable the availability of an accountant specialized in environmental affairs and increasing the quality of accounting programs outputs. According at the results of the third hypothesis, which refers to, the process of including and teaching environmental accounting has special ingredients that must be met. We find that respondents' responses indicate general approval, these ingredients are: designing programs and curricula for environmental accounting, Providing references and books specialized in environmental accounting, availability of modern technology for teaching environmental accounting and coordination, joint action between universities and environmental institutions and raising the awareness about the importance of environmental accounting. Based on the results of verifying the validity of the fourth hypothesis, the results revealed that environmental accounting has its own forms and types should be including in accounting programs. In this context, the study sample agreed that the types and forms of environmental accounting are: Global environmental accounting, environmental accounting for enterprises, environmental management accounting ,environmental financial accounting , national environmental accounting and environmental cost accounting. According at the results of the fifth hypothesis, which refers to the specific way to include environmental accounting topics in accounting programs, this hypothesis is verified by two aspects, First aspect is the programs in which environmental accounting is included , in this context, the study sample agreed that these programs are: Bachelor programs , postgraduate diploma programs and

master's programs. Second aspect is the modality of inclusion ,the majority of respondents' responses indicate general approval, can included as an independent program and also can include as an independent course.

Conclusions

1. Based on the analysis of the data, some conclusions are presented as follows:
2. There is a necessary need to include environmental accounting topics in accounting programs
3. Including environmental accounting topics in accounting programs is extremely important.
4. There are general incentives to support the inclusion of environmental accounting in accounting programs.
5. The process of including environmental accounting in accounting program has several beneficial advantages.
6. The process of including and teaching environmental accounting has special ingredients that must be met.
7. Environmental accounting has its own forms and types should be including in accounting programs.
8. There is specific way to include environmental accounting topics in accounting programs.

Recommendations

1. Necessary of including environmental accounting in accounting programs and to adopt study plans for it at the level of undergraduate programs as an independent specialization.
2. Urging research centers to direct scientific research on environmental accounting issues and to obtain recommendations that support the necessity of including them in accounting programs in Sudanese universities.
3. Encouraging environmental bodies to coordinate with academic institutions to set the basic building blocks for the necessity of providing a specialized environmental accountant with an academic degree.
4. Raising awareness about the importance of environmental accounting and its role in preserving the environment.
5. Inclusion of environmental accounting in accounting programs as a separate specialization or as a course within bachelor's and diploma programs.

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