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Sustainability Accounting and Reporting

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ABSTRACT

In the context of the current diploma thesis we analyze and present the concept of Sustainability Accounting, as well as the benefits of the application of its practices. In the current study's framework, we approached the above-mentioned subject on the one hand by an extend literature review and on the other hand through a primary quantitative research which was based on a fully structured questionnaire. Through our dual approach, we seek to shape a holistic picture of the knowledge and application of Sustainability Accounting practices in Greek businesses, regardless of the sector in which they are activated, and moreover, of the actions taken by their managers and executives, in order to address their environmental impact.

Keywords: Sustainability Accounting, Environment, Business, Greek Companies.

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INTRODUCTION

The challenges of sustainable development have driven the interest of administrations, revealing the significant risks and opportunities for business entities. Over the last twenty years, with the development of the science of management, the understanding of the links between corporate success and the viability aspects of a company, has been refined. However, numerous tools and management concepts have been criticized for their failure to help improve sustainability performance. Accounting management is a necessary system for producing, preparing and providing information in order to identify and select the right decisions. On the basis of the relevance of the information, sustainability accounting has received particular attention over the last decade, demonstrating the importance and necessity of carrying out this study.

At the current thesis, we seek to deeply investigate the concept of Sustainability Accounting, as well as the benefits of the application of its practices, as well as their impact on the companies and the obstacles the existence of which, is making sustainability accounting hard to be adopted. The current subject is approached both by literature review and by primary quantitative research.

More specifically, in the context of the first chapter of the current thesis, we focus on sustainability accounting and more specifically, on its definition, its need of adoption, its role in the modern business world and its application in it. We also, include a brief historical review.

The second chapter includes the structure of sustainability accounting and more specifically, the environmental internal and external expenditure for modern businesses. We are also referring to the most popular categories of environmental expenditure and the sustainability accounting applications. The third and final chapter of the literature review of the current diploma thesis, includes the basic negative and positive elements of the adoption of sustainability accounting by companies.

At the fourth chapter, we present the main elements and information of the methodology, which was followed in the context of our primary quantitative research,

while at the fifth chapter we are presenting and discussing the results of the current research.

Finally, the sixth chapter of the current study presents our main conclusions, which are extracted on the one hand, by the literature review and o the other hand by the results of our primary quantitative research. We then, present some topics, which in our point of view, are worth further investigating.

CHAPTER 1. SUSTAINABILITY ACCOUNTING

1.1 CONCEPTUAL CLARIFICATION AND DEFINITION OF SUSTAINABILITY ACCOUNTING

According to the prevailing definitions, there are three main components of sustainability: economic, social and environmental. The economic component is mainly concerned with ensuring the sustained economic growth that is considered necessary for the continuous improvement of social prosperity. Environmental, is mainly concerned with respecting the boundaries of the ecosystem -the natural and organic environment- in order to maintain its stable productive base, ensuring the protection and quality of natural resources, as for example air, land, oceans, seas, coasts, water resources, and the protection of biodiversity. Social, is mainly concerned with ensuring equality, by combating all forms of discrimination, social inclusion and cohesion, and tackling all forms of exclusion, political participation, social mobility and respect for cultural diversity (Vavouras, 2010).

Increasing environmental pressures and environmental awareness have created the need to study the interactions between the economic and environmental sectors. Conventional national accounts, such as gross domestic or net gross product, focus on measuring economic performance and growth while not counting depletion of capital, environmental degradation affecting health, and many non-tradable products and services. For a more comprehensive assessment of sustainability and growth, the financial accounting sector should be expanded to include the use of natural resources as well as losses in the production process (Vavouras, 2010).

Conventional accounting is not enough to achieve sustainability. Although the number of companies reporting their social and environmental, or else sustainability, performance is constantly increasing, applying accounting practices to achieve sustainability is still a voluntary process (Constructing Excellence, 2004).

Sustainable accounting is defined as the production, analysis and use of environmental and social information valued in cash to improve corporate environmental, social and economic performance (The Sigma Project, 2019).

1.2 THE WEAKNESSES AND GAPS OF TRADITIONAL ACCOUNTING

Conventional economic accounting theory does not assess the use of natural and environmental resources, as well as the revenue losses resulting from the reduction of physical capital. Also, to date numerous environmental resources such as water, air, are still considered as "free goods" and do not appear in the financial statements. According to the financial accounting, the production and distribution of products or the provision of services require, inter alia, the use of direct materials, direct labor, overheads of production, administrative costs, sales expenses, as well as research and development expenses (Gray, 1993; Mylonakis & Tahinakis, 2006).

On the other hand, environmental expenditure is shown by research results that while they are part of production and administrative costs, they are not recorded in special accounts but are charged as overheads (Epstein & Freedman, 1994; Schahegger & Burritt, 2000; Wilmshurst & Frost, 2001; Mylonakis & Tahinakis, 2006).

Conventional accounting statements record the financial flows and reserves of an organization in the form of the profit and loss account and the balance sheet, respectively. This accounting activity is mandatory (Ginoglou et al., 2003).

According to Bebbington et al. (1994), conventional accounting measures do not reflect all the consequences of an economic transaction. Thus, environmental costs usually fall into other categories such as:

• Capital expenditure

• Conventional operating expenses such as labor and materials

• Hidden costs related to compliance

• Other externalities, such as environmental pollution and depletion of resources

1.3 THE ADVENT AND NECESSITY OF SUSTAINABILITY ACCOUNTING

The reasons that led to the development of practices for identifying, recording and analyzing the costs and benefits of environmental impact of businesses, and ultimately sustainability accounting, had to do with the pressures that businesses had on their shareholders, increased costs of their environmental impact and with globalization (Bermett & James, 1998; Schaltegger & Burritt, 2000).

However, the voluntary nature of sustainability accounting is considered to be the most important reason for the failure to prepare environmental accounts for many companies. It is therefore imperative that an environmental accounting system be adopted which will benefit in a variety of ways by recognizing, measuring and separating environmental costs, benefits, assets and liabilities (Burritt & Schaltegger, 2001).

Deegan & Rankin (1996) have found that disclosing environmental data is useful in improving the negative image of a business entity that is involved in an environmental accident or unpleasant event. This observation was also supported by Guthrie & Parker (1990) who had emphasized that adoption of corporate environmental actions justifies their continued existence (Niladri et al., 2008).

1.4 THE ROLE OF SUSTAINABILITY ACCOUNTING

The role of sustainability accounting is summarized below (Bennett & James, 1998; Schaltegger & Burritt, 2001; Gray & Bebbington, 2001):

• Presentation of the impact of environmentally relevant activities on the balance sheet and the income statement.

• Accurate pricing and pricing of products, understanding environmental costs and processes and product performance.

• Identifying profitable products and companies by monitoring and tracking environmental costs.

• Identifying risks and opportunities arising, such as legislation.

• Recognizing and exploiting opportunities for cost savings, eco-efficiency and other improvements.

• Strategic exploration in the business environment.

• Enhancing customer values and enhancing competitive advantage through environmentally friendly products, processes and services.

1.5 A BRIEF HISTORICAL REVIEW

The first sustainable accounts were created in Norway in the 1970s and were slowly adopted by other states. In the early 1990s, the World Bank reviewed sustainability accounting, providing a huge number of states that had produced sustainable accounts (Lange, 2007).

In the early 1990s, business entities began to understand the importance of disclosing all the qualitative, quantitative, and financial information that had to do with their environmental impact. An empirical study by Gray et al. (1993) revealed that the public was aware of the negative consequences of corporate development and insisted on sustainable reporting. Epstein & Freedman (1994) found that many regarded annual reports as a key source of data on the sustainable performance of businesses. Tilt (1994) observed that the disclosure of sustainable information to businesses was due to the pressure exerted on them by various user groups (Niladri et al., 2008).

Mathews (1997) concluded that in the period 1970-1981 social accounting research was the focus of attention, whereas in the period 1981-1995 attention was drawn to the sustainability accounting, which increased dramatically in the early 1990s and

between 1995-2001, the main interest of scientists in sustainability accounting was the publication of environmental information (Mathews, 2002).

Nowadays, some of the countries that have already integrated sustainability accounting programs are Australia, Canada, Denmark, Finland, France, Germany, Italy, Japan, Norway, Sweden, the United Kingdom and the US developing countries such as Botswana, Chile, Korea, Mexico, Moldova, Namibia and the Philippines. Occasional studies were conducted in Colombia, Costa Rica, Indonesia and South Africa. These countries have the most experience in implementing sustainability accounting practices. Most work has been done in Europe, Australia, and Canada and in relatively few developing countries (Lange, 2007).

1.6 THE APPLICATION OF SUSTAINABILITY ACCOUNTING IN BUSINESS ENTITIES

Sustainability accounting has a huge variety of meanings and uses. It can support national income accounting, general accounting or business internal management accounting. It allows, in more detail, an enterprise to determine the cost of environmental conservation in monetary units in the normal course of business, to identify the sustainable conservation benefit in physical units, and the economic benefit of environmental conservation activities. At the same time, it provides the best possible form of quantitative measurements, in monetary or physical units, and supports the announcement of its results (Ministry of the Environment, 2005).

The information for each of these elements is represented either in numbers or descriptively. The economic efficiency of environmental accounting involves calculating and reporting of environmental conservation costs and economic benefits of measures to protect the environment in monetary units. On the other hand, the sustainable performance part of sustainability accounting identifies, measures, and communicates the environmental benefit of conservation in physical units (Ministry of the Environment, 2005).

1.7 THE INTERNAL AND EXTERNAL USE OF SUSTAINABILITY ACCOUNTING

Corporate Sustainability Accounting is a broad term used for both internal and external use. Internally, sustainable data is used to aid management decisions on the prices of the products and services, overhead control, and capital budgeting. Its external use reveals environmental information that is of interest to the public and the financial community (Yusoff et al., 2013).

Sustainability Accounting consists of sustainability management accounting, which is the tool for internal use, as for example an assessment of the agency's expenditure on pollution control equipment, revenue from recycled materials, annual monetary savings from the use of new energy-efficient equipment) and External Financial Accounting (International Federation of Accountants, 2005).

Lastly, the business entity informs stakeholders about the current entity’s performance on its environmental responsibility. This movement is part of corporate social responsibility, which seeks to assess the impact of business activities on the environment (Yusoff et al., 2013).

In short, the differentiation point which exists between the two uses of sustainability accounting lies in the fact that while environmental financial accounting is the one that collects, evaluates and reports sustainable data for external information purposes, sustainable management accounting deals with the presentation of sustainable data for internal decision making (Bartolomeo et al., 2000; Yusoff et al., 2013).

CHAPTER 2. THE STRUCTURE OF SUSTAINABILITY ACCOUNTING

2.1 ENVIRONMENTAL CONSERVATION EXPENDITURE

According to the US Environmental Protection Agency, a cost is clearly considered to be environmental when incurred in order to comply with environmental legislation as well as costs incurred to protect the environment. Such costs include environmental remediation, pollution, control equipment, as well as non-compliance sanctions even when not required by law. These investments and expenses are measured in monetary value (Ministry of the Environment, 2005).

As already mentioned, identifying environmental costs and presenting them in appropriate accounts is also the reason for the development of sustainability accounting. The US Environmental Protection Agency separates environmental costs into internal costs, which are the costs that have a direct economic impact on the company, and to external costs that are costs that are transferred to society, as for example environmental costs and health costs (De Beer & Friend, 2006).

2.2 INTERNAL EXPENDITURE

Internal costs, or else private costs, consist of direct, indirect, and contingent costs and can be estimated using standardized costing models available to the business.

Instant, or else direct costs, can be tracked to a specific product, area, type of pollution or pollution prevention program, as for example waste management or rehabilitation costs in a specific area, and are the contractual costs that include costs for equipment, raw materials and materials (De Beer & Friend, 2006).

Indirect costs, such as sustainable education, research and development, recording and reporting are the following (De Beer & Friend, 2006):

• Hidden costs that may come from overlooking future costs

• Image and relationship costs, due to the fact that they are incurred to influence subjective perceptions of management, customers, employees, communities, and regulators. The current category may include the costs of annual environmental reports and activities as well as the costs spent on voluntary sustainable activities such as tree planting. The costs are not intangible, but the direct benefits that come from the relationship or corporate image costs are.

Finally, contingent costs relate to sustainable costs that are not likely to occur in the future, but depend on uncertain future events, for example, the costs involved in repairing future losses (De Beer & Friend, 2006).

2.3 EXTERNAL EXPENDITURE

When the burden is placed on society, as a result of the environmental impact of a particular business or organization, or of an indefinite entity, the resulting cost is called social cost and is also referred to as “external cost” (Ministry of the Environment, 2005).

It is difficult to determine the monetary value of external costs. However, some businesses seek to address these costs as part of a sustainable accounting system with financial methods that determine the maximum amount people would be willing to pay to avoid injury or the minimum amount of compensation they would receive in return (De Beer & Friend, 2006).

More specifically, external costs include the following:

1. The deterioration of the environment for which businesses are not legally responsible

2. The negative impact on people, their property and their well-being (De Beer & Friend, 2006).

2.4 THE CATEGORIES OF ENVIRONMENTAL EXPENDITURE

The cost categories, which environmental costs consist of, are the following:

A. Business Cost

It is a category of expenditure, which deals with activities to reduce the environmental impacts caused by core business functions (Ministry of the Environment, 2005).

B. Up and down costs

The up and down costs are also called as “upstream” costs and they are the costs arising from efforts to reduce the sustainable impacts caused by the entry of products and services into business areas, and costs associated with these efforts. Downward costs come from efforts to reduce the environmental impacts caused by goods and services leaving business areas and the costs associated with those efforts (Ministry of the Environment, 2005).

C. Administrative expenses

They include costs for efforts indirectly contributing to the reduction of environmental impacts caused by operational activities, and costs for efforts to communicate with society, such as communication for environmental information disclosure (Ministry of the Environment, 2005).

D. Cost of Research and Development

These are costs of acquiring equipment for use in the search for specific research and development objectives, that cannot be used for any other purpose, such as patents and more similar ones, are treated in financial accounting as research and development costs. On the contrary, investing in research and development facilities of a general nature is a fixed asset, and is therefore an amount of environmental conservation expenditure (Ministry of the Environment, 2005).

E. Cost of social activity

The cost of social activity is a cost related to sustainable conservation, about the protection of the environment, carried out for the good of society, without being directly related to operational activities (Ministry of the Environment, 2005).

F. Environmental rehabilitation cost

Environmental restoration costs are allocated to restore environmental degradation due to operational activities. They are costs incurred after some kind of environmental disaster and can be reduced by the proper implementation of environmental conservation activities, as for example fines due to environmental degradation (Ministry of the Environment, 2005).

CHAPTER 3. THE POSITIVE AND NEGATIVE ELEMENTS OF SUSTAINABILITY ACCOUNTING

3.1 REASONS FOR NOT APPLYING SUSTAINABILITY ACCOUNTING PRACTICES

Surma & Vondra (1990) in their survey, based on 125 large US corporations, observed that despite growing environmental concern at the time, only 14% of companies surveyed had formal environmental committees at administrative level. In addition, only 11% had environmental accounting policies, while less than one third of them had their policies published in their financial statements.

Wilmhurst & Frost (1996), in a survey of Australia's top 500 companies, observed that although for the majority of respondents' environmental issues were important and taken into account in decision-making, there were few companies that provided them and integrate them in a formal way, so that they can clearly demonstrate the performance of their company in that area.

Bebbington et al. (1994) in a survey of 1,000 leading companies in England, observed that accountants knew that environmental issues would affect their own future practices, but nevertheless did not apply an environmental accounting system or engage in environmental matters.

Parker (1997) conducted a survey of environmental and costing issues in 11 Australian companies active in industrial sectors, such as construction, mining, petrochemical, energy and fertilizer. The results of the survey showed that sustainable managers were not familiar with the costing issues used in their business. The majority of companies were in the early stages of recognizing sustainable costs and sustainability accounting, while environmental costs were not calculated separately from other costs but were integrated into the general accounting system.

According to Das et al. (2008), the lack of orientation may be the one that is responsible for the fact that environmental accounting is not included in the

management study program in India and therefore, the lack of basic environmental accounting knowledge may be one of them. reasons why businesses in India do not apply environmental policy practices.

3.2 BENEFITS OF IMPLEMENTING SUSTAINABILITY ACCOUNTING PRACTICES

A Japanese survey, by Katsuhiko (2002), found that 257 business entities in the first sector of the Tokyo Stock Exchange -only 18%- published environmental reports, of which 184 disclosed environmental accounting information. The 184 companies considered that the most important benefit of implementing environmental accounting was the understanding of environmental costs (84%), while the second option was to improve the company's image. In this survey, 58% of companies responded that they were implementing sustainability accounting practices following the guidelines of the Ministry of the Environment, 17% following corporate standards while the rest of the companies did not specify as they were in the very first levels of implementing environmental accounting.

3.3 REASONS FOR APPLYING SUSTAINABILITY ACCOUNTING

Reasons for companies focusing more on environmental performance include shareholder pressure, financial opportunities, ethical incentives, legislation, and competitive advantage (Townsend, 1998; Bansal & Roth 2000).

In a KPMG 1994 survey in Canada, as Harrison (1999) states, the most important reason that pushed businesses to improve their environmental performance was legislation (95%) while reasons such as cost savings, customer demands and public pressure were selected by less than half of the companies surveyed.

Townsend (1998) in a survey of 30 business entities in England involved in green product development, found that the five most important factors affecting businesses in terms of their environmental performance were:

• Market Opportunities (23 replies)

• Environmental concern / awareness of the CEO or other key persons (13 answers)

• Saving on waste minimization and resource recovery (9 answers)

• Regulatory pressures (including legal obligations (8 replies) and

• Improving business image (8 answers).

Moreover, according to a survey conducted by Bansal & Roth (2000) in 88 environmental managers in UK and Japanese companies, the three incentives that drive corporate environmental responsibility were:

• Legality, which is the desire of the business to improve the appropriateness of its actions based on a set of rules, values or beliefs,

• Competitiveness, translated by the likelihood that the business ecological response will lead to long-term profitability, and

• Eco-responsibility, by stemming from the concern that a business meets social obligations.

3.4. THE NEED OF INTEGRATION SUSTAINABILITY REPORTING

Wilmshurst & Frost (2001) following a survey of 398 companies, received responses from 121 companies and addressing the Chief Financial Officer -30% response rate- and the CEO -24% response rate- found that there was a need for mechanisms capable of integrating economic data, as well as qualitative environmental data. Such strategies may include tools, as for example life cycle analysis, activity-based costing, and cost-benefit analysis. These tools could be used to integrate environmental impact into business decision making and performance evaluation.

According to Elkington (1997), in order to successfully perform environmental reporting, companies first need to focus on developing appropriate IoT methodologies to measure their performance and then install management structures and control systems and then be able to produce environmental reports.

CHAPTER 4. RESEARCH METHODOLOGY

4.1 RESEARCH PURPOSE

The main purpose of the current research is the clarification of the benefits and the results of the adoption of sustainability accounting in the companies. Moreover, we seek to clarify the factors which are considered as obstacles of the effective adoption of sustainability accounting by our research sample.

4.2 RESEARCH QUESTIONS

For the sake of the satisfaction of the above-mentioned purpose, in the context of the current primary quantitative research, we seek to answer the following research questions:

1. Which are the most and less important benefits, offered from the adoption of sustainability accounting, to the companies?

2. Which are the most and less important reasons why companies have not proceeded to the application of sustainability accounting?

3. Is there any statistically significant correlation between the existing situation of the adoption of sustainability accounting to the companies, the need of the current adoption and the benefits which would be offered by it?

4.3 RESEARCH TOOL

The primary research tool of this thesis is a fully structured questionnaire consisting of a total of 35 closed-ended questions listed in Annex I at the end of the current study.

The questions are divided into five categories. The first category includes questions of demographic and other information about the research sample and the companies. Part B includes questions which seek to record the existing situation. The next part consists of questions referring to the reasons for cultivating specific conditions, while Part D seeks to quantify the need for sustainability accounting practices. Finally, Part E refers to the benefits of sustainability accounting.

4.4 RESEARCH SAMPLE

The research sample of the primary research of this thesis consists of a total of 100 managers, executives, and employees whose working positions are in the accounting department of their business entity, which is in Greece. At this point, it is clarified that the sector of activation of the company in which they are occupied, their age, their working experience, their nationality or gender were not taken into consideration, but only their employment in the above-mentioned particular field.

4.5 PILOT TEST

To conduct the pilot testing, our research tool was sent to a total of 15 people who are occupied in the accounting department of a business entity. There is an amount of people from whom, a percentage of 15% is represented, of our total sample.

These above-mentioned 15 participants of the pilot testing were informed by the researcher, about the pilot procedure in which they are taking part. Moreover, the researcher, asked the participants of the pilot testing, to send him their comments and any further corrections -if they exist- on the questionnaire.

At this point, it is mentioned that the pilot testing procedure lasted totally a week. All the participants of the pilot test completed the pilot form of the questionnaire and sent

it back, via e-mail, to the researcher, including their comments. The researcher, more specifically, received comments from three (3) from totally 15 of the participants. There were comments about the better understanding of the questions. The researcher, proceeded to the reconstruction of the research tool, after taking into account the comments of the three (3) of the participants in the pilot testing. So, the questionnaire got its final form and it was ready to be sent to the official research sample of the current primary quantitative research.

4.6 RESEARCH STEPS AND PROCEDURE

At the context of the current primary quantitative research, the following steps were followed by the researcher, as they were proposed by Bell (2007):

1. Structure of the questions of the research
2. Structure of the sample of the research
3. Structure of the research tool
4. Pilot test
5. Distribution of the research tool to the official sample of the research
6. Answers' entry in statistical software SPSS (version 23)
7. Cronbach Alpha reliability check of the research tool
8. Data analysis - inductive and descriptive statistical analysis methods
9. Interpretation of research results

More specifically, Bell (2007) suggested that firstly the researcher has to point out the research objectives and then, the questions of the research. Afterwards, he says that the researcher has to decide which kind of research will he follow. Then, he has to decide about the size of his research sample and the sampling method which he will follow. The next step is the construction of the research tool, to which the research will be based. Pilot testing is a very important step, and at this point, Bell (2007)

mentions that it has to be done by the participation of at least 10% of the total amount of research sample. Afterwards, researcher, has to complete the official structure of his research tools and proceed to its distribution to the official sample of his research. The last step is the research is the data collection by the researcher.

4.7 QUESTIONNAIRE DISTRIBUTION, PROCESSING AND ANALYSIS OF RESULTS

The responses were collected by exporting an excel file from Google Forms. Responses were then manually entered by the researcher into SPSS statistical software (v23), where their processing and statistical analysis were performed.

4.8 RELIABILITY CHECK

The reliability test of the questionnaire, Cronbach Alpha, was performed through SPSS statistical package (version 23). Cronbach Alpha is a measure used to evaluate the reliability or internal consistency of a set of scale or test items. In other words, the reliability of any given measurement refers to the extent to which that measurement is capable of measuring on a consistent basis a given condition or condition. Cronbach Alpha is a way of measuring the level of this consistency.

The resulting reliability coefficient “a” range from 0 to 1 to provide this overall assessment of the reliability of a measure, and in this case, a questionnaire. If all the elements of the scale are completely independent of one another, that is, they do not correlate or do not share any co-variance, then a = 0. If, however, all the elements have high co-variation, then a = 1, since the number of objects on the scale approaches infinity. In other words, the higher the coefficient α, the more items in the questionnaire are co-varied and probably measure the same underlying concept.

Although the standards for what constitutes a “good” coefficient are completely arbitrary and depend on the theoretical knowledge of the individual researcher in

relation to this scale, however, many researchers recommend a coefficient of minimum coefficient ranging between 0.65 and 0.8, or higher in many cases. Coefficients α, which are less than 0.5 are not usually acceptable, especially for scales that are considered to be one-dimensional (Bonett & Wright, 2015).

The results of the reliability check of our research tool are presented as following, with the questions of the first demographic part of the questionnaire being excluded:

Reliability Statistics

Cronbach's Alpha	N of Items
,763	27

As it is observed, Cronbach Alpha value is 0,763, which is accepted and satisfying.

4.9 RESEARCH ETHICS

For the current primary research to be done, the researcher was fully informed about the main issues, which are totally related to the research ethics code. He set as his main research priority the following of the main framework of ethical principles about fairness, autonomy and non-harm of the participants of this current research.

More specifically, the researcher paid much od attention to not insult the human rights and the dignity of his participants, during the research procedure. That is why, he was asking each one of the participants of his/her agreement in participating in his research. He also, pointed the out that they had the right to abandon the whole participation during any moment of the research. Finally, he informed all the participants that there will be no publication of their personal data and any information will be given by them in the context of the completion of the research tool. So, in this way, he informed all the participants about the anonymity of their participations and the safety of their personal and sensitive data.

4.10 RESEARCH RESTRICTIONS

The only restriction of this primary research of this thesis is that the research results concern a total of 100 managers, executives and employees are occupied on the accounting department of their company. This means that the results of this primary research cannot be generalized with certainty. However, on our part, we have tried to reach out to as many companies as possible, and therefore more executives, in order to collect a sufficient number of completed questionnaires, in order to enhance the reliability of the results and to draw safer conclusions. Our guidance to all the companies of Greece is the only solution to eliminate this above-mentioned limitation. Only in this way would it be possible to generalize the results of our research. However, this was impossible to be completed on our research part, on the one hand, because we did not have sufficient time and on the other hand, that the necessary financial resources were not available to support such a research project.

CHAPTER 5. PRESENTATION AND ANALYSIS OF RESEARCH RESULTS

5.1 DEMOGRAPHIC AND OTHER INFORMATION

At this point, the results of each question of the demographic and other information section of the questionnaire are presented and described.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	78	78,0	78,0	78,0
	Female	22	22,0	22,0	100,0
	Total	100	100,0	100,0	

As it is presented above, our research sample consists of 78% males and 22% females.

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-29	10	10,0	10,0	10,0
	30-39	32	32,0	32,0	42,0
	40-49	14	14,0	14,0	56,0
	50-59	24	24,0	24,0	80,0
	>60	20	20,0	20,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 32% of the research sample consists of persons aged between 30-39 years old. The 24% of the research sample consists of persons aged between 50-59 years old, the 20% of persons over 60 years old, the 14% of persons between 40-49 years old and finally, the minority of 10% consists of persons between 18-29 years old.

Position in the company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manager	28	28,0	28,0	28,0
	Executive	22	22,0	22,0	50,0
	Employee	50	50,0	50,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 50% of the research sample consists of employees, the 28% of managers and finally the 22% of executives.

Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	University Degree	24	24,0	24,0	24,0
	Master's degree	60	60,0	60,0	84,0
	Doctoral Degree	16	16,0	16,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 60% of our research sample consists of people with master's degree, the 24% consists of people with university degree and finally, the minority of 16% consists of people with doctoral degree.

Years of working experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-2	8	8,0	8,0	8,0
	3-5	28	28,0	28,0	36,0
	6-10	38	38,0	38,0	74,0
	10+	26	26,0	26,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 38% of our research sample consists of people who have 6-10 years of working experience. Then, the 28% consists of people with 3-5 years of working experience and with a little difference, the 26% follows, with people with more than ten years of working experience. Finally, the overwhelming minority of 8% consists of people with less than two years of working experience. From the above-mentioned results, we can see that our research sample consists of people with satisfying working experience, which is a fact that we shall consider as helpful, according to the reliability of our research results.

Sector of company's activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Services	48	48,0	48,0	48,0
	Production	22	22,0	22,0	70,0
	Construction	6	6,0	6,0	76,0
	Wholesale/Retail Sale	24	24,0	24,0	100,0

Total	100	100,0	100,0	

As it is presented above, the majority of 48% consists of companies who are activated in services sector, while the 24% consists of companies of wholesale and/or retail sales' sector, the 22% of companies which are activated in the productions' sector and finally, the rest 6% consists of companies in the sector of constructions.

Number of employees occupied in the company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-10	8	8,0	8,0	8,0
	11-30	24	24,0	24,0	32,0
	31-50	44	44,0	44,0	76,0
	51-100	24	24,0	24,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 44% of the companies, are occupying 31-50 employees, the 24% are occupying 11-30 and 51-100 employees and finally, the rest 8% of the companies, are occupying less than 10 employees.

Is the company listed on the stock exchange?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	14,0	14,0	14,0
	No	86	86,0	86,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 86% of the companies are not listed on the stock exchange market, while the rest 14% are listed.

5.2 THE EXISTING SITUATION

At this point, the results of each question of the section of the existing situation, are presented and described.

Do you think the existing accounting system is sufficient to deal with environmental problems effectively?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	24	24,0	24,0	24,0
	3,00	60	60,0	60,0	84,0
	4,00	16	16,0	16,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 60% of our research sample believes that the existing accounting system is moderately sufficient to deal with environmental problems effectively, while the 24% characterized it as poorly sufficient and finally, the minority of 16% characterized it as sufficient enough.

Do you think there is a need for a separate sustainability accounting standard?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	21	21,0	21,0	21,0
	4,00	56	56,0	56,0	77,0
	5,00	23	23,0	23,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 56% of our research sample believes that there is a huge need for a separate sustainability accounting standard, while the 23% believes that this need is absolute and the minority of 21% believes that it is moderate. None of the participants, answered that there is no need at all.

How well do you know what Sustainability Accounting is?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4,00	28	28,0	28,0	28,0
	5,00	72	72,0	72,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 72% of our research sample answered that its knowledge about sustainability accounting is excellent and the rest 28% answered that it is in a very good level. This is an important result, due to the fact that the whole questionnaire is based on sustainability accounting. So, by observing that the research sample has great knowledge of this section, we can be sure about the reliability of the results of the current primary research.

To what extent does your business have a sufficient number of people who are responsible for environmental actions of the company?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	36	36,0	36,0	36,0
	3,00	44	44,0	44,0	80,0
	4,00	20	20,0	20,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 44% of our research sample answered that their company has moderately sufficient number of people who are responsible for

environmental actions of the company, while the 36% answered that this number of people is poor and finally, the minority of 20% answered that it is sufficient enough.

To what extent have environmental accounts been incorporated into your company's official financial statements?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	26	26,0	26,0	26,0
	4,00	74	74,0	74,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 74% of our research sample answered that their company has incorporated environmental accounts into its official financial statements, in a satisfying level and the rest of the 26% believes that this level is moderately satisfying.

Is the introduction of an environmental management system in the plans of your company?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4,00	36	36,0	36,0	36,0
	5,00	64	64,0	64,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 64% of our research sample answered that their company surely plans to introduce an environmental management system in the future, while the rest of 36% answered that these plans have been taken in a satisfying level, by their company. This is a satisfying result, because it shows

that companies are not completely indifferent about sustainability accounting, even though its implementation is not necessary by the law and the accounting standards.

5.3 REASONS FOR CULTIVATING SPECIFIC CONDITIONS

At this point, the results of each question of the section of the reasons for cultivating specific conditions, are presented and described.

Do you believe that the lack of accounting standards is the reason why many companies do not apply sustainability accounting practices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	56	56,0	56,0	56,0
	4,00	32	32,0	32,0	88,0
	5,00	12	12,0	12,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 56% of our research sample believes that the lack of accounting standards is the reason why many companies do not apply sustainability accounting practices, in a moderate level, while the 32% answered that it can be considered as an important reason, and the minority of 12% answered that it absolutely can be considered as a reason.

Do you believe that ignorance of the benefits of sustainability accounting is the reason why many companies do not apply environmental accounting practices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	10	10,0	10,0	10,0
	4,00	56	56,0	56,0	66,0
	5,00	34	34,0	34,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 56% of our research sample believes that ignorance of the benefits of sustainability accounting is an important reason why many companies do not apply environmental accounting practices, while the 34% answered that it absolutely is a reason, and the rest 10% believes that it is a moderate reason.

Do you think that the fact that sustainability accounting is not mandatory is why many companies do not apply environmental accounting practices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	8	8,0	8,0	8,0
	4,00	60	60,0	60,0	68,0
	5,00	32	32,0	32,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 60% of our research sample believes that the fact that sustainability accounting is not mandatory is an important reason why many companies do not apply environmental accounting practices, while the 32% answered that it absolutely is a reason, and the rest 8% believes that it is a moderate reason.

Do you think that the difficulty in objectively measuring sustainability costs and benefits is the reason why many companies do not apply sustainability accounting practices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	34	34,0	34,0	34,0
	3,00	52	52,0	52,0	86,0
	4,00	14	14,0	14,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 52% of our research sample believes that the difficulty in objectively measuring sustainability costs and benefits is a moderate reason why many companies do not apply sustainability accounting practices, while the 34% answered that it is not an important reason, and the rest 14% believes that it is an important reason.

Do you think that the lack of relevant education about sustainability accounting, as it is not taught in economic educative programs, is the reason why many companies do not apply sustainability accounting practices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	12	12,0	12,0	12,0
	4,00	60	60,0	60,0	72,0
	5,00	28	28,0	28,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 60% of our research sample believes that the lack of relevant education about sustainability accounting, as it is not taught in economic educative programs, is an important reason why many companies do not apply sustainability accounting practices, while the 28% answered that it absolutely is a reason, and the rest 12% believes that it is a moderate reason.

At this point, for the sake of better understanding which is, according to our participants' point of view, the most important reason why companies have not yet

applied sustainability accounting in a satisfying level, we present the following table, on which the means of the answers of the research sample are shown:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Do you believe that the lack of accounting standards is the reason why many companies do not apply sustainability accounting practices?	100	3,00	5,00	3,5600	,70094
Do you believe that ignorance of the benefits of sustainability accounting is the reason why many companies do not apply environmental accounting practices?	100	3,00	5,00	4,2400	,62150
Do you think that the fact that sustainability accounting is not mandatory is why many companies do not apply environmental accounting practices?	100	3,00	5,00	4,2400	,58810

Do you think that the difficulty in objectively measuring sustainability costs and benefits is the reason why many companies do not apply sustainability accounting practices?	100	2,00	4,00	2,8000	,66667
Do you think that the lack of relevant education about sustainability accounting, as it is not taught in economic educative programs, is the reason why many companies do not apply sustainability accounting practices?	100	3,00	5,00	4,1600	,61496
Valid N (listwise)	100				

As is can be observed, the most important reason why sustainability accounting has not yet been satisfyingly adopted by companies, is their ignorance of the benefits of sustainability accounting (M=4,24, SD=0,62) and that its adoption is not mandatory (M= 4,24, SD= 0,59). The less important reason why, is the difficulty in objectively measuring sustainability costs and benefits (M=2,80, SD=0,67).

5.4 QUANTIFICATION OF THE NEED OF SUSTAINABILITY ACCOUNTING PRACTICES

At this point, the results of each question of the section of the need of sustainability accounting practices, are presented and described.

Do you think your company should adopt an environmental accounting system?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4,00	36	36,0	36,0	36,0
	5,00	64	64,0	64,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 64% of our research sample thinks that their company should absolutely adopt an environmental accounting system, while the rest 12% thinks that this adoption would be important. None of the participants gave a negative answer to the current question.

How much do you agree that environmental costs should be separated from other business expenses?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4,00	28	28,0	28,0	28,0
	5,00	72	72,0	72,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 72% of our research sample thinks that environmental costs should absolutely be separated from other business

expenses, while the rest 28% thinks that this separation would be important. None of the participants gave a negative answer to the current question.

To what extent do you consider the General Accounting Standard to be the key factor in achieving environmental cost segregation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	42	42,0	42,0	42,0
	4,00	40	40,0	40,0	82,0
	5,00	18	18,0	18,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 42% of our research sample thinks that the General Accounting Standard is a moderate key factor in achieving environmental cost segregation, while the 40% thinks that it is an important key factor and the rest 28% thinks that it absolutely is a key factor. None of the participants gave a negative answer to the current question.

To what extent do you think that the company's internal mechanism is the key factor in achieving environmental cost segregation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	16	16,0	16,0	16,0
	4,00	68	68,0	68,0	84,0
	5,00	16	16,0	16,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 68% of our research sample thinks that the company's internal mechanism is an important key factor in achieving environmental cost segregation, while the 16% thinks that it is a moderate key factor and the rest 16% thinks that it absolutely is a key factor. None of the participants gave a negative answer to the current question.

How much do you agree that when environmental costs increase the value of an existing asset, it should be considered an asset?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	14	14,0	14,0	14,0
	3,00	46	46,0	46,0	60,0
	4,00	40	40,0	40,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 46% of our research sample moderately agrees with the fact that when environmental costs increase the value of an existing asset, it should be considered an asset, while the 40% agrees very much and the rest 14% agrees a little. Although, none of the participants gave a negative answer to the current question.

How much do you agree that when environmental spending improves the security of an existing asset, it should be considered an asset?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	52	52,0	52,0	52,0
	4,00	38	38,0	38,0	90,0
	5,00	10	10,0	10,0	100,0

	Total	100	100,0	100,0	

As it is presented above, the majority of 52% of our research sample moderately agrees with the fact that when environmental spending improves the security of an existing asset, it should be considered an asset, while the 38% agrees very much and the rest 10% absolutely agrees. None of the participants gave a negative answer to the current question.

How much do you agree that when environmental spending improves the efficiency of an existing asset, it should be considered an asset?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	36	36,0	36,0	36,0
	4,00	46	46,0	46,0	82,0
	5,00	18	18,0	18,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 46% of our research sample agrees very much with the fact that when environmental spending improves the efficiency of an existing asset, it should be considered an asset, while the 36% agrees moderately and the rest 18% absolutely agrees. None of the participants gave a negative answer to the current question.

How much do you agree that when environmental costs reduce the environmental contamination that is likely to be caused in the future, they should be considered as an asset?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	20	20,0	20,0	20,0
	3,00	44	44,0	44,0	64,0

	4,00	36	36,0	36,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 44% of our research sample moderately agrees with the fact that when environmental costs reduce the environmental contamination that is likely to be caused in the future, they should be considered as an asset, while the 36% agrees very much and the rest 20% agrees a little. Although, none of the participants gave a negative answer to the current question.

5.5 SUSTAINABILITY ACCOUNTING BENEFITS

At this point, the results of each question of the section of sustainability accounting benefits, are presented and described.

To what extent do you believe that sustainability accounting provides a better estimate of the total cost of the product produced?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	16	16,0	16,0	16,0
	4,00	66	66,0	66,0	82,0
	5,00	18	18,0	18,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 66% of our research sample strongly believes that with the fact that sustainability accounting provides a better estimate of the total cost of the product produced, while the 18% absolutely believes it and the rest 16% moderately believes it.

To what extent do you believe that sustainability accounting helps management make decisions?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	10	10,0	10,0	10,0
	4,00	56	56,0	56,0	66,0
	5,00	34	34,0	34,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 56% of our research sample strongly believes that sustainability accounting helps management make decisions, while the 34% absolutely believes it and the rest 10% moderately believes it.

To what extent do you think sustainability accounting improves product pricing?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	8	8,0	8,0	8,0
	4,00	49	49,0	49,0	57,0
	5,00	43	43,0	43,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 49% of our research sample strongly believes that sustainability accounting improves product pricing, while the 43% absolutely believes it and the rest 8% moderately believes it.

To what extent do you believe that sustainability accounting increases profitability?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	26	26,0	26,0	26,0

	4,00	52	52,0	52,0	78,0
	5,00	22	22,0	22,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 52% of our research sample strongly believes that sustainability accounting increases profitability, while the 26% moderately believes it and the rest 22% absolutely believes it.

To what extent do you think sustainability accounting is a competitive advantage?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	16	16,0	16,0	16,0
	4,00	32	32,0	32,0	48,0
	5,00	52	52,0	52,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 52% of our research sample absolutely believes that sustainability accounting is a competitive advantage, while the 32% strongly believes it and the rest 16% moderately believes it.

To what extent do you believe sustainability accounting helps to comply with environmental laws?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4,00	26	26,0	26,0	26,0
	5,00	74	74,0	74,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 74% of our research sample absolutely believes that sustainability accounting helps to comply with environmental laws, while the rest 26% strongly believes it.

To what extent do you believe sustainability accounting helps to understand and reduce environmental costs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4,00	22	22,0	22,0	22,0
	5,00	78	78,0	78,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the overwhelming majority of 78% of our research sample absolutely believes that sustainability accounting helps to understand and reduce environmental costs, while the rest 22% strongly believes it.

To what extent do you believe that sustainability accounting helps improve a company's image and reputation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	14	14,0	14,0	14,0
	4,00	44	44,0	44,0	58,0
	5,00	42	42,0	42,0	100,0
	Total	100	100,0	100,0	

As it is presented above, the majority of 44% of our research sample strongly believes that sustainability accounting helps improve a company's image and reputation, while the 42% absolutely believes it and the rest 14% moderately believes it.

At this point, for the sake of better understanding which is, according to our participants' point of view, the most important benefit offered from sustainability

accounting to the companies, we present the following table, on which the means of the answers of the research sample are shown:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
To what extent do you believe that sustainability accounting provides a better estimate of the total cost of the product produced?	100	3,00	5,00	4,0200	,58569
To what extent do you believe that sustainability accounting helps management make decisions?	100	3,00	5,00	4,2400	,62150
To what extent do you think sustainability accounting improves product pricing?	100	3,00	5,00	4,3500	,62563
To what extent do you believe that sustainability accounting increases profitability?	100	3,00	5,00	3,9600	,69515

To what extent do you think sustainability accounting is a competitive advantage?	100	3,00	5,00	4,3600	,74563
To what extent do you believe sustainability accounting helps to comply with environmental laws?	100	4,00	5,00	4,7400	,44084
To what extent do you believe sustainability accounting helps to understand and reduce environmental costs?	100	4,00	5,00	4,7800	,41633
To what extent do you believe that sustainability accounting helps improve a company's image and reputation?	100	3,00	5,00	4,2800	,69747
Valid N (listwise)	100				

As is can be observed, the most important benefit that it can be offered by the adoption of sustainability accounting to the companies, is the helping of understanding and reducing environmental costs (M=4,78, SD= 0,42), while the next most important benefit, with slightly less mean in comparison with the previously-mentioned one, is helping to comply with environmental laws (M=4,74, SD=0,44). The less important benefit, according to our research sample is the increase of a company's profitability (M=3,96, SD=0,7).

5.6 CORRELATIONS

At this point, and before we procced to any correlation check, we need to audit the normality of the distribution of the four variables, which will participate to the test of correlation. More specifically, each variable is coming from each part of the questionnaire. In case of a normal distribution, we will follow the Pearson's correlation test, and in case of non-normal distribution, we will proceed with the Spearman's correlation test. At the following table, the results of the test of normality are presented:

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
EXISTING_SITUATION	,140	100	,000	,949	100	,001
REASONS	,157	100	,000	,947	100	,001
NEED	,170	100	,000	,929	100	,000
BENEFITS	,138	100	,000	,945	100	,000

a. Lilliefors Significance Correction

In the context of the above-mentioned table, we are focusing on the results coming from Shapiro-Wilk's normality test, because our research sample consists of less than 2.000 participants. In case that at least one variable appears significance level less than 0,05 (sig<0,05) then the distribution followed, is not normal. As we can see above, all our variables appear level of significance less than 0,05. According to the above-described, we will then continue with Spearman's correlation test. The correlation results are shown as following:

Correlations

			EXISTING SITUATION	NEED	BENEFITS
Spearman's rho	EXISTING SITUATION	Correlation Coefficient	1,000	-,285	-,443
		Sig. (2-tailed)	.	,004	,000
		N	100	100	100
	NEED	Correlation Coefficient	-,285	1,000	,238
		Sig. (2-tailed)	,004	.	,017
		N	100	100	100
		Sig. (2-tailed)	,000	,017	.
		N	100	100	100

According to the above-presented results, we observe that there is statistically significant correlation between the existing situation the need of the adoption of sustainability accounting and its benefits. There are two negative correlations, which means that the higher the level of the adoption of sustainability accounting, the more benefits and needs will be covered, so the less of them will remain uncovered.

Moreover, there is statistically significant correlation between the need of the adoption of sustainability accounting and its benefits. It is about a positive correlation, which means that the more the benefits of the adoption of sustainability accounting, the more the existed need.

CHAPTER 6. CONCLUSIONS AND PROPOSALS FOR FURTHER RESEARCH

6.1 CONCLUSIONS

In conclusion, the present study fulfilled its original objectives satisfactorily by providing answers to the research questions that prompted this thesis and provided an insight into the environmental behavior of Greek companies and the application of the principles of sustainability accounting.

The recording of the current situation leads to the conclusion that the lack of a relevant legislative framework and the non-compulsory implementation of sustainability accounting practices constitute the predominant cause of ignorance of the sustainability accounting concept of a significant proportion of respondents. Combined with the current difficult situation of the financial crisis, especially in Greece, it is almost unlikely that workers will be devoted to implementing practices and occupying employees who will be specialized in environmental issues and exchanges of the company, especially if these actions are not required by law. The reason why Greek companies will not proceed to these above-mentioned extra actions, in order to applicate sustainability accounting practices, is that such options would require further costs, which, in particular nowadays, companies are trying to reduce. Although, we found that the majority of the participants answered positively in the question about integrating accounts related to environmental costs. But, at the same time, they admitted that there is lack of efficient expert employees, who will be occupied on managing and analyzing these accounts.

The ignorance of sustainability accounting may also be due to the fact that environmental issues have become increasingly concerned and interested in recent years, and the financial departments of Greek universities have not been included in their curricula. The lack of academic knowledge of executives in the business divisions deprives them of the benefits of the sustainability accounting, as academic

knowledge provides a significant impetus for later professional careers. We do not consider as accidental the fact that our research sample answered that practical issues, such as a possible difficulty in objectively measuring sustainability costs and benefits, while adopting sustainability accounting principles, are the less important reason why companies ignore them. In other words, we assume that through this placement, the research sample thinks that the problem begins from education, culture and the general way of thinking and values of Greek companies and their managers and directors.

Moreover, according to the benefits offered by the adoption of sustainability accounting principles, we conclude that the most important ones, are the helpfulness of understanding and reducing environmental costs and of the compliance with environmental laws. At the same time, the less important benefit, according to our research sample is the increase of a company's profitability.

Finally, we observed a statistically significant correlation between the existing situation, according to the adoption of sustainability accounting by Greek companies, which as we above-mentioned is poor, and the need of the adoption of sustainability accounting and its benefits. More specifically, we concluded to two negative correlations, which is translated as the higher the level of the adoption of sustainability accounting, the more benefits and needs will be covered, so the less of them will remain uncovered. The statistically significant correlation, which we observed between the need of the adoption of sustainability accounting and its benefits was positive, which means that the more the benefits of the adoption of sustainability accounting, the more the existed need. All three statistically significant correlations followed our expectations. The key point is that the already existed situation, according to the adoption of sustainability accounting principles in Greek companies is unsatisfying. Although, we have to mention a presented hope, which lies in the fact of the willing of Greek companies to adopt these principles in the future. This positive wiling was shown, on the one hand through the answers and beliefs of the participants according to the need of the current adoption, and on the other hand, through their answer about the future plan of their managers to proceed to the adoption of sustainability accounting principles.

At this point, and waiting for the future, to determine whether Greek companies will applicate these above-mentioned plans of adoption or not, we consider that with the appropriate environmental policy legislation and the adjustment of curricula, the existing situation would be able to improve significantly and allow corporate executives to understand and apply sustainability accounting practices.

6.2 PROPOSALS

Some useful and interesting subjects for further research, which will complete the results of the current survey, are the following ones:

1. The more targeted research to the application of sustainability accounting to Greek companies, as for example the Greek companies, which are activated to heavy industrial sector. This sector is proposed as targeted, due to the fact that its activities are causing most of the pollutants.

2. The record of the image that will prevail in Greece over a number of years on sustainability accounting issues, in order to determine whether the attitude of Greek companies has changed, in comparison with the present situation.

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ANNEX I. QUESTIONNAIRE

PART A. Demographic and Other Information

1 Gender
   A. Male
   B. Female

2 Age
   A. 18-29
   B. 30-39
   C. 40-49
   D. 50-59
   E. >60

3 Position in the company
   A. Manager
   B. Executive
   C. Employee

4 Education Level
   A. Secondary Education
   B. University Degree
   C. Master's degree
   D. Doctoral Degree

5 Years of working experience
   A. 0-2
   B. 3-5
   C. 6-10
   D. 10+

6 Sector of company's activity
   A. Services
   B. Production
   C. Construction
   D. Wholesale/Retail Sale

E. Other

7 Number of employees occupied in the company
A. 0-10
B. 11-30
C. 31-50
D. 51-100
E. 100+

8 Is the company listed on the stock exchange?
A. Yes
B. No

PART B. The Existing Situation

9 Do you think the existing accounting system is sufficient to deal with environmental problems effectively?
A. Not at all
B. Not so much
C. Moderately
D. Maybe
E. Absolutely
F. I don't know

10 Do you think there is a need for a separate sustainability accounting standard?
A. Not at all
B. Not so much
C. Moderately
D. Maybe
E. Absolutely
F. I don't know

11 How well do you know what Sustainability Accounting is?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don't know

12 To what extent does your business have a sufficient number of people who are responsible for environmental actions of the company?

A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

13 To what extent have environmental accounts been incorporated into your company's official financial statements?

A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

14 Is the introduction of an environmental management system in the plans of your company?

A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

PART C. Reasons for cultivating specific conditions

15 Do you believe that the lack of accounting standards is the reason why many companies do not apply sustainability accounting practices?

A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

16 Do you believe that ignorance of the benefits of sustainability accounting is the reason why many companies do not apply environmental accounting practices?

A. Not at all
B. Not so much

C. Moderately
D. A little
E. Absolutely
F. I don't know

17 Do you think that the fact that sustainability accounting is not mandatory is why many companies do not apply environmental accounting practices?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don't know

18 Do you think that the difficulty in objectively measuring sustainability costs and benefits is the reason why many companies do not apply sustainability accounting practices?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don't know

19 Do you think that the lack of relevant education about sustainability accounting, as it is not taught in economic educative programs, is the reason why many companies do not apply sustainability accounting practices?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don't know

PART D. Quantification of the need for sustainability accounting practices

20 Do you think your company should adopt an environmental accounting system?
A. Not at all
B. Not so much
C. Moderately

D. A little
E. Absolutely
F. I don’t know

21 How much do you agree that environmental costs should be separated from other business expenses?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

22 To what extent do you consider the General Accounting Standard to be the key factor in achieving environmental cost segregation?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

23 To what extent do you think that the company's internal mechanism is the key factor in achieving environmental cost segregation?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

24 How much do you agree that when environmental costs increase the value of an existing asset, it should be considered an asset?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

25 How much do you agree that when environmental spending improves the security of an existing asset, it should be considered an asset?

A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

26 How much do you agree that when environmental spending improves the efficiency of an existing asset, it should be considered an asset?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

27 How much do you agree that when environmental costs reduce the environmental contamination that is likely to be caused in the future, they should be considered as an asset?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

PART E. Sustainability accounting benefits

28 To what extent do you believe that sustainability accounting provides a better estimate of the total cost of the product produced?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

29 To what extent do you believe that sustainability accounting helps management make decisions?
A. Not at all
B. Not so much
C. Moderately

D. A little
E. Absolutely
F. I don’t know

30 To what extent do you think sustainability accounting improves product pricing?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

31 To what extent do you believe that sustainability accounting increases profitability?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

32 To what extent do you think sustainability accounting is a competitive advantage?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

33 To what extent do you believe sustainability accounting helps to comply with environmental laws?
A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

34 To what extent do you believe sustainability accounting helps to understand and reduce environmental costs?
A. Not at all
B. Not so much

C. Moderately
D. A little
E. Absolutely
F. I don’t know

35 To what extent do you believe that sustainability accounting helps improve a company's image and reputation?

A. Not at all
B. Not so much
C. Moderately
D. A little
E. Absolutely
F. I don’t know

END OF QUESTIONNAIRE

THANK YOU FOR YOUR TIME!