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Planning to Incorporate Sustainability Dimensions into Enterprise Strategy: A Literature Review

Master of Science Thesis in the Master's Programme International Project Management

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Department of Civil and Environmental Engineering
CHALMERS UNIVERSITY OF TECHNOLOGY
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ABSTRACT

There are thousands of articles about sustainability management but the number of these, which tackle the subject of planning to incorporate sustainability dimensions into enterprise strategy, is relatively limited. Sustainability in project management has a great growing interest from both governmental authorities and enterprises besides academic people and other individuals all around the world.

Purpose: For the significant importance of the planning in any project like sustainability development this research focuses on presenting and elaborating selected theories in sustainability strategic management in enterprises which can be used in the planning stage of sustainability development projects.

Method: This thesis is a literature review study that presents the opinions and the results of other researchers' works and tries to conclude lessons from their theories. The selection criteria of the used literature and other sources are elaborated in the methodology chapter in Part 2.

Theory: It includes, but not limited to, planning guidelines and key factors which have an important role in the decisions making process of the planning stage like stakeholders, drivers and barriers for enterprises from any size.

Conclusions: Important key decision factors must be given great attention by managers when planning for sustainability strategies for instance: cost, time, risk and stakeholders. ISO 14001 (2004) and Sitnikov (2013) are suggested schemes which can be used by enterprises as planning guidelines.

Key words: sustainability planning, key factors, enterprise, ISO 14001.

Paper type: Master thesis study.

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Preface

In this study the reader will get a chance to have an idea about how to plan for sustainability development strategies in enterprises of any size or business activities by executing a literature review of carefully selected literature in the subject.

The study is divided into six main parts which include 12 chapters as in the following order:
Part 1: Introduction
        Chapter 1: Introduction
Part 2: Methodology
        Chapter 2: Methodology
Part 3: Sustainability; the new strategy
        Chapter 3: Sustainability philosophy by literature and enterprises
        Chapter 4: Strategic thinking and planning
Part 4: Planning stage's key factors
        Chapter 5: Managing stakeholders
        Chapter 6: Managing risk
        Chapter 7: Drivers for sustainability
        Chapter 8: The expected benefits of sustainability
        Chapter 9: The expected barriers for adopting sustainability
        Chapter 10: Ambiguity concerning sustainability
Part 5: Planning guidelines
        Chapter 11: Sustainability planning guidelines
Part 6: Conclusions and recommendations
        Chapter 12: Conclusions and recommendations

This study has been conducted by me solely during 2013 under the guidance of my two supervisors: Assistant Professor Martine Buser and my examiner Associate Professor Petra Bosch-Sijtsema at the same department.

I urge management students, companies' strategic and environmental managers and individual interested readers in the subject of planning for sustainability to read this thesis and, maybe, keep a copy of it in their literature data base as a long-time source of sustainability and strategic planning theories since it has been made as a literature review study.

Kind regards,

Badeel Al-Mahdawiy
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Part 1:

Introduction

1 Introduction

In 1966 Nobel laureate Macfarlane Burnet introduced in a lecture one of the first definitions for sustainability when he said "The resources of the Earth must be maintained for the use and enjoyment of future generations in a measure not less than we now enjoy" (Burnet, 1966, cited in Blutstein, 2003, p. 339). In 1987 the word "sustainability" was coined and adopted for the first time at the level of the United Nations in the famous report of Dr. Gro Brundtland "Our Common Future" (*Our Common Future,* Brundtland 1987; 'Gro Harlem Brundtland' 2012). After the date of the Brundtland' report sustainability turns out to be one of the most exciting management topics in the last few years for firms, organizations, governmental authorities and academic researchers. There is a rapid growing interest from decision makers, like CEOs and top managers, around the globe to drive their companies towards sustainability since they have great faith in gaining a promising future prosperity.

Adopting new sustainability strategies should not be a blind adventure but a well-planned winning battle with losses as little as possible. That's why many researchers and managers believe that the planning stage is the most important one in the cycle of a sustainability development project where the results of the next stages depend a lot on the accuracy of the proposed plans. Therefore great attention, allocation of time and resources besides the experience are needed at this stage. Pojasek[2] (2012, p. 78) argues that many believe that the planning stage of sustainability represents 66% to 80% of the sustainability cycle.

Planning for integrating sustainability development strategies and embedding them into the backbone of the management system has always been a big challenge for most of the enterprises around the world for several reasons. Koho et al. (2012, p. 422) argue that it is a "gigantic challenge" for some enterprises to realize and meet the requirements of sustainability development. Hiring experienced employees or consultants, using benchmarking techniques to make comparison with other

enterprises in the same business and using academic literature are a few solutions that enterprises can use to help resolve this challenge.

For any size of enterprise the management needs to design the most proper and manageable scheme to facilitate its transition towards sustainability and examine the elements which can affect the strategic decisions in the planning stage. Small and medium enterprises (SMEs) often have a hard time turning their ideas and goals of sustainability into pragmatic management actions or designing the right framework to incorporate the desired change. They usually have less resources and financial power than the larger ones and therefore they face different challenges when planning for incorporating sustainability. Large firms overcome such problems using their rich resources to set reasonable budgets for the additional costs plus the possible contingencies and allocate sufficient numbers of skilled managers to steer the change.

Academic scholars like to categorize enterprises into two main groups for researches' purposes based on the size of the firm, which can give an indication of their generated wealth and number of employees. These include small and medium enterprises (SMEs) and large enterprises. Crals and Vereeck (2005, p. 176) argue that SMEs represent around 95% of the total number of private enterprises in several countries and they share about 26% to 60% of the total national export depending on the country. The European Commission classifies small enterprises as the ones with less than 50 employees and an annual turnover of less than ten Million Euro while medium size enterprises have less than 250 employees and generate less than 50 Million Euro of annual turnover *(Small and medium-sized enterprises (SMEs): What is an SME?,* European Commission, 2013). This view is not shared by everyone, Campos (2012, p. 143) a researcher from Brazil, claims that small enterprises usually are the ones with 10 to 99 employees and a maximum annual turnover of US$ 1.2 Million.

Sustainability, for a large number of firms, is a voluntary initiative or a needed uncertified change unless an enterprise works on receiving a recognized certification by a local or international authority. For this purpose the enterprise's management

strategies will be assessed according to certain criteria or will be measured using sustainability benchmarking tools. Therefore it is difficult to get a consensus between researchers and managers who consider sustainability as a needed voluntary uncertified development on the details of the transformation plans which may differ from each other depending on the circumstances of each enterprise.

Enterprises, in the planning stage, usually set and weigh their drivers for adopting sustainability and the possible benefits and difficulties which can be different from an enterprise to another. This planning process, which is supposed to be professional and realistic, will help the enterprise to make a wise decision about the proposed change. León-Soriano et al. (2010, p. 266) conclude that a successful outcome of sustainability planning in enterprises should be based on a step-by-step careful planning, using professional people with good experience and training in strategic planning and sustainability and involving the stakeholders in the design of the new strategies.

Regardless of the decision whether to consider sustainability or not, and the possible difficulties which could arise from adopting sustainability, firms should always seek to improve their sustainability performance as it creates value in the long-run (Sommer, 2012, p. 3).

There are a limited amount of articles that focus on the planning stage of sustainability in enterprises which give an applicable holistic view of the main structure of this stage and connect its elements wisely. Based on the pervious facts this study has been devoted to collect and examine essential theories from literature and other sources which can be used by firms to help them in the planning stage of the sustainability development project. Traditional strategic planning management literatures have been used in conjunction with sustainability management literatures to get a clear insight about the subject of this thesis. The collected information with its analyses is documented in this study for the purpose of accomplishing the master thesis as a mandatory part of the master programme of International Project Management at Chalmers University of Technology in Sweden.

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The conclusions and the learned lessons can help CEOs, directors, decision managers, researchers and students in the field of sustainability, environmental or strategic management and other interested individual stakeholders from the public or the private sectors to perceive the elements of the planning process which are used by firms on their road towards sustainability. This study is also an attempt to attract the attention to the importance of the planning stage as a crucial foundation of the next stages of building a sustainable enterprise and the fact that there is an urgent need for further specialized studies in this field to cover the different possible gaps which the academic literature may not have covered yet.

1.1 The aim and the research question

This study aims to present sustainability in businesses and how an enterprise, from any size or business activity, can plan to adopt it as a new strategy in its management system based on theory from contemporary literature. For the aforementioned purpose this study will review and discuss selected theories from literature and international organizations in the subject of planning for sustainability to discover, discuss and comprehend important key factors like stakeholders, drivers and barriers which play vital roles in the decision making of top management in the planning stage of the sustainability development cycle project for any enterprise in the world. Furthermore this study will suggest and discuss some suggested planning schemes/ guidelines for certified or voluntary sustainability initiatives. Based on this foreseen query the research questions this study tries to answer are:

1. How can enterprises of different sizes plan to incorporate sustainability strategies?
2. What are the key factors to consider when planning for sustainability strategies, based on literature?

1.2 Thesis structure

Table 1.1 shows the main 12-chapter structure of the thesis including short details about the purpose of each chapter.

Table 1.1: The structure of the thesis showing the main chapters

Title	Planning to Incorporate Sustainability Dimensions into Enterprise Strategy: A Literature Review
Part 1: Introduction	
Ch. 1	**Introduction** This chapter presents a brief background of sustainability, sustainability development and general considerations when planning for sustainability. It explains the importance of this study's subject. Following by the aim of the study, the research questions and the study structure.
Part 2: Methodology	
Ch. 2	**Methodology** This chapter explains how the research has been conducted, what theory has been used and how this theory has been collected. It includes the limitations of this study and the research ethics.
Part 3: Sustainability: the new strategy	
Ch. 3	**Sustainability philosophy between literature and enterprises** This chapter is sought to define the term "sustainability" and its elements, both by literature and enterprises.
Ch. 4	**Strategic thinking and planning** What are the concepts of strategic thinking, strategic planning and strategic decision making? This chapter talks about these topics. SWOT and benchmarking are tackled as well.
Part 4: Planning stage's key factors	
Ch. 5	**Managing stakeholders** This chapter tries to answer important questions about stakeholders; for example: who are they? How can be managed? And why?
Ch. 6	**Managing risk** This chapter elaborates on risk, the importance of managing it and how can be managed.

Ch. 7	**Drivers for adopting sustainability**
	There are many drivers for sustainability. This chapter discusses the most important ones for both large and small-medium enterprises (SMEs) and show possible differences between the two categories. The drivers for adopting ISO 14001 will be elaborated briefly.
Ch. 8	**The expected benefits for adopting sustainability**
	The main benefits for enterprises of different sizes are tackled in this chapter and the benefits of adopting ISO 14001 as well.
Ch. 9	**The expected barriers for adopting sustainability**
	This chapter presents the expected difficulties that both large and small-medium enterprises can face when adopting sustainability strategies such as ISO 14001.
Ch. 10	**Ambiguity concerning sustainability**
	This chapter criticizes sustainability theory.
Part 5: Planning guidelines	
Ch. 11	**Sustainability planning guidelines**
	This chapter presents selected theoretical schemes from literature and international organizations, which can be used as guidelines to incorporate sustainability into the enterprise's management system.
Part 6: Conclusions & recommendations	
Ch. 12	**Conclusions & recommendations**
	A summary that gives an overall view of the study and the lessons learned. The reader should find brief answers of the research questions and suggestions for further related study opportunities. The lessons chapter is the presentation of the gathered theory without any deep discussion or manipulation.
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Part 2:

Methodology

2 Methodology

The purpose of the methodology chapter, according to Hart (2012, pp. 429-430), is to explain to the readers how and why the author performed the research and to answer possible questions readers may have about the thesis itself; for instance: what type of thesis is it? What are the research methodologies? Or to answer questions about the used data; for example: how has the data been collected? Why the author chose this data? And what is the reliability of the collected data. Flick (2006, p. 306) states that the methodology should give hints about what the selection of passages should be focused on. According to Rudestam and Newton (2001, p. 75) the methodology chapter offers a clear and complete description of the steps that have been used to address the research questions.

2.1 About this study

Sustainability has a growing attention of governments, academic researchers, enterprises and media, and a topic that attracts a big concern in today's society (Taticchi et al., 2013, p. xi). It is a trend, a fast emergent business and a main subject in steering managers' strategic meetings. These were a few important reasons that made the author of this study so keen to have sustainability planning as the subject of the most important module of his two-year master degree.

This study is a literature review which is based on an argument of selected sources from chosen academic literature and international organizations' certificates, documents and studies both private and governmental ones which have been reviewed and analysed to present theories that help planning for incorporating sustainability into the enterprise management systems and its daily business actions. In case of a literature review thesis the results of the research will not be statistical but a summary of what has already been identified in the reviewed literature (Hart, 2012, p. 146). Since there is a fast amount of literature concerning sustainability, this literature review tries to give an insight in the research performed concerning planning for sustainability in organisations.

Chalmers University Library uses "360-Core ERM" of Serials Solutions Company as the provider for its enterprise resource management (ERM) service. This search engine was the main source for gathering the literature which has been used in this study from creditable academic publishers; for instance: Emerald Management Plus, ProQuest Dissertations & Theses, SAGE Premier, Springer Journals and Wiley-Blackwell. Some journals were great sources for the used theory; such as: the Environmental Quality Management Journal and the Journal of Cleaner Production. The open-web sources from Google search engine were used as well as extra sources for information in this study.

Using the results of other researchers can bring different advantages for the user: it saves a lot of time and money, it gives the researcher a chance to get results from different views and perspectives which will be of great benefit to make additional analyses and comparisons. Another important fact is that these studies have been done by professional researchers who have concrete experience in research and academia which means the user, like the author of this research, will get very reliable data to use in his research.

By doing a comprehensive literature review from a wide range of sources the author's goal of this study was to find the most proper theories which can give reasonable academic clarifications for the subject "planning for sustainability in enterprises" and unravel the research problem by answering the research questions. According to Hart (2012, pp. 143-147) the literature review thesis (dissertation) has its benefits such as:

- Giving a deep understanding of the origins and the foundations of the thesis' theoretical, philosophical and methodological aspects.
- A greet chance to expand the authors' abilities to carry out comprehensive critical thinking and evaluation.
- It has a "long shelf-life in terms of personal understanding and the long-term contribution the…dissertation can make to the literature" (Hart, 2012).
- This kind of thesis can help to clarify and understand the problem of the research and make the reader aware of it.

The selection process of the used literature in this study took several weeks of an intensive search prior to the study and in the early phases of this project before the actual writing work started. Afterwards this process continued in parallel with the writing work, almost until the end of the study period, but with a slower pace since there was always a need to add, revise and update the thesis according to the instructions of this study's supervisor and the need of the author to introduce a valuable piece of academic work.

The process of finding the literature and material which has been used in this study can be described as the following:

- In the beginning of the searching process general words have been used to search for relevant literature on Chalmers University Library's web site; for example: sustainability, sustainability planning, sustainability dimensions, sustainability strategies, drivers of sustainability, barriers of sustainability and ISO 14001. Usually every search event would result with thousands of different titles, in many research fields and from several specialities journals and publishing companies.

- The next step was to look for the most relevant headings in the first 100 resulted titles.

- If there was no interesting title from the above first 100 headlines, the search results was narrowed down by using the "Subject Terms" function, to more specific subjects; for instance: management, sustainability, environment, enterprises, SMEs and planning.

- The abstract was read from the library page or from the literature page in order to get an idea whether that certain literature would be useful for the study or not.

- The whole content or the body of the text especially the findings section was scanned through if the abstract seemed interesting.

- If the information in the source was interesting the usefulness of employing it was judged in this study by accessing the possible reasons/ criteria which could make it fit into certain chapters or sections in order to elaborate the research aim and answer the research questions.

- Some of the criteria which have been used to judge the suitability of the used literature were for example:
  - The literature was found on a known academic search engine.
  - The literature has been published in a known academic journal and/ or by a famous academic publishing company.
  - The theory was made for businesses and not for governmental authorities.
  - The findings of the study were based on empirical research.
  - The exhibition of the information, the scientific arguments and the results were systematically compatible and present a clear, complete and detailed subject.
  - The literature has been cited in other academic works.
  - The theory has been used successfully in practice by a number of firms.
- The search for information was limited to books, book chapters, journal articles and academic theses/ dissertations from the ones which are available online to save enormous time and efforts when comparing this to using the traditional shelf literature method.
- Since sustainability is a relatively new subject in management and since the academic understanding and researches are updated continuously with new trends, ideas and inventions this study has mainly targeted literature from the ones written in the last ten years.
- ''Google'' search engine has been used as well to find other relevant material for this study; for instance: enterprises' sustainability reports, information from international organizations and information from other academic sources which was of a great help for this study.

2.2 General criteria for evaluating academic information

Table 2.1 shows some criteria which has been suggested in a document from Michigan-Flint University (UM-Flint, *Evaluate Information*, 2007) in order to judge the quality of academic information. Some of these criteria have been used to select this study literature.

Table 2.1: Suggested criteria to evaluate information in academia, source: UM-Flint, 2007

Credibility (Accuracy) of the research	- The provided information has been based on verified facts. - The material has been published in peer-reviewed and/or scholarly journals. - Similar information is available in other peer-reviewed and/or scholarly journals.
Author (Authority) credibility	- The author of the information is affiliated with an organization or a university that has a good reputation. - The author's academic degree, experience and background. - The author has academic publications in peer-reviewed or scholarly journals.
Information coverage and relevance	- The covered information meets the reader's needs.
Currency (timeliness) of the information	- When was the information published or updated?
Objectivity (bias) of the information	- The information is informative, objective and not biased politically or socially or commercially. - There is sufficient information about the publisher.
Existence of sources	- There is a list of cited references. - The findings are supported by adequate information.
Publisher credibility	- The authority has a professional website with clear information. - It is easy to find and use the information of the publisher. - The references and the links are accurate and credible. - There is contact information of the author and the authority (organization, university, enterprise, etc.).

Scott (1990, cited in Flick, 2006, p. 248) suggests four criteria to test the quality of a document which are: meaning, authenticity, representativeness and credibility. According to Flick (2006, p. 248) credibility refers to the reliability of the document's author, the accuracy of the information in the document and being free of errors. Several authors, as cited in McWilliam (2000, p. 78), expect a researcher to refer in his or her research to past studies dealing with similar or the same research topic. McWilliams expects the authors to provide valid and reliable evidences about their background, the data they have collected and to show in a descriptive logical way how they came to their findings and conclusions (McWilliam, 2000, p. 79). The validity of any research, according to Altheide & Johnson (1994, cited in Whittemore et al., 2001, p. 523), represents the truthfulness of the findings while for Whittemore et al. (2001, p. 529) credibility, methodological integrity, completeness,

comprehensiveness, transferability, applicability and consistency can be items of the criteria.

2.3 Research limitations and difficulties

According to Hart (2012, p. 376) the research limitations show what is included in the research and what is not included and it is "the degree of breadth and depth" the author intends to choose for his/her research which needs to be framed by the available timespan of the author and according to his/her academic skills. Flick (2006, p. 306) argues that there are endless possibilities when doing research to compare passages with each other and to solve this problem he suggests to make a rational balance between the chosen information and to create a list of priorities. He believes that the biggest problem when analysing a document is how to envision the relation between implicit and explicit content with attention to the context (Flick, 2006, p. 252).

Most researchers have experienced the weak response of the invited entities, like individual people or companies, to their studies. In some cases neither one company would participate especially if they consider the needed information is critical for the business and confidential. Salazar et al. (2012, p. 102) argue that one obstacle that faces academic researchers always is the resistance of the business people to reveal real figures related to the financial status of their businesses. Another kind of difficulties that could face any researcher in the field of sustainability management is the numerous usages of the term "sustainability" in literature. Some researchers have used sustainability to refer to a long-life lasting business rather than using the environmental, social and economic means of sustainability to achieve this goal.

There are thousands of academic literature and organizational reports in the subject of sustainability but there is still a gap which needs to be filled in contemporary literature for more up to date studies in the subject of planning especially for small and medium enterprises (SMEs). This was an interesting gap in literature for this study. For its purpose a large sum of data from different sources has been collected which can be used to help enterprises of any size to achieve the first stage, the "Plan" one, of the Plan-Do-Check-Act (PDCA) sustainability development cycle in project

management. Literature in generic strategic planning and strategic management have been used as well to gain an insight into the whole subject and draw a red thread between sustainability strategies and the closed related theories in other fields of management which can be very useful to support the subject. All the theories which can be used to help enterprises in the Do-Check-Act stages have been neglected.

According to the continuing change of sustainability trends with time from researchers and enterprises looking for information about sustainability in literature of more than ten years of age was not of great help to investigate the subject of this thesis. The author has contacted several enterprises trying to arrange for interviews or conduct a survey but since the targeted interviewees were CEOs and high level of managers and since the subject of this study tackles a very sensitive business issue none of them accept to participate.

The testing process of any suggested strategic plan in practice can take at least two years to show the level of its success or failure. Since there was only a few months to execute this thesis, a literature review study was conducted in order to save time, money and get the chance to analyse and present the work and academic opinion of different researchers in the field to enrich the quality of the study.

2.4 The research ethics

Research ethics is a subject of growing interest and sensitivity since the ethical issues confront every writer and researcher at many stages of his/ her work. According to Rudestam and Newton (2001, p. 276) "confidentiality, coercion, consent, care and communication" are important principles which need high attention in research ethics. The author of this study made his best to follow the local and the international guidelines of academic research ethics when collecting, storing, reviewing, evaluating and treating the data that has been used directly or indirectly into this work regardless the source of data.

Part 3:

Sustainability

; the new

strategy

3 Sustainability philosophy by literature and enterprises

The sustainable development has been defined so disparately that Murcott (1997) could distinguish 57 different uses for the term (Egelston, 2013, p. 26). Taticchi et al. (2013, p. xi) argue that sustainability as a concept is very close to the concept of "quality of life" where the focus is to maintain the societies well-being over time. Pojasek[3] (2012, p. 93) states that "sustainability can assume a variety of meanings when viewed from different perspectives". Individuals may look from different angles at the wide meaning of sustainability and how it should be translated into actions according to their personal interests. Sustainability for politicians could mean how to sustain national resources and fairly distribute them for a long period of time across the whole country. For societies sustainability could mean an enhanced public healthcare service which can lead to a better quality of life for each individual. As for some enterprises sustainability could mean how to improve the company's image and cut costs. Burke and Gaughran (2007, p. 696) argue that "the term ''sustainability'' has no agreed international definition".

The Association for Project Management (APM) gives a general definition of sustainability that suits a wide range of organizations where it says that: "Sustainability describes an environmental, social and economically integrated approach to development that meets present needs without compromising the environment for future generations" (APM BOK, 2012, p. 230). Sweeney (2007, p. 519) has mentioned some alternatives for the name "sustainability" which has been used by firms; for example: corporate social responsibility, corporate citizenship and corporate responsibility. Epstein and Buhovac (2010, p. 306) think that Corporate Social Responsibility is now often termed "sustainability".

Several authors, as cited in Sweeney (2007, p. 519), argue that the term "cooperate social responsibility (CSR)" can be "confusing" and/ or "uncomfortable" for both SMEs and large firms as well and this is mainly because of the word "social" which could limit CSR management actions to social issues only.

3.1 Dimensions of sustainability

Several scholars have articulated the dimensions of sustainability before John Elkington introduced his concept the "Triple Bottom Line (TBL)" also known as "People-Planet-Profit (3PL)". The Triple Bottom Line (TBL) suggests environmental, social and economic factors as the three main dimensions for sustainability. Elkington's definition seems to be more acceptable by organizations from the microeconomic point of view instead of the macroeconomic one of Brundtland (Gimenez et al., 2012, p. 150). Figure 3.1 shows the three dimensions of this concept according to Elkigton's definition ('Triple Bottom Line', 2013).
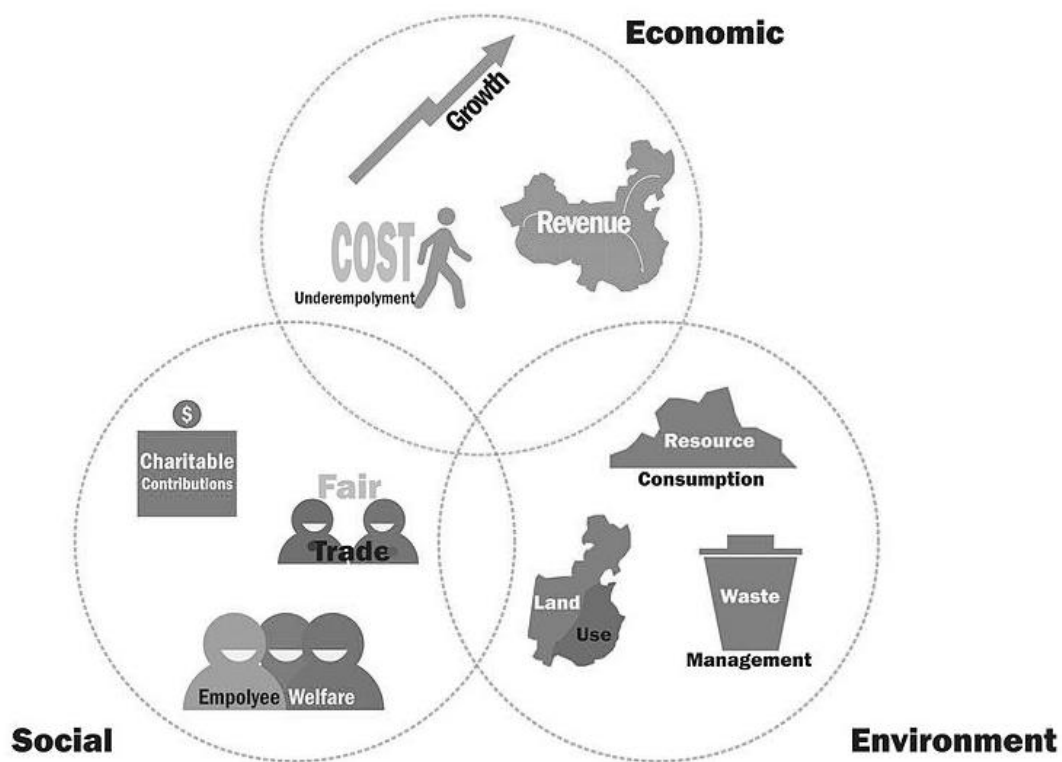
Figure 3.1: The Triple Bottom Line concept, source: 'Triple Bottom Line', 2013

Academic scholars have different views about the importance and the number of sustainability dimensions. Dyllick and Hockerts (2002, cited in Aras and Crowther, 2009, Ch. 1) like to consider the social and environmental dimensions of sustainability as the most important ones. Aras and Crowther (2009, Ch. 1) propose a fourth dimension for sustainability which they name "organizational culture" that focuses on the relation between the organization and its internal stakeholders, mainly

its employees. In fact this idea sounds like a trial to divide the social element into two parts by distinguishing between different stakeholders of the corporate.

According to the Global Reporting Initiative (GRI) sustainability reporting guidelines for 2011 (*sustainability reporting guidelines v.3.1*, GRI, 2011, pp. 25-38) the economic dimension of sustainability concerns the impacts of an organization at the local, national and global levels of the economic systems and the impacts on the economic conditions of the organization's stakeholders. The social sustainability concerns the impact that an organization has on the social systems in any place where it has business activities; this may include aspects like labor practices, human rights, society, and product responsibility and finally the environmental sustainability concerns the impacts that an organization has on the nature which includes the land, water, and air (*sustainability reporting guidelines v.3.1*, GRI, 2011, pp. 25-38). Wheelen and Hunger (2012, p. 8) define environmental sustainability as "the use of business practices to reduce a company's impact upon the natural, physical environment".

3.2 Sustainability in enterprises

Sustainability for some enterprises can be a difficult concept to understand and apply (Pojasek[1], 2012, p. 83). According to the Global Environmental Management Initiative (GEMI) some enterprises have used different terms in referring to sustainability development for instance: corporate responsibility, corporate citizenship and sustainable growth (*GEMI SD Planner* [TM] *& SD Gateway User Manual v. 3.1*, GEMI, 2008, p. 4).

Nowadays the focus on the social, environmental and economic elements to define sustainability is a view shared by many enterprises. Dow Jones Company states that: "Corporate Sustainability is a business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments" (*Corporate Sustainability*, Dow Jones Sustainability Indexes, no date). This vision about sustainability seems to be the most

suitable one for many large companies with international versatile business activities. Siemens, the German multi-manufacturing giant, for instance defines sustainability as: "acting in the best interest of coming generations – with respect to the economy, the environment and society" (*Sustainability,* Siemens, 2012).

For some large enterprises like the Swedish medical manufacturer Elekta, sustainability is to improve the company image by focusing on their ethical responsibility towards the stakeholders and the environment, thus Elekta believes that: "Sustainability means that our relations with employees and partners are based on a responsible business conduct built on trust… also means that we strive to continuously reduce our environmental impact, in our proprietary operations and during the lifecycle of our products" (*Sustainability,* Elekta, 2012). Focusing on delivering green products is a known strategy of small firms in order to increase their competitiveness between the big players in the markets and a way to interpret their understanding for sustainability in businesses. For instance the sustainability policy of Savons Prolav Inc. ,(Bio-Vert[TM] cleaning products) a small company from Canada, is: "to reduce the impact of human activity on the environment must be reflected not only through developing and marketing green household cleaning products, but also by adopting green practices" (Bio-Vert, *Sustainability policy*, no date)**.**

As a recap of Entry 3.2 it is possible to say that most enterprises focus equally on developing the three dimensions of sustainability in their strategic management actions. Some enterprises give more attention to environmental issues and stakeholders relation in order to improve the company image and to avoid problems with both authorities and communities. This in turn will increase the company competitive advantage and profitability.

4 Strategic thinking and planning

The planning stage, of any strategy, needs much more analytical thinking than the other stages since it has a lot of complexity and environment changes (Wheelen and Hunger, 2012, p. 27). Creative ways may possibly be tested in the planning stage; such as: the maximum use of both external and internal resources of the enterprise (Unhelkar, 2011, p. 309). In strategic planning there is no "one size fits all" approach since every firm has its particular elements and circumstances (Kinter, 2008, p. 39). Brent et al. (2007, p. 405) argue that the sustainable development's basic principles and objectives can be understood through theories but it is difficult to obtain in practice a consensus on details of how to maintain sustainability or how to achieve sustainable development which can be attributed to the variety of opinions that change over time. Thus, two enterprises of the same business activities and size category working in the same geographical area can have two different planning scenarios depending on many variables such as their financial capabilities and the pressure of their stakeholders. Regardless the included details of any sustainability plan it is good to acknowledge the fact that the three environmental, social and economic dimensions of sustainability should be equally important when integrating sustainability into the management system as Aras and Crowther (2009, Ch. 1) argue as well as several other researchers.

When mangers decide to embed new sustainability strategies, after identifying all the important aspects of the new plan, they must reformulate the enterprise's goals, values and commitment (Epstein and Roy, 2001, p. 591). This action will refocus the attention of all the employees on areas of high concern for the business according to the newly identified goals and targets. A report by the Chartered Institute of Management Accountants (CIMA) (*SMEs Set Their Sights on Sustainability*, CIMA, 2011, p. iv) recommends the following few steps in the planning stage to implement sustainability in enterprises of any size:

- Taking a broad view of the entire process. Understanding the key drivers and the expected opportunities for the enterprise. Finding innovative ways, like recycling and energy saving, to create benefits for the stakeholders which will yield different benefits for the enterprise.

- Defining clearly what sustainability means to the enterprise so that everyone knows his/her goals and measures.

- Engaging all the enterprise's stakeholders in the planning and addressing their needs. Pojasek[1] (2012, p. 96) believes that the stakeholders' engagement plays a key role when practicing sustainability.

Sustainability engagement, as any other management development action, involves risks which need to be managed carefully. Some supporters suggest embedding sustainability as part of the risk management system of the enterprise (Pojasek[2], 2012, p. 77). Planning for sustainability can go in parallel when planning for risk analysis and then risk assessment where every side can take advantage of the other. Having a sustainability certification has great benefits in terms of risk control (Tsai and Chou, 2009, p. 1445), while risk assessment and its methodologies like costs and benefits is an example of knowledge based first approach for sustainability by determining the costs, the expected benefits and then making decisions accordingly (Sarewitz et al., 2010, p. 3).

Whether the enterprise is going to adopt a whole sustainability programme or the environmental dimension only, in both cases the success in this mission cannot be secured without a wise evaluation of the role and the impact of all the key factors which can affect the whole business. The enterprise's stakeholders, the drivers for any management action or the barriers to the new strategy are examples of important key factors which need to be examined and assessed in the planning stage before taking any strategic decision. Ignoring these requirements or responding to them poorly could cause enormous losses or even failure of the whole management system and the enterprise.

4.1 Problem solving

Seen and unseen problems are part of any strategic change which needs to be identified and managed in the planning stage. Thus, decision-makers responsibility is to understand both the problems and their contexts and be well prepared with proper

management tools whether they were complicated or simple. Sustainability development, as a common strategic change in enterprises, can be a good source of different sorts of environmental, social or economic related problems which can pop up at any point in the plan. The occurring of such problems during the planning process is a normal event since most of them are management issues waiting for solutions. Managers need to solve them wisely in the right time as part of the needed expertise in this important stage. Some managers have great skills that can help them turn such problems to business opportunities.

Wright and Goodwin (1999, p. 311) argue that decision analysis enable complicated problems to be divided into sub-problem in order to focus the attention of decision-makers on clear small issues instead of one big fuzzy picture by using logical, axiom-based and formal procedures. Figure 4.1 shows a suggested decision-making procedure when solving one or more problems by Grünig and Kühn (2013, p. 51). The decision criteria which are used in this process must cover the represented goals and allow different options to be assessed (Grünig and Kühn, 2013, p. 82).

Steps one to seven in Figure 4.1 represent the normal generic path for solving a decision problem. In case of complex decision-making which is related to more than one sub-problem in the same time, the sub-problems can be managed in parallel as in Figure 4.1 if they are not dependent on each other, but if sub-problem B is correlated to the outcome of sub-problem A then sub-problem A needs to be resolved before B. The same method can be true in case of a very complex decision-making with many related problems. This principle of dividing complex problems into parts is called "divide and conquer orientation" (Keeney, 1982, cited in Wright and Goodwin, 1999, p. 311).
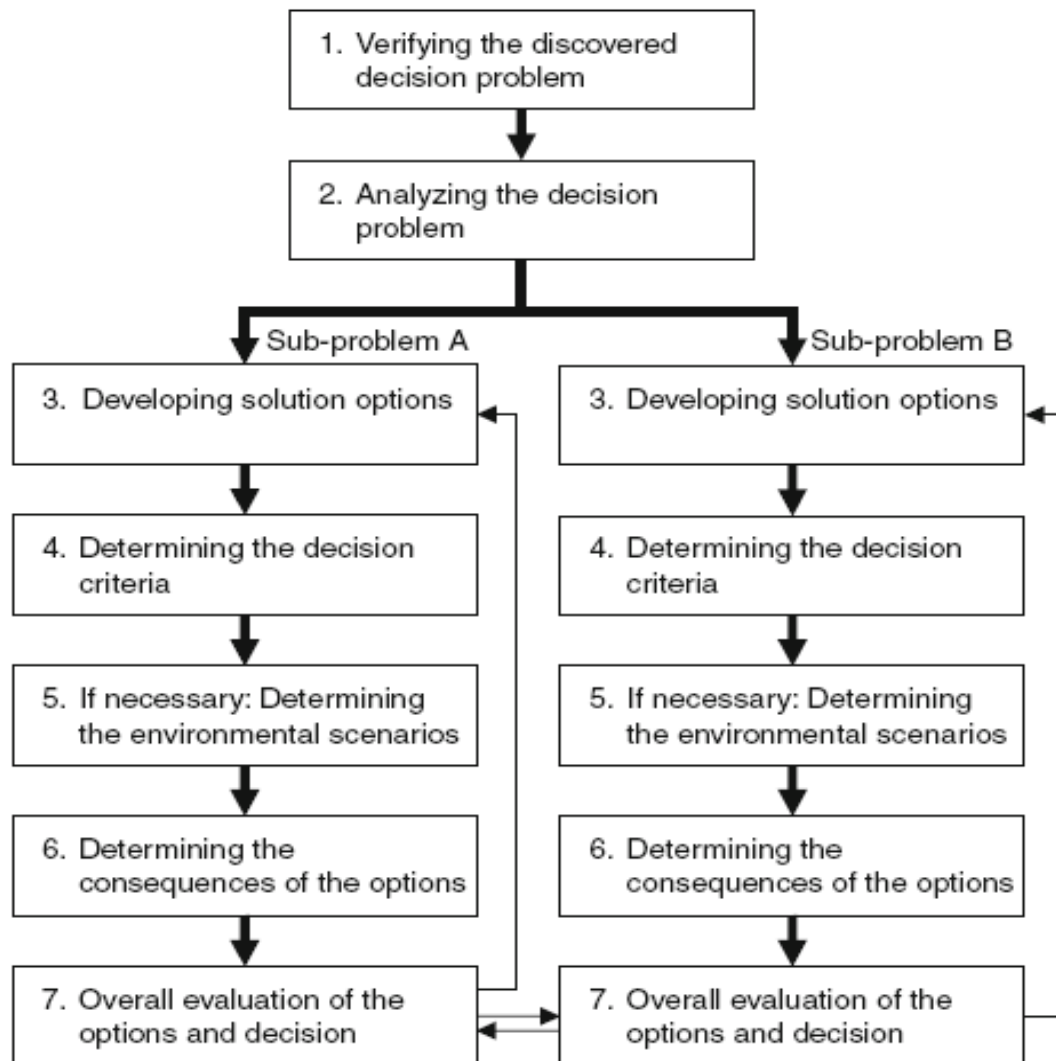
Figure 4.1: Suggested decision-making procedure when solving parallel problems, source: Grünig and Kühn, 2013

4.2 Strategic decision making

In order to make the right decisions, mangers need to realize the objectives of their decisions. This can be done by asking the right people the right questions; for instance: strategic questions shall be directed to senior managers while the correlated outcome questions will be posed to key stakeholders (Parnell et al., 2013, Sec 7.4). Determining these objectives can be done by different techniques; such as: writing a wish list of what needs to be done and the possible alternatives; identifying the present problems in the organization and the possible sources of the future ones; setting the business goals, limitations and the expected future concerns; determining the business strategic and generic objectives especially the ones in relation to key stakeholders and sustainability dimensions; and finally to put the selected objectives

in a structure in order to implement them and measure the outcomes (Keeney, 1994, p. 35). Research, interviews, focus groups and surveys are four methods which can be used to get answers for the decision related questions (Parnell et al., 2013, Sec 7.4).

Epstein and Roy (2001, p. 602) argue that managers need to improve performance, particularly with sustainability strategies, by a better understanding of their decisions and management actions implications, especially the ones related to key drivers and the impact of their firms on the groups of stakeholders. Considering "the principles of sustainable development" in all decisions by managers is a condition for adopting successful sustainability strategies in the business model of any company (Kinter, 2008, p. 39).

There are three possible approaches to make strategic decisions which are: descriptive, prescriptive and normative, where the last one uses the first two approaches as a benchmark against the actual gauged decision making way (Arvai et al., 2012, p. 14). According to Korhonen (2007, p. 52) the prescriptive approach uses statements such as: what this person ought to do or how this way should be, while a descriptive one uses statements such as: how can we do it? Or can a person do task B after task A? Korhonen (2007, p. 55) argues that he prefers to adopt an objective natural approach instead of the "should be" prescriptive one since the first option allows the used methods to be tested in practice and judged according to their usefulness in the decision making process.

Table 4.1 shows an eight-step decision making process which can help in choosing the enterprise strategies suggested by Wheelen and Hunger (2012, p. 27) who claim that it has been used successfully by several enterprises. This process is part of the Strategic Management Model suggested by Wheelen and Hunger (2012, p. 17) who prescribed it as both rational and prescriptive.

Table 4.1: Decision making process to choose a strategy, source: Wheelen and Hunger, 2012

1. **Evaluate the current performance of the enterprise. This includes the mission, the policies, the strategies, the objectives and the financial position**

2. **Review the performance of directors and top management**

3. **Define and evaluate external opportunities and threats of the enterprise**

4. **Define and evaluate internal strengths and weaknesses of the enterprise**

5. **Perform SWOT analysis to find possible problems and revise the enterprise mission and objectives if needed**

6. **Select the best strategy based on the result of SWOT analysis**

7. **Implement the selected strategy**

8. **Evaluate, control and revise the selected strategy if needed**

In steps one to four the enterprise needs to make a comprehensive evaluation for the existing status including all the important elements. A deep understanding of the current position will facilitate making a SWOT analysis, as in step 5, which is the core component of this process since all the decisions for making changes in step six will depend on the authenticity of the results from employing this tool. Step seven and eight are to implement and control the outcomes from the proposed changes. Part IV of this research will explain important key factors when planning to adopt a new sustainability strategy which can be of a great help for top management to take the right decisions in any analysis.

4.3 Tools and methods for strategic planning

There are many different tools and methods, which can be used by decision makers in the planning stage. Grünig and Kühn (2011, p. 70) in Table 4.2 give examples of analysis tools/ methods which can be used in the different steps of a strategic planning

process. Each tool can be used in more than one step but this choice, according to Grünig and Kühn, may give poor results.

Table 4.2: Suggested strategic analysis tools/ methods in the planning steps, source: Grünig and Kühn, 2011

Planning step	Suggested analysis tool/ method
Implementation of strategic analysis	- Global environment analysis - Market system analysis - Identifying strategic success factors - Stakeholder value analysis - Strengths + weaknesses analysis - Identifying opportunities + threats
Revise/ produce the mission statement	Mission statement produce method
Developing enterprise strategy	- Scenario analysis - Five forces model - Strategic groups model - Defining strategic businesses - Corporate options matrix - General Electric + McKinsey Portfolio - Boston Consulting Group Portfolio
Developing business strategy	- Industry segment analysis - Value chain analysis - Generic business strategies - Resource analysis - Network of success potentials
Determining the implementation	- Balanced scorecard. - Strategic program planning

4.4 Multi-Criteria Decision Analysis (MCDA)

Multi-Criteria Decision Analysis (MCDA) techniques/methods is an important part of decision making in management branches like sustainability and even getting more popular with time since they provide solutions for multi-objectives, complex and

conflicting problems (Pohekar and Ramachandran, 2004, p. 365; Wang et al., 2009, p. 2264). The benefits of MCDA are to help firms and individuals to clarify values, objectives and priorities during the process of decision making; and to help the ones who take the decisions to understand the nature of the problems which they are facing (Kaka et al., 2008, p. 67). The 'analytical hierarchy process (AHP)' is the most used method between the MCDA techniques followed by the 'preference ranking organization method for enrichment evaluation (PROMETHEE)' then the 'elimination and choice translating reality (ELECTRE)' respectively where the last two ones are considered as outranking methods (Pohekar and Ramachandran, 2004, p. 365), while 'multi-attribute utility theory (MAUT)' is the most commonly utilized multi-criteria decision technique for environmental decision making strategies (Arvai et al., 2012, p. 61).

According to Wang et al. (2009, p. 2266) the MCDM process usually consists of four main stages, as in Figure 4.2, where every stage includes a few sub-stages.
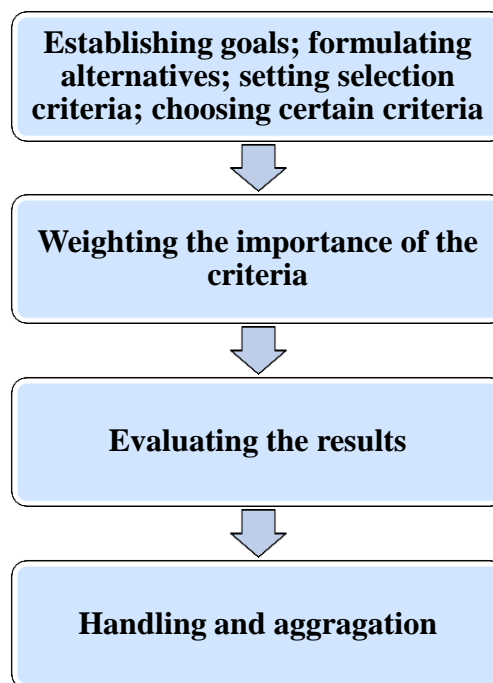
Figure 4.2: MCDA main stages, source: Wang et al., 2009

MCDA provides a "systematic analytical approach" to rank and evaluate different alternatives using a matrix of decision criteria (Khalili and Duecker, 2013, p. 191). It

involves a number of methods/ techniques. Several authors believe that the analytical hierarchy process (AHP) is the most comprehensive subjective technique between the MCDA methods (Pohekar and Ramachandran, 2004, p. 365; Wang et al., 2009, p. 2264; Kaka et al., 2008, p. 68). According to Saaty and Vargas (2012, p. 3) the AHP is "a nonlinear framework for carrying out both deductive and inductive thinking without use of the syllogism". It solves complex MCDA by using both tangible and intangible elements in a hierarchy structure (Kaka et al., 2008, p. 69). Figure 4.3 shows the main hierarchy concept of AHP for structuring a decision problem introduced by Saaty and Vargas (2012, p. 3).
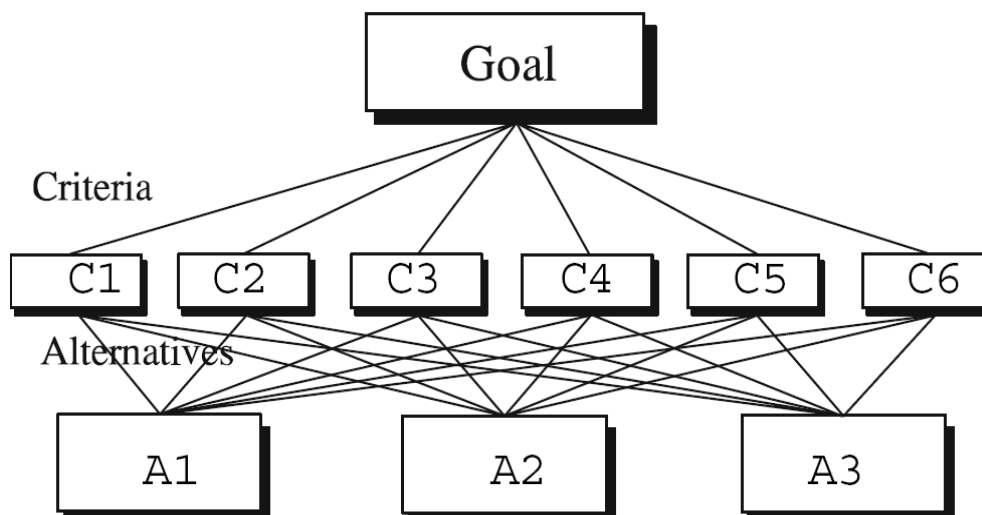
Figure 4.3: AHP for structuring a decision problem, source: Saaty and Vargas, 2012

4.5 SWOT analysis tool

"SWOT": Strengths, Weaknesses, Opportunities, and Threats is a tool which has been used from the sixties to evaluate these elements in both businesses and projects ('SWOT analysis', 2013). According to Wheelen and Hunger (2012, p. 176) when decision-maker managers formulate long-term strategic plans for their enterprise, the process begins with "situational analysis" by using SWOT to find a strategic balance between internal strengths and weaknesses from one side and external opportunities and threats from the other. SWOT analysis can be a very useful tool in any decision making process. David (1986, p. 102) suggests making a SWOT analysis in the planning stage of the enterprise strategy. A survey done in 2007 by McKinsey and

Company, which included 2700 managers, 82% agreed that SWOT is the most used tool in the strategy formulation stage (Wheelen and Hunger, 2012, p. 176). Table 4.3 illustrates a suggested SWOT analysis for a small enterprise that decided to adopt ISO 14001.

Table 4.3: Suggested SWOT analysis for a small enterprise

		Helpful	**Harmful**
Internal		**Strengths**	**Weaknesses**
		• Clear and detailed guidelines. • The capability of the scheme to build on to the existing management system which has been tested by many enterprises. • Officially recognized by authorities. • It cost less money to implement than a whole sustainability plan of a three dimension focus. • It takes less time to implement than a whole sustainability plan of a three dimension focus. • Suitable for any size of enterprise.	• Does not cover the social and the economic dimensions of sustainability. • Does not suggest risk analysis. • Does not suggest stakeholder analysis. • Mandatory added internal cost.
External		**Opportunities**	**Threats**
		• New domestic and international market opportunities. • Increase the competitive advantage of the enterprise by its readiness for any legal pressure from authorities regarding the environmental issues.	• Scrutiny of external authorities. • Mandatory added external cost such as external consultation service.

4.6 Benchmarking analysis tool

Benchmarking can help firms to improve their sustainability programmes by measuring their processes against the practices of other firms anywhere in the world (Pojasek, 2010, 87). It is a tool for evaluating the best practices of competitive enterprises or management processes where the results can be used to create measures to change the performance of the enterprise (Jennings and Westfall, 1992, p. 22).

A vast majority of enterprises from different industries have been reported using benchmarking methodologies as a tool for sustainability practices (Hong et al., 2012, p. 634). Many small and medium size enterprises (SMEs) have no or little knowledge about how to start planning for adopting sustainability. Benchmarking can be a solution for this problem. Nowadays many enterprises from all over the world especially from the large and giant-size ones are using Dow Jones Sustainability Indexes (DJSI) benchmarking criteria to assess their sustainability programmes against their competitors.

Benchmarking can help to find practical solutions for big management problems whenever there is a shortage in employees' necessary knowledge or experience to achieve the desired change. Process benchmarking has become one of the main methodologies to implement process improvement where leveraging best practices is an important element in this method (Juan and Ou-Yang, 2004, p. 1325). "How do they do it?" is the question which needs to be asked when doing benchmarking to compare the detailed processes in organizations (Phelps, 1997, p. 389). Pojasek[1] (2010, pp. 88-92) argues that benchmarking can be done in a four-step process; which is: 1) understanding the details of the process using some helpful tools such as diagrams and hierarchal process maps; 2) identifying the available sources of information like stakeholders or companies; 3) determining what to benchmark and how it should be done and set clear benchmarking goals; 4) choosing the plan and the ideas that work for the company, measuring and monitoring the results and finally improving the process.

Part 4: Planning stage's key factors

5 Managing stakeholders

Parnell et al. (2013, Sec 2.4.2) state that: "a stakeholder is a person, group, or organization that has a direct or indirect stake in an organization because it can affect or be affected by the organization's actions, objectives, and policies". Identifying the company stakeholders, determining their power and interest and how they can affect or be affected by the business activities is a very important step in managing sustainability (Epstein, 2008, p. 41). Stakeholders need to be categorized in order for any enterprise to be able to manage them. They can be divided into the following groups according to their influence in the business: "shareholders, customers, staff and their families, suppliers, local communities, national and international society, and past and future generations of co-operators" (Epstein and Roy, 2001, p. 597; Epstein, 2008, p. 41). "Core stakeholders" have a very close relation to the enterprise and high impact on the decision making process, while "fringe stakeholders" are almost not visible to the business since they are remote and weak (Epstein, 2008, p. 41).

Sustainability implications can bring benefits and challenges as well to the enterprise which often are determined by the effective roles of the enterprise stakeholders (Zutshi and Sohal, 2004, p. 371). Epstein (2008, p. 19) argues that the discussion about whether enterprises should consider the impact of their activities on stakeholders and consider their social responsibility is not a valid discussion anymore. He further suggests considering these issues on a daily basis to create value for the stakeholders both for local and international enterprises (Epstein, 2008, p. 19). A better management of the possible impacts of the enterprise's business activities and sustainability-related strategic decisions on different stakeholders groups is very critical to improve the enterprise sustainability performance since managers are usually lacking information about such impacts (Epstein and Widener, 2011, p. 107). Several authors believe that the successful management of the enterprise stakeholders is very essential for the success of the strategic management of that enterprise (González-Benito et al., 2011, p. 1623).

Pojasek[1] (2012, p. 87) argues that the engagement of the enterprise's stakeholders is a major element in any sustainability programme which requires an effective internal two-way communication between the enterprise and its employees plus external communication with the enterprise's customers and other stakeholders. As an example of this engagement: the evaluation of the associated costs and benefits with sustainability strategies must be done in close relation with the feedback from the stakeholders since they have potential influence on decreasing and increasing the values of these two elements (Epstein and Roy, 2001, p. 598). The engagement of stakeholders and respecting their interests is a part of the company's social responsibility and it is the criterion that recognizes a regular business from a sustainable business (Pojasek[2], 2010, pp. 88-89).

5.1 Stakeholder analysis

Stakeholder analysis is "the identification and evaluation of corporate stakeholders" (Wheelen and Hunger, 2012, p. 76). It is a key step to understand problems related to different stakeholders and taking the right actions to solve such problems (Parnell et al., 2013, Sec 2.4.2). Considering stakeholders' opinions valuably improve processes of decision-making (Kivits, 2011. P. 318). According to Zutshi and Sohal (2004, p. 372) the attention given by the enterprise for its stakeholders depends on three important aspects: "urgency, legitimacy and power" which can be determined by answering questions such as:

- Who are the enterprise stakeholders and what are their needs?
- How can the enterprise satisfy its stakeholders?
- How can the enterprise establish a good dialogue with them?
- What are the stakeholders' concerns, strategies and means to fulfil their goals?

Several techniques have been used to make stakeholder analysis. Choosing a specific technique depends on the purpose of doing the analysis and the category group of the targeted stakeholders. Parnell et al. (2013, Sec 2.4.2) suggest doing (30-60) minutes interviews with senior and key stakeholders; (1-8) hours focus groups with mid-level stakeholders; and short surveys for junior representatives. The previous three techniques are the most commonly used according to Parnell et al. (2013, Sec 2.4.2).

Reed et al. (2009, p. 1937) mention other techniques; such as: "snow-ball sampling" where the identified stakeholders identify new stakeholders and "interest-influence matrices" where the identified stakeholders placed, according to their interest and influence, on a matrix scheme. The strength of this method is that it shows the real power of different stakeholders in an explicit and dynamic way, while the weakness is the possibility to marginalize some groups of stakeholders (Reed et al., 2009, p. 1937). Figure 5.1 by Reed et al. (2009, p. 1947) suggests a key-steps methodological stakeholder analysis scheme.
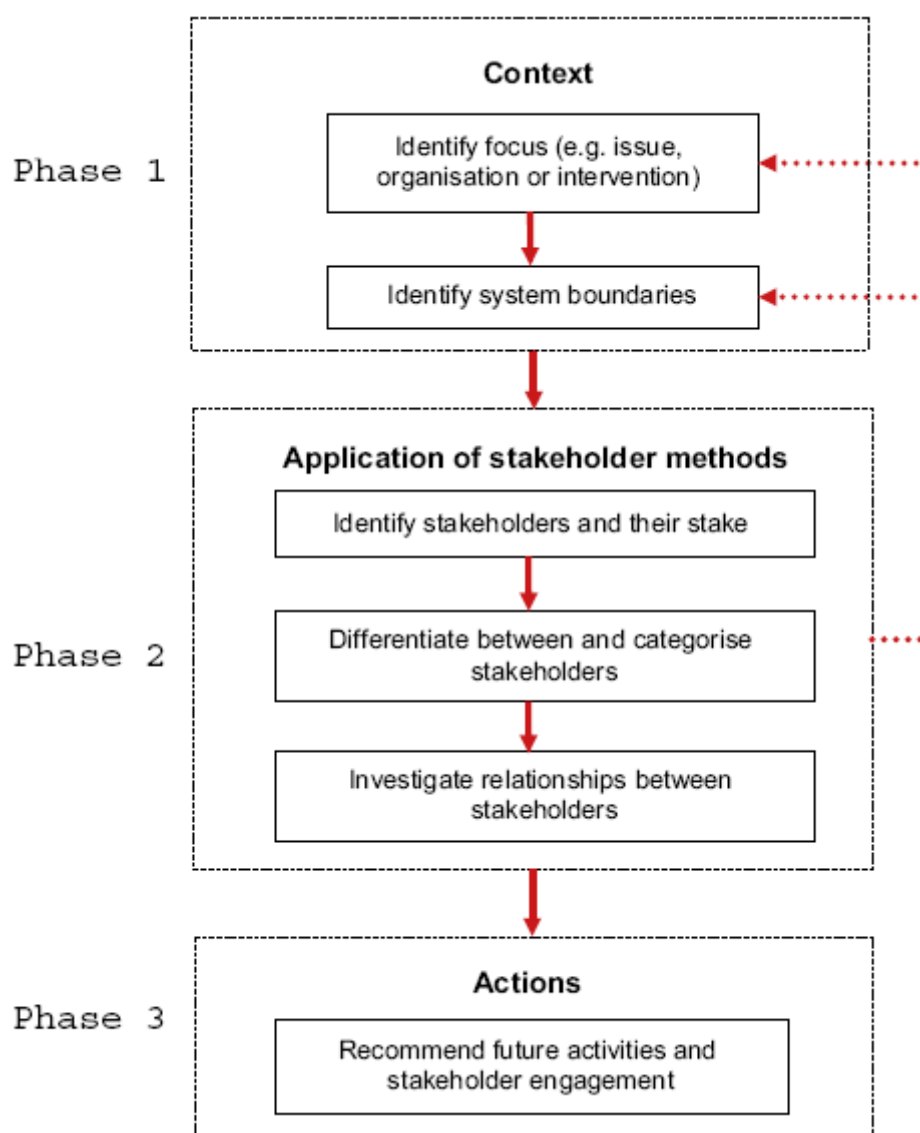
Figure 5.1: Key steps scheme for stakeholder analysis, source: Reed et al., 2009

This scheme is a 3-phase analysis. The first phase is to make a clear focus about the boundaries of the conducted analysis and the implications of different stakeholders in firm's management elements and actions like mission, policy and decision making processes. The feedback line from phases two to phase one represents the involvement of the stakeholders to identify the elements of phase one. This involvement may not be necessary, according to Reed et al., if the investigation team who communicates with the stakeholders have good experience.

There have been claims in literature about the possible benefits of doing stakeholder analysis. Reed (2008, p. 2420) mentions several of them; such as: widespread the firm's policy locally and internationally; increase the accuracy of strategic decisions and the spread information; avoid marginalizing some groups of stakeholders; empower the stakeholders knowledge which would benefit the business as well; and promote social relationship between the firm and its stakeholders and among different stakeholders themselves. Once a stakeholder analysis is done and feedback of different groups is evaluated, managers may use the stakeholder feedback for strategic alternatives and assess how each alternative will affect each group (Wheelen and Hunger, 2012, p. 78).

6 Managing risk

Risk management is the process of managing different possible risks successfully by mitigating threats and making advantage of opportunities (APM BOK, 2012, p. 178). It is the process of managing uncertainties which may influence the achievement of the enterprise strategies negatively or positively (Wheelen and Hunger, 2012, p. 335). Risk management is a well-known success and maturity factor in organizational management practices (APM BOK, 2012, p. 33). Every time a firm changes its strategy it involves risk, therefore successful strategies should not be changed without reasonable reasons (Grünig and Kühn, 2011, p. 26). There is a general agreement about the fact that rational decision making concerning sustainability strategies needs risk assessment as a critical input (Sarewitz et al., 2010, p. 3). Risk assessment involves the following steps: quantifying different risks, assessing their probabilities to occur, quantifying the resulted impacts, employing cost-benefits analysis and prioritizing them in a list (Bekefi and Epstein, 2006 cited in Epstein, 2008, Ch. 4). Figure 6.1 shows the possible relations when incorporating a risk management system into a sustainability management system (Pojasek, 2011, p. 94).
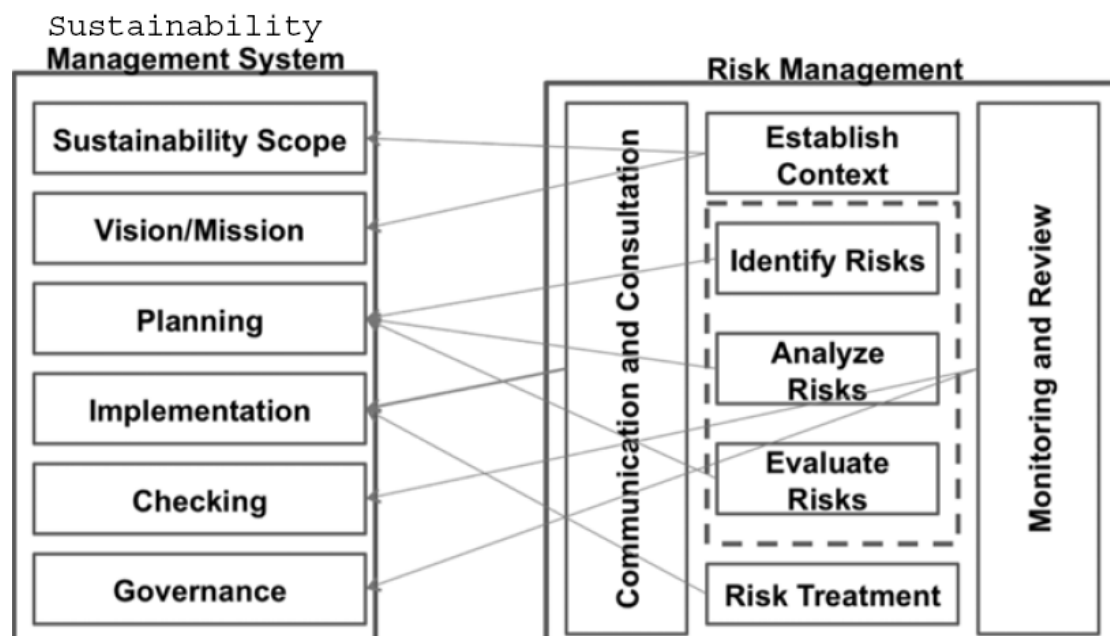
Figure 6.1: Integrating risk into a sustainability programme, source Pojasek, 2011

It shows as well the three main steps of risk management which need to be done in the planning stage: identifying the possible risks, analysing the identified risks and evaluating them. These steps can start only after understating the concept of risk by managers and realizing the importance of integrating it into the details of any sustainability or strategic management change. One effective way to identify risk is by identifying the possible different sources of risk; such as: the enterprise products, operations and stakeholders. Risk self-assessment, scenario analysis and brainstorming are a few methods which can be used to identify risk (Wheelen and Hunger, 2012, p. 335). Risk analysis is the process of understanding different possible risks that may or may not happen in order to manage them. It provides rational input for decision makers on risks that need to be treated and the most appropriate method to do so, it considers the sources of risks and their impacts and the likelihood of these risks to occur (Pojasek, 2008, p. 99). Risk ranking can be done using the impact-likelihood method (Wheelen and Hunger, 2012, p. 335). In the last step, evaluating risk, managers, based on the outcomes of the risk analysis step, need to decide which risk will be treated, how to do a proper treatment and what its priority is (Pojasek, 2008, p. 99).

The matrix in Figure 6.2 shows the likelihood versus the impact of different risk which can be used in the planning stage.

Likelihood of the risk to occur	Very high	R51	R52	R53	R54	R55
	High	R41	R42	R43	R44	R45
	Average	R31	R32	R33	R34	R35
	Low	R21	R22	R23	R24	R25
	Very low	R11	R12	R13	R14	R15
		Very low	Low	Average	High	Very high
		Impact of the risk				

Figure 6.2: A risk assessment matrix showing the likelihood of different risks to occur vs. their possible impacts

As an example of using this matrix: employing sustainability programme is an added cost to the company's budget. Is there a risk accompanying with this extra financial burden? A large enterprise may evaluate this risk as Risk R32 as in Figure 6.2, which means it could occur but if happens it will have a relative low impact on the enterprise economy since such enterprise is usually rich and this additional cost will not add a great financial burden especially when considering the large benefits that will be attained from adopting sustainability. On the other hand a small enterprise may evaluate this risk as Risk R55 as in Figure 6.2 which means it will occur for sure and it will add a heavy financial burden on the budget of such an enterprise. As a result the small enterprise in this example may decide not to consider employing sustainability while the large one will go for the project.

7 Drivers of sustainability

The decision to start the planning process of adopting a sustainability programme in any enterprise is a result of several internal and external drivers. The drivers can vary from an enterprise to another depending on a few key factors like the country of the business, the type of business and the size of the enterprise. For instance, an enterprise in Sweden may consider the environmental regulations as the most effective driver, another enterprise from the same size and business sector in Iraq can have the energy saving as the number one driver.

A report for the Chartered Institute of Management Accountants (CIMA) (*Evolution of corporate sustainability practices*, CIMA, 2010, p. 5) shows that there are some differences between the drivers that motivate large enterprises from one side and small and medium enterprises (SMEs) from the other side to adopt sustainability. The results in Figure 7.1 from the same study indicate some of the main differences between the two categories and their importance. For both groups the need for compliance with local or international regulations was the most critical driver to adopt sustainability.
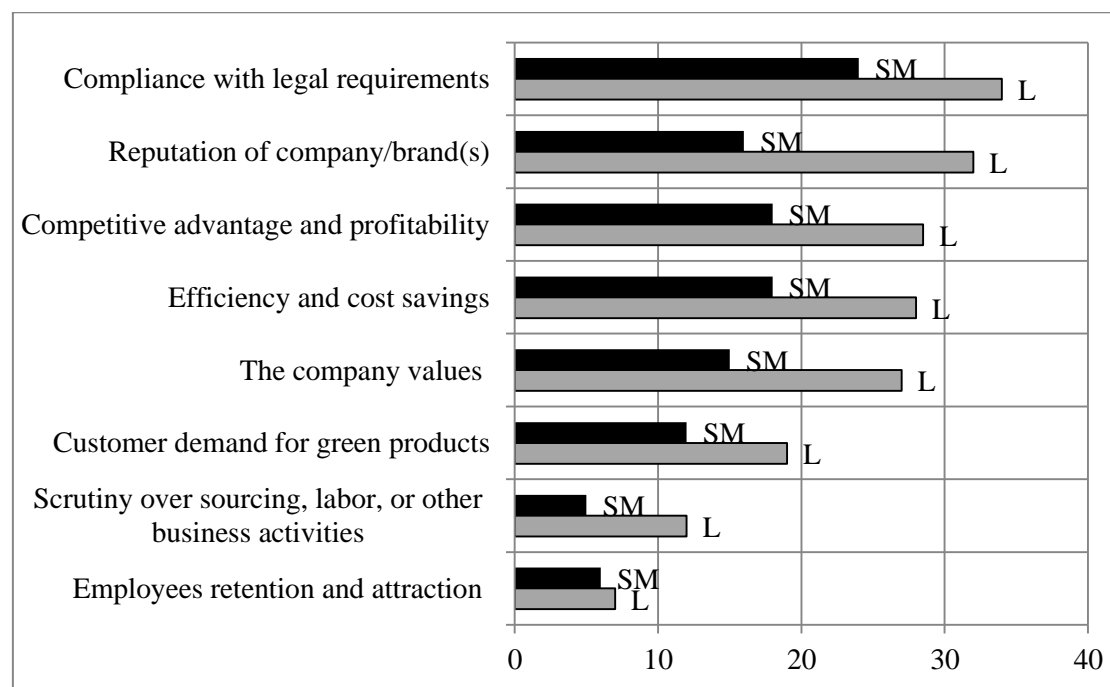

Figure 7.1: The main drivers for sustainability for large (L) vs. small-medium (SM) enterprises, source (Chartered Institute of Management Accountants, 2010)

The results of Figure 7.1 indicate another fact, which is that large enterprises seem to show more concern about all the drivers to adopt sustainability than SMEs. One noticeable difference is that protecting and improving the reputation of the enterprise or its brands is very important goal for large enterprises since the possible financial loss would be enormous if their reputation got hurt due to unethical business behaviours. A good reputation of the enterprise and its products is an important factor to sustain its business. Wimmer et al. (2010, p. 108) argue that the possible loss of reputation "image" of any enterprise resulted from adopting harmful environmental strategies can be much serious than the possible loss of low quality problems.

A growing number of respected large enterprises are going willingly beyond the requirements of legal compliance to embrace social responsibility and reduce their environmental footprint in order to increase their competitiveness in the market and deliver greater value to their stakeholders (Gupta and Benson, 2011, p. 122). Figure 7.1 shows that increasing the competitive advantages seem more important for SMEs than protecting the company image in order to keep the business up and running. A study done by the European Commission in 13 European countries concluded that the increasing cost of materials, energy and water and the environmental legislations were the main two drivers for SMEs in these countries to invest in environmental strategies (European Commission, *SMEs and the Environment in the European Union*, 2010, p. 155).

Many enterprises nowadays find it difficult keeping their competitive advantage for a long time. It is not enough to sell low-cost/price products rather than being innovative and adding a value to customers through the enterprise products and services (wheelen and Hunger, 2012, p. 191). Leading sustainability enterprises should be able to use their sustainability development programmes as a source to increase competitive advantage (Gupta and Benson, 2011, p. 127). Generally speaking small enterprise owners do not take sustainability as a serious issue; instead they focus on making profitability and keeping their companies viable but they need to remember that creating competitive advantages by using different sustainability ideas, maybe from large firms, is a good way to keep their businesses alive and sustainable (Nadim and Lussier, 2010, pp. 79-88). By attracting and keeping loyal, goodwill and key

stakeholders, being socially responsible and by strengthening the organizational knowledge capabilities companies, especially the ones with good environmental sustainability records, can create competitive advantages (wheelen and Hunger, 2012, pp. 11-74).

7.1 Drivers for adopting ISO 14001

Thousands of enterprises around the globe have their own drivers which led them to choose ISO 14001 as a management tool for environmental sustainability. The drivers for adopting ISO 14001 are the root causes that push management to attain the ISO certification (Gavronski et al., 2008, p. 89). A study done by Psomas et al. (2011, p. 512) shows the most important drivers to adopt ISO 14001 were: having an "environmentally-friendly policy", increasing the competitive advantage for the enterprise in different markets and the social responsibility respectively. Other possible drivers can be: the enterprise image, customer and authorities demands and pressure, utilizing the employees' knowledge, hoping for cost reduction and avoiding international export barriers (Poksinska et al., 2003, cited in Psomas et al., 2011, p. 506; Heras-Saizarbitoria et al., 2011, p. 195). Gavronski et al. (2008, p. 87) and Heras-Saizarbitoria et al. (2011, p. 195) argue that external pressure from the enterprise's stakeholders, compliance with laws and regulations, the concern about future business and internal variables in the enterprise to attain the ISO 14001 certification are a few potential drivers to implement ISO 14001.

8 The expected benefits of sustainability

According to Gavronski et al. (2008, p. 91) the expected benefits are the created or enhanced capabilities of the enterprise from being sustainable which may include as well performance improvement. Crals and Vereeck (2005, p. 177) mention several benefits that can be gained by SMEs from adopting sustainability which may include: dynamic employees and an internal human resource management system; a dynamic production process and working place; a good reputation and positive image; less dependency on depleted resources; efficient and modern production due to employing skilled staff and using new technologies; better risk control; more readiness for any changes in legislations and finally making business partnership with local and global sustainable enterprises.

In a study that involved a number of large enterprises Hopkins et al. (2011, p.13) found several benefits for adopting sustainability; such as: improve the reputation of the brand, increase the enterprise competitive advantage, create business opportunities in new markets, increase the enterprise market share, help to save energy (or cost reduction) and improve business management.

8.1 The expected benefits of adopting ISO 14001

Cassells et al. (2012, p. 347) claim that there are internal and external benefits with implementing ISO 14001; internally it provides a framework for managing regulatory compliance and environmental challenges, and facilitate employees understanding of the importance of environmental awareness; while externally it ensures the enterprise is environmentally responsible for its stakeholders. De Oliveira et al. (2010, pp. 1799-1801) mention internal benefits such as improvements in financial performance and productivity, external ones; such as: better communication with society and stakeholders; competitive advantage in the market; opportunities in new markets; risk reduction; better insurance; reduction in energy sources consumptions; help to minimize unforeseen costs; spreading a positive management spirit inside the enterprise; boost the enterprise image both in society and media and have a positive influence on employees' motivations and ethics. Gavronski et al. (2008, p. 91)

consider increasing the operational productivity and the financial gains, improving the enterprise relation with its external stakeholders like the governmental authorities and the relationship of the enterprise in the market with its suppliers and customers as the main expected benefits from employing ISO 14001. Morrow and Rondinelli (2002, p. 162) argue that ISO 14001 provides, for almost any kind of organization, applicable guidelines to improve their management systems.

9 The expected barriers for adopting sustainability

Managers, in any kind of project, need to take all the surrounding circumstances into account (Boddy, 2002, p. 16). Implementing sustainability development enforces changes in the enterprise's management system. Once the enterprise starts the process of planning for sustainability, it will face a number of barriers and challenges which act to stop or slow down the change cycle, therefore they need to be identified and managed wisely.

Crals and Vereeck (2005, p. 180) consider time and money as the main obstacles for small and medium enterprises when adopting sustainability. They share with Mark Hilton and Lena Weller (cited in Eden et al., 2000, p. 25) some other possible difficulties; such as: shortage in skilled employees who has experience in planning; implementing and developing sustainability strategies; shortage in awareness of regulations and risks; the need for the right training programmes; weak strategic thinking; lack of internal and external communication; ineffective employees involvement and fear of change. Short-term business priorities and the internal focus with the absence of wise external steering are two more difficulties (Ates et al., 2013, pp. 41-44).

A large study that involved 27 European countries concluded that the main barriers for European SMEs to adopt an environmental management system and making environmentally-friendly products were: long time to get the necessary certifications; high running, operating and manufacturing costs and weak or no pressure from authorities and customers (European Commission, *SMEs and the Environment in the European Union*, 2010, pp. 151-169). While implementing sustainability can create more jobs or save money it may also be a threatening on the short- run, especially for small enterprises, which usually do not possess large capitals and they may lose their competitive advantage in the market against their competitors by adopting sustainability if this turns out to be a financial burden in terms of extra costs or increment in the prices of their products and services (Hope, 2012, p. 6).

Large enterprises as well face difficulties related to sustainability implications which may be a little different than the ones facing small and medium enterprises. For instance: cost and time may not be big barriers for well-established large and giant enterprises. According to Hopkins et al. (2011, p. 25) barriers that may face large enterprises can be: difficulty evaluating the impact of sustainability strategies on the reputation of the enterprise or its brands; difficulty evaluating the responses and impacts of stakeholders on the new sustainability strategies; difficulty finding the right scheme to incorporate the objective sustainability strategies into the enterprise business; difficulty finding the right metrics to evaluate the generated impacts from the new strategies and difficulty weighing the future risks that are related to sustainability.

9.1 The expected barriers for adopting ISO 14001

Oliveira et al. (2010, p. 1802) claim that the resistance of the employees for internal and external auditing processes; the periodic changes in environmental laws and regulations locally or internationally which make it difficult for the enterprise to meet the rules; the added extra cost of employing the new system; the lack of knowledge to manage the change successfully and the bureaucracy of the governmental authorities are the most significant expected difficulties when adopting ISO 14001 standards. Part of these possible difficulties can be resolved using the past experiences from implementing another management system like ISO 9001, which could help the enterprise respond effectively to the requirements of the new system (Psomas et al., 2011, p. 516).

9.2 Cost

Several enterprises believe that the cost of adopting a new sustainability strategy is a significant obstacle especially for small firms. Large enterprises usually have big capitals and can spread the cost over their global business activities (Moore and Manring, 2009, p. 277). Crain (2005, cited in Hirsig et al., 2014, p. 128) mentions a study, done by the U.S. Small Business Administration, that shows the total costs per

employee in small firms to comply with environmental regulations is about 364% higher than in large ones.

There are many sources giving information about the estimated cost of registering ISO 14001, but this is only a small fragment of the total cost. Assessing the total cost of employing a certified or voluntary sustainability programme for any enterprise is almost an impossible task since every firm has its own circumstances and needs. Yiridoe ai and Marett (2004) reported for several researchers about the internal and the external cost of adopting ISO 14001. They think it is a big challenge to estimate the total cost because of the many details which are involved in the assessment process; such as: the size of the enterprise, the type of business activities, the employees training, the annual and periodic auditing, the reporting and documentation, management cost and registration process with authorities (Yiridoe ai and Marett, 2004).

QMS International plc, an international firm that is specialized in ISO systems assessment and certification, gives an estimation of the cost of an ISO 14001 assessment and auditing job, for an enterprise of one office, between £1,160 to £4,800 for enterprises with an annual turnover between £75,000 to £10,000,000 (QMS, *ISO 14001-Environmental Management System*, no date). This was an example of one fragment of the external cost. A study in 2004 from Canada estimated the total external and internal cost of adopting ISO 14001 would be about 10,000 to 120,000 Canadian Dollars for enterprises with number of employees between a few up to 500 (Yiridoe ai and Marett, 2004, p. 41).

9.3 Time

This key factor embraces many elements such as the time needed for discussing, communicating, taking decisions and implementing the new strategy. When adding all these fragments together and for all the managers and employees who will be involved in any sustainability programme it will result in a vast sum of working hours. Whether the company is going to employ a voluntary sustainability programme or a

certified one the time needed to incorporate the new strategies can be anything between few months to few years depending on several variables. Some of these variables are: the commitments of the managers, the resource availability and the size of the organization (Kanter and Company Inc., *Implementing ISO 9001, ISO 14001, OHSAS 18001: How to do it, how long it takes*, no date). According to some consulting enterprises the average period to implement ISO 14001 is 6-12 months long (Kanter and Company Inc., *Implementing ISO 9001, ISO 14001, OHSAS 18001: How to do it, how long it takes*, no date; Batalas, *FAQ,* no date; Pinnacle Enterprise Group, ISO 14001:2004 Simplified: Investing in Your Company's Success, 2010, p. 2).

10 Ambiguity concerning sustainability

The usefulness of the information in this chapter is to exhibit and warn enterprises from turning their ambitious sustainability plans to chaotic management adventures. By knowing the critiques from literature or the "bad experience" of other companies managers should be able to avoid steering their firms, consciously or unconsciously, towards the failure trap under the flag of sustainability. An example of the misleading interpretation of "sustainability" is the enrollment of the public revolutions in a few Arabic countries like Tunis and Egypt, well-known as the Arabic Spring, under the title of "sustainable development" as it has been mentioned in the chronological recap report of sustainable development from the International Institute for Sustainable Development (iisd) (*Sustainable Development Timeline*, iisd, 2012) without clear evidences that show these revolutions have led to a better social or environmental or economic development in these countries.

The following items are a few interesting issues that lay under the title of this chapter:

- Since its emergence the Triple Bottom Line (TBL) concept has received a lot of criticism from academic and economic researchers. Some of them understood the TBL as a way to trade-off between the three dimensions. Norman and MacDonald (2004, p. 243) see the TBL as unhelpful addition to the academic argument about Corporate Social responsibility and a badly misleading concept which offer a "smokescreen" for enterprises to hide from doing their real environmental and social reporting and performance. Cooper (2011) warns the managers not to focus on the TBL only and forget their employees' concerns because they will lose on the long run.

- ISO 14001 has received criticism from researchers since its release in 1996. Watson and Emery (2004, p. 916) argue that ISO 14001 has failed to meet its objectives for two reasons; first: it will not lead the enterprise to sustainability, and second: it cannot be more capable economically than the regular approach of command and control. Boiral and Henri (2012, p. 84) between other researchers who believe that the efficiency of ISO 14001 is still a

"controversial" subject. They concluded, in a study they had made with the involvement of 303 firms of different sizes and from several industries, that there is not a significant relation between implementing ISO 14001 and the environmental performance of the enterprise nor with the integration of the environmental issues in strategy (Boiral and Henri, 2012, p. 90). A good fact to mention about ISO 14001 is that it does not fully meet the goals of companies that wish to be fully sustainable since it covers the environmental dimension only when several researchers have argued that the three dimensions of sustainability should be equally important.

- Because of the very wide scale of profitable and unprofitable activities which can be classified under "sustainability", some companies have used this attribute to make their ungreen or illegal business activities look as green or legal. "Greenwashing" is a common term in unethical sustainability businesses. Unfortunately several big companies fell in the trap of Greenwashing by using not environmentally-friendly management practices and products. According to Delmas and Burbano (2011, p. 64) Greenwashing is a misleading behavior by companies to their customers and/or stakeholders at the firm-level (the environmental practices of the company) or at the product-level (the benefits of the products and services) which as a result makes both the customers and the investors less confident about the company and its products. As an example of a Greenwashing business is a fuel engine manufacturing company which claims that their new-model engine can save up to 30% of the consumed fuel by the competitor engines in the same market, while this company is using very environmentally harmful materials in manufacturing this engine.

- While official entities like the European Union put legislations to control the Greenhouse gases of companies, they set clauses that allow the same companies to buy shares from low polluted companies or finance environmental projects to increase their pollution limits (Wheelen and Hunger, 2012, p. 10). In other words, if you pay more you can pollute more!

Part 5:

Planning guidelines

11 Sustainability planning guidelines

Several researchers and international organizations have introduced guidelines to help enterprises in the planning stage. Schemes (guidelines) were one of these guidelines which could help making a structured planning to facilitate the integration of sustainability into the organizations' management system. These schemes have similarities and differences which might have occurred due the differences in the purposes which have been made for, the researches' environments, the methodologies used and the strategic thinking of their authors. Sections 11.1 and 11.2 will present four examples.

11.1 Planning guidelines for environmental sustainability

Amongst thousands of written sources in sustainability management numerous of which have the environmental dimension as a research topic. Today there are many environmental certification schemes in the market which can be used for different purposes beside programs and theories to incorporate the environmental dimension of sustainability into the management system of all kinds of organizations. With more than 250,000 certified enterprises in 155 countries in 2010 (Boiral and Henri, 2012, p. 84; *ISO 14001 environmental standard continues global march*, BusinessGreen, 2012) the ISO 14001 standards stands out as being the most employed environmental management scheme by enterprises of different sizes internationally and from all kinds of business activities.

11.1.1 The management system and ISO 14001:2004 standards

The management system is the backbone of any enterprise which usually controls employees, finance and operations. Crals and Vereeck (2005, p.179) define the management system as: "the organizational structure, responsibilities, procedures, processes and operational duties necessary to carry out certain goals". Robert (2000, p. 250) argues that for an environmental management system to be really useful for sustainable development, the complied objectives with the system conditions for the planning, and individual metrics and activities to meet these objectives, should be

integrated into the system. Zorpas (2010, p. 1547) defines the environmental management systems as: "a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency… a continual cycle of planning, implementing, reviewing and improving the processes and actions that an organization undertakes to meet its business and environmental goals".

ISO 14001 is the most used tool for the purpose of environmental management development in industries (De Oliveira et al., 2010, p. 1804). It has been designed on the concept of Plan-Do-Check-Act (PDCA) (*Environmental management: The ISO 14000 family of International Standards*, ISO, 2009). ISO 14001 centres on continual improvement for the enterprise's environmental management system (*EMAS Factsheet: EMAS and ISO 14001: complementarities and differences*, European Commissioner for the Environment, 2011). It sets out the criteria and draws a framework for environmental management systems in organizations like enterprises and enables them to develop and employ environmental policy and objectives while taking different requirements into consideration (*ISO 14001:2004*, ISO, no date). De Oliveira et al. (2010, p. 1799) argue that ISO 14001 introduces very generic instructions for employing an environmental management system. According to Tsai and Chou (2009, pp. 1444-1445) ISO 14001 can subsidise better environmental performance, greener products and greater eco efficiency, also it can help with the use of other certification management systems SA 8000, OHSAS 18001 and ISO 9001 SMEs to create sustainable competitive advantages.

The availability of internal expertise to establish an active auditing system is a very important movement before implementing ISO 14001 (Watson and Emery, 2004, p. 923). Burke and Gaughran (2007, p. 700) suggest a number of steps which need to be done before writing the environmental policy, the first step in ISO 14001 planning, as in Figure 11.1.
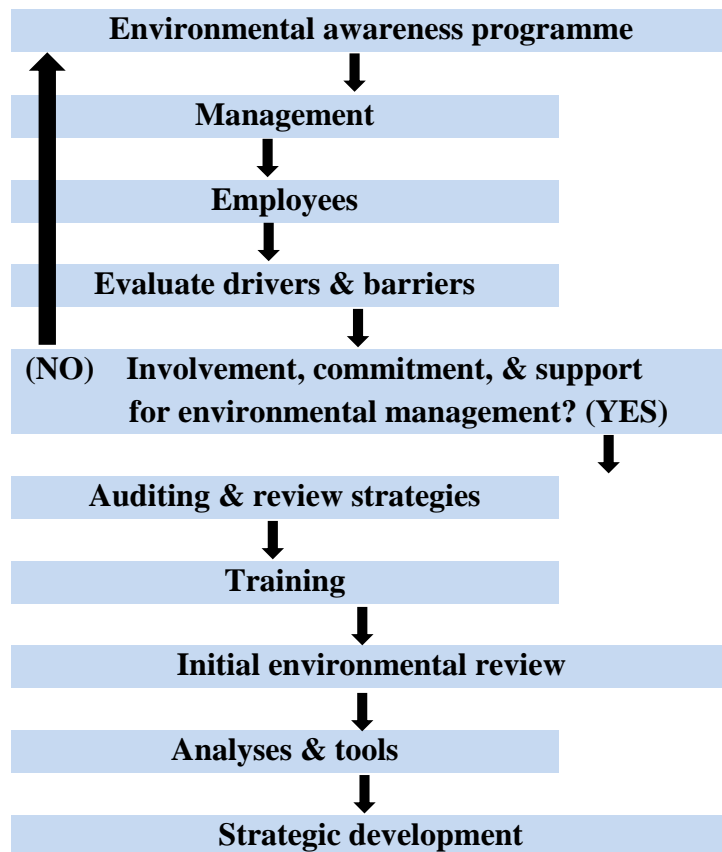
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            ┌──────────────────────────────────────────┐
            │   Environmental awareness programme       │
            └──────────────────────────────────────────┘
                              ↓
            ┌──────────────────────────────────────────┐
            │              Management                   │
            └──────────────────────────────────────────┘
                              ↓
            ┌──────────────────────────────────────────┐
            │              Employees                    │
            └──────────────────────────────────────────┘
                              ↓
            ┌──────────────────────────────────────────┐
            │        Evaluate drivers & barriers        │
            └──────────────────────────────────────────┘
                              ↓
    (NO)    ┌──────────────────────────────────────────┐
            │   Involvement, commitment, & support      │
            │   for environmental management? (YES)     │
            └──────────────────────────────────────────┘
                              ↓
            ┌──────────────────────────────────────────┐
            │        Auditing & review strategies       │
            └──────────────────────────────────────────┘
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            │               Training                    │
            └──────────────────────────────────────────┘
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            ┌──────────────────────────────────────────┐
            │        Initial environmental review       │
            └──────────────────────────────────────────┘
                              ↓
            ┌──────────────────────────────────────────┐
            │            Analyses & tools               │
            └──────────────────────────────────────────┘
                              ↓
            ┌──────────────────────────────────────────┐
            │          Strategic development            │
            └──────────────────────────────────────────┘
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Figure 11.1: Preliminary steps before considering ISO 14001, source: Burke and Gaughran, 2007

Burke and Gaughran consider implementing an environmental awareness programme in the planning stage of ISO 14001 as a key step before applying it where it is the responsibility of the managers to establish this understanding between the employees. The awareness process starts from the managers down to the employees. The drivers and the barriers will be identified so the enterprise will be ready to harvest the projected benefits or to face the expected challenges. When the top management feels that the environment inside the enterprise is ready for the new change they can take further steps towards the planning stage otherwise they need to build an acceptable readiness for the change before they can go to the succeeding steps like auditing, training the employees and setting the tools and the strategies.

The suggested planning process for ISO 14001 can vary in details from an enterprise to another. There are four main steps when planning for environmental sustainability

according to ISO 14001:2004 standards document. Additional clarification for the information can be found in: *ISO 14001 Environmental Management System: Self-Assessment Checklist*, NCS, 2006; *ISO 14001 Environmental Management System: Self-Assessment Checklist*, GEMI, 1996; *Integrating Environmental Management Systems: Implementation Guide*, US Environmental Protection Agency, 2000. These four steps are:

- **Establishing an agreed environmental policy**
- **Identifying environmental aspects**
- **Identifying legal and other requirements**
- **Identifying objectives, targets and programme(s)**

The meaning and the included elements in the four planning steps can be better clarified as:

- The top management in an enterprise needs to define its environmental policy, which provides a framework for setting actions, targets and objectives, and ensure that it will match the scope of the enterprise activities and development requirements (ISO 14001 international standard document). According to ISO 14001 standards the environmental policy is "the driver for implementing and improving an organization's environmental management system so that it can maintain and potentially improve its environmental performance". With the existence of an environmental policy in the planning stage the organization needs to establish the processes and the objectives to achieve the required results according to the policy (ISO 14001 international standard document).

- The enterprise shall identify the environmental aspects of its products, services and business activities within the defined scope of the proposed environmental management system. These aspects may include:
— Air pollution, discharges to land and water.
— Use of natural and energy resources
— By-products and waste.
— Manufacturing, transportation and packaging.
— Environmental practices and performance of suppliers and contractors.

- The enterprise shall identify the legal and other requirements which are applicable to the environmental aspects. These aspects may include:

— Trade associations/ department/ province/ state/ local government requirements.

— Required agreements with authorities, enterprise's customers, non-governmental organizations and community groups.

— Non regulatory guidelines and codes of practice.

— Environmental labelling.

- The enterprise shall identify the objectives and the targets of the new projected development actions according to the policy and the requirements and consider the best available techniques according to its requirements and economy. The identified objectives and the targets need to be practical, specific, and measurable. The enterprise can use one or more programmes to describe how the set targets and objectives will be achieved in all the enterprise units and activities. The programmes shall decide responsibilities for the employees and time frames for the activities.

Although ISO 14001 has received different academic criticism from researchers Cassells et al. (2012, p. 347) believe that there is not significant performance degradation has been witnessed from adopting an ISO 14001 programme.

11.2 Planning guidelines for environmental-social-economic sustainability

Sommer (2012, p. 28) believes that enterprises who take sustainability as a serious issue should not forget the social and the economic dimensions of sustainability and only focus on employing the environmental one. Table 11.1 presents recommended shared steps from three suggested voluntary schemes: Sitnikov (2013), Pojasek (2012) and Burke and Gaughran (2007), which can be used as guidelines to help build a suitable framework for executing the desired sustainability plan. The information has been clustered with the help of the Affinity method which can be used to put similar

pieces of information into united groups. More details about each scheme are in the appendices sections.

Table 11.1: A summary of shared steps from three schemes for sustainability planning and the correspondent authors

	Description of the steps	Scheme reference
1	To raise the enterprise awareness by starting awareness programme promoting new changes. This may include all the business activities and their impacts.	Sitnikov (2013) Burke & Gaughran (2007)
2	To determine the scope of sustainability and its aspects, the necessary possible contingencies, what will be included in the plan and whether to employ a detailed sustainability programme or a pilot initiative one.	Sitnikov (2013) Pojasek[2] (2012) Burke & Gaughran (2007)
3	To write down the new policy for sustainability.	Sitnikov (2013) Pojasek[2] (2012) Burke & Gaughran (2007)
4	To set sustainability targets and goals which reflect the strategy of the enterprise.	Sitnikov (2013) Pojasek[2] (2012) Burke & Gaughran (2007)
5	To establish sustainability programmes to make sure the enterprise will meet its targets and goals.	Sitnikov (2013) Pojasek[2] (2012) Burke & Gaughran (2007)
6	To consider the role of the employees and other stakeholders.	Sitnikov (2013) Pojasek[2] (2012)
7	To determine and manage risk.	Sitnikov (2013) Pojasek[2] (2012)
8	To formulate new strategic procedures or plans, short or long term, to translate the plans into actions.	Sitnikov (2013) Pojasek[2] (2012) Burke & Gaughran (2007)

Recognizing the shared steps in the schemes, as in Table 11.1, gives the reader a summary of the important actions which need to be considered, according to the authors of the schemes, in any efficient sustainability plan. It is important that every enterprise should decide its possible path, concepts, approaches and actions to reach its objectives towards sustainability since there is not a unique path for all enterprises in the world to attain this goal (*GEMI SD Planner [TM] & SD Gateway User Manual v. 3.1*, GEMI, 2008, p. 2).

Part 6:

Conclusions &

recommendations

12 Conclusions & recommendations

Sustainability management is a branch of great growing interest in many countries in the world. Enterprises can gain enormous advantages by incorporating sustainability into their strategies. A productive engagement with sustainability demands sufficient sources and rational planning. Wise planning that is based on experience, knowledge, empirical research evidences and careful decision making is the necessary solid foundation of any successful sustainability initiative.

Sustainability nowadays is one of the important topics in the agendas of CEOs and top-managers' meetings for both large enterprises and SMEs as well. Large enterprises seem to be more confident than SMEs to adopt sustainability strategies and issue periodic reports about their sustainability programmes. They are rich with almost all the necessary resources needed to employ any new management change. Many SMEs consider adopting a new sustainability strategy as a heavy financial burden in their budgets. They usually lack time, skilled managers and experience to apply the change. For this reason it could be a good idea for such enterprises to start with an uncertified sustainability programme or individual sustainability initiatives and continue after a few years of experience the development of their sustainability strategies towards attaining official certifications. SMEs, on the other hand, have the advantage of faster response to organizational change forced by new sustainability strategies comparing to large firms which their big organizational structure can be a source of problems such as: the need for longer time to apply the change and a confusion about the right model or strategy that fits best for a certain enterprise to employ the desired change successfully.

When relating the sustainability management literature to general strategic management literature we gain insight in the important elements needed for strategic decision making and planning. Firms can learn from earlier studies concerning strategy planning and apply this acquired knowledge to planning concerning sustainability. A main learned lesson from the literature review was that there is no consensus on what details or elements have to be involved in voluntary sustainability programmes for any size of enterprise. Managers need to decide carefully on these

details and elements according to the enterprise policy by using agreed methods and measurement criteria. For instance important key factors such as cost, time, risk and stakeholders need to be discussed and examined in the planning stage since they have great impacts on the outcome of any sustainability programme. Risk accompanies any management change. A big part of it is related to the enterprise stakeholders; therefore risk and stakeholder managements are very important elements of any sustainability programme.

After understanding the concept of sustainability with its key elements, managers need to choose proper guidelines that facilitate the desired change. ISO 14001 standards which has been suggested and discussed in this study is one of the most used guidelines by companies for employing environmental strategies. Thousands of enterprises have been reported using ISO 14001 successfully for many years and the number is growing around the world. ISO 14001 has been classified as an acceptable certified environmental scheme by many authorities in the world. There are benefits which can be attained from employing a certified scheme; such as: international recognition which can increase the enterprise's competitive advantages and opportunities in new markets. The negative side of ISO 14001 for many companies is the big cost and long waiting time to get the certification. Voluntary planning schemes can be used as well as general guidelines for sustainability planning. They could be the right choice for an enterprise that wants to choose the included elements according to its circumstances, needs and organizational capabilities. This study recommends the use of Sitnikov "The Sigma Project" for any size of enterprise as a voluntary planning scheme for sustainability.

This study has answered the two research questions: 1) how can enterprises of different sizes plan to incorporate sustainability strategies? The answer for this question was in chapter two to eleven, which can be shortened to: by understanding the concept of sustainability and its three dimensions, the strategic thinking and decision making processes and methods, the important key factors which need to be considered in the plan and choosing the right guidelines. Question two was: 2) what are the key factors to consider when planning for sustainability strategies, based on literature? Part four of this study, with its five chapters, has answered the question by

elaborating on the importance of managing stakeholders and risk in any strategic change and what are the possible drivers, barriers, benefits and criticisms which can affect the decision making process of this change. Several researchers have agreed on cost, time, compliance with local and international legal requirements, the enterprise reputation and competitive advantage as main key factors which need to be considered and managed wisely in any sustainability planning.

Some other ideas which have been coined by this study are:

- Sustainability dimensions should be equally important when adopting new sustainability strategies for any enterprise.

- Knowing the added costs of employing new strategies and how long they could take is an important piece of information especially for small enterprises.

- Enterprise must plan their desired organizational change using legitimate sources of information such as: well experienced employees or consultants, academic literature, empirical studies and results and direct contact with key stakeholders.

- It is important for any enterprise that wishes to adopt a sustainability plan to use detailed and tested guidelines such as ISO 14001.

Figure 12.1 is a suggested conceptual planning model for sustainability which summarized the main theories of this study.
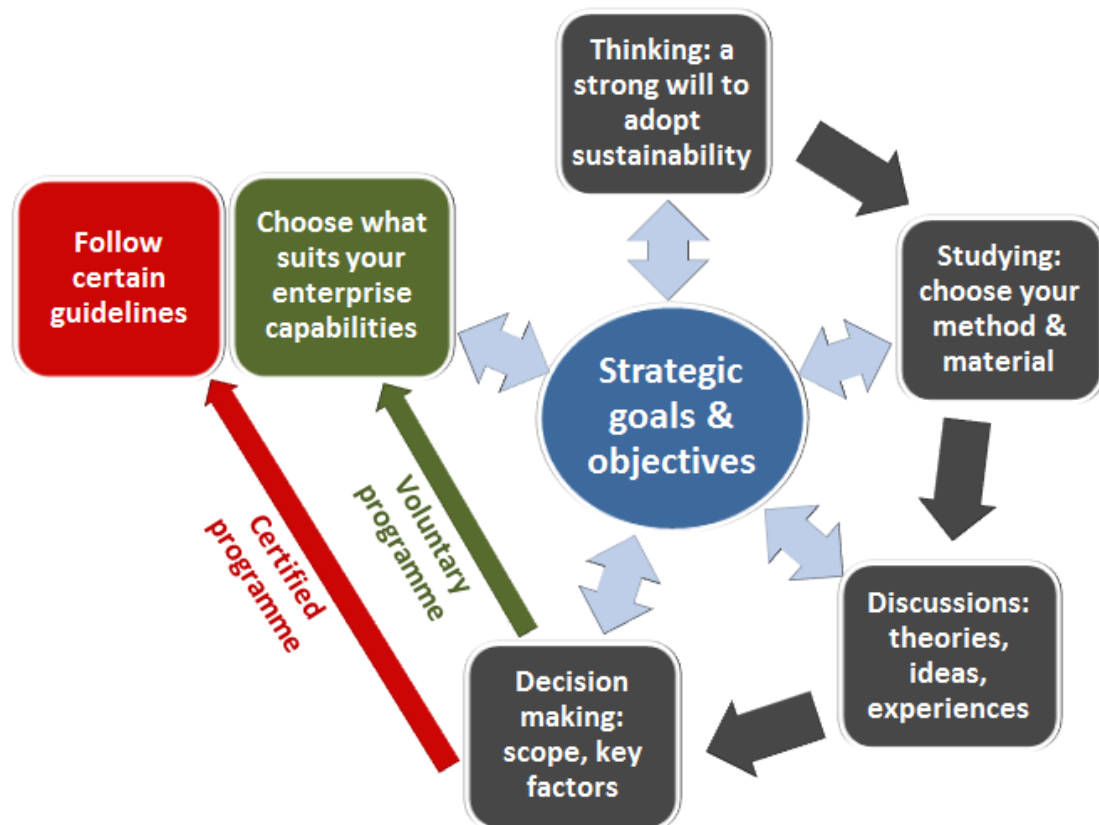
Figure 12.1: A suggested conceptual model for sustainability strategic planning

This model starts with active thinking about sustainability and strong determination by top management to adopt new strategies for the sake of the enterprise image, stakeholders and profitability; to have a hand in saving the environment and feeling good by running an ethical business. Starting from this point the enterprise strategic goals and business objectives should be always present in the mindset of all the involved employees so everyone knows why he/ she is going to support this change and what his/ her role will be. In step two strategic managers need to suggest suitable method(s) and sources which will be used to drive the change. In the third step deep discussions need to be held about the different strategies, means and information which have been suggested in step two. In step four decision managers need to select strategic key factors which will be involved in the plan of the programme and the excluded ones as well based on their imagination for the scope of the new sustainability change. Proper decision techniques need to be used to ensure realistic decisions. In step four managers need to decide whether the enterprise is going to employ a voluntary sustainability programme or a certified one. Choosing a voluntary programme will give the enterprise a big space to test its organizational capabilities to

steer the change and the possible benefits of the new strategy. Such programmes can be frozen or canceled in any time the enterprise feels unaffordable pressure or negative impacts on its employees or business. Certified programmes have certain procedure and scoring methods which the enterprise need to understand and follow to get the certification. They could be very costly for some enterprises and can take long time. The strategic goals and objectives should be always considered in all the steps and in any decision making process so the enterprise at the end of the programme will achieve their planned goals.

12.1 Suggestions for further studies

There is still a noticeable gap in academic literature for further studies in the subject of planning for sustainability. Researchers can make studies about how to adopt sustainability strategies by a specific industry or country. Another idea is to help small enterprises to break the fear of adopting sustainability by showing them positive results of other small enterprises which have gained different benefits from employing sustainability strategies and what methods they have used to achieve their goals.

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Appendices

Appendix 1: Sitnikov (2013) "The Sigma Project" scheme

This scheme was published in 2003 as the result of "The Sigma Project" which has been run as cooperation between many governmental authorities and private enterprises for a few years under the flag of the British Standards Institution (BSI) to help organizations to translate sustainability development to practical management actions (Sitnikov, 2013; *The Sigma Guidelines,* BSI, 2003). According to the report of The Sigma Project (*The Sigma Guidelines,* BSI, 2003, p. 2) one of the great aspects of this scheme is its compatibility with different management systems and frameworks to help enterprises build on the existing ones. In other words this scheme provides a framework to add the social and economic dimensions of sustainability to the current ISO 14001 or other environmental management systems to complete the enterprise sustainability profile.

A brief of the main steps of this scheme can be read below while much further details about each step can be found in the report document of the Sigma Project (Sitnikov, 2013; *The Sigma Guidelines,* BSI, 2003):

- To address sustainability issues and ensure top management commitments.

- To identify the enterprise stakeholders, establish a good level of communication with them and to consider their impacts and suggestions.

- To formulate the enterprise new mission, vision, targets and strategy according to the desired sustainability development and revise them if needed.

- To raise the enterprise awareness of the new sustainability developments. This includes all the business activities and how are they going to be affected by the new change.

- To ensure that the environment inside the enterprise is ready and supportive of the change.

- To assure the current situation inside the enterprise regarding sustainability.

- To identify key issues of sustainability.

- To set strategic plan(s) to deliver the new vision.

- To consider the stakeholders opinions when developing the strategic plan(s).

- To develop short-term strategic plans to support the agreed sustainability development core strategies.

This scheme introduces in clear details all the necessary steps of the planning process. Several large and small enterprises have been participated in the project and implement the scheme. The scheme emphasizes the important role of the enterprise's stakeholders by ensuring a good communication with them in the beginning and in latter steps when the enterprise starts to develop its strategies. The scheme highlights the importance of employees' readiness to accept and support the new change and the availability of the needed resources.

References for Appendix 1:

BSI (2003). *The Sigma Guidelines: Putting Sustainable Development into Practice – A Guide for Organisations*. UK: The British Standards Institution (BSI) [Online]. Available at: http://www.projectsigma.co.uk/Guidelines/SigmaGuidelines.pdf [Accessed: 3 May 2013].

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Appendix 2: Pojasek[2] (2012) scheme

Robert Pojasek is a senior managing scientist and lecturer at Harvard University in the subject of "strategies for sustainability management" and a sustainability champion and consultant (*Robert B. Pojasek*, Harvard Extension School, no date). He has nearly forty years of experience working in teaching and consultancy for both private and governmental authorities locally and internationally and is the author of more than 100 publications and five books about sustainability and process improvement (*Robert B. Pojasek*, Exponent, no date).

According to Pojasek[2] (2012, pp. 78-83) the main steps in this scheme are:

- To determine the scope of sustainability and engage the stakeholders: It is an essential and complicated step that will affect the whole planning process later. In this step the enterprise needs to cover all the possible contingencies, be ready with more than one scenario, decide what is included in the plan and what is not and decide whether to employ a detailed sustainability programme that covers the entire enterprise or to consider a pilot initiative that covers, for instance, one department or few environmental aspects.

- To establish the sustainability policy: The policy should help to align sustainability in the management system of the enterprise. The enterprise should write a clear and transparent policy, communicate it to all stakeholders and review it periodically.

- To address legal and other requirements

- To determine the enterprise sustainability footprint: which reflects the impact of every business activity on the environment, the society and the economy.

- To determine the significance of impacts and risks.

- To set sustainability's goals and targets: Determine and quantify goals and targets by top management based on risks and with the existence of a complete sustainability footprint.

- To implement programmes and/or action plans for meeting sustainability's goals and targets.

- To consider employees' roles, responsibilities and authorities in the sustainability programme.

This scheme focuses, in the first step of the planning stage, on the significant role of the enterprise's stakeholders and listening to their opinions which will be considered again when designing the scope of the desired sustainability change. The other aspect is that the enterprise will need to determine the sustainability footprint of its units, products or activities to help setting the right goals and targets for sustainability. Finally the author emphasizes the important role of risk analysis and management during the process of change as a condition for successful planning strategies.

References for Appendix 2:

Exponent (no date). *Robert B. Pojasek*. Available at: http://www.exponent.com/robert_pojasek/ [Accessed: 13 April 2013].

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Appendix 3: Burke and Gaughran (2007) scheme

This study has been conducted with a collaboration of six ISO 14001 certified industrial enterprises in Ireland. The authors suggest using this scheme to plan for sustainability in small and medium enterprises which have less capabilities than the larger ones through two levels; the first one is to start planning for the environmental dimension, which is ISO 14001 according to their preference, while the second level will be incorporating incremental steps into the first part to complete the social and the economic dimensions. The scheme offers general guidelines for sustainability which can be full of optional details according to the circumstances of each enterprise. This scheme ignores the important role of risk management and the enterprise's stakeholders when planning for sustainability which may create many future problems for the enterprise due to incorrect business strategies. The scheme, according to Burke and Gaughran (2007), has a few main steps which can be abbreviated as:

- To start a program for sustainability awareness to evaluate the drivers and the barriers for sustainability and establish the necessary awareness for both management and employees.

- To audit and review sustainability strategies and to review and record sustainability aspects.

- To choose the right analysis and tools.

- To modify the current strategy and to adopt the new environmental policy.

- To set "SMART" objectives, targets and sustainability programmes.

- To set formal procedures for the new management development.

References for Appendix 3:

Burke, S. and Gaughran, W. F. (2007). Developing a framework for sustainability management in engineering SMEs. *Robotics and Computer-Integrated Manufacturing*, 23 (6), pp. 696–703 [Online]. Available at: doi:10.1016/j.rcim.2007.02.001 [Accessed: 5 March 2013].

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