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Corporate Sustainability Integration: Understanding Drivers and Barriers

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List of Abbreviations

AICPA - American Institute of Certified Public Accountants
CS – Corporate Strategy
CSA – Corporate Sustainability Actions
CSI - Corporate Sustainability Integration
CSP - Corporate Sustainability Performance
HBO - Hoger Beroepsonderwijs
HCA - Human Capital Agenda
IPCC - Integrated Professional Competence Course
IPKW – Industriepark Kleefse Waard
ISO - The International Organization for Standardization
MBO - Middelbaar Beroepsonderwijs
MCS – Management Control Systems
MIT - Massachusetts Institute of Technology
PSS - Proactive Sustainability Strategy
SCS – Sustainability Control Systems
UNEP – United Nations Environmental Programme
SD – Sustainable Development
WCED – World Commission on Environment and Development
SEE – Sustainable Energy and Environment
SEECE – Sustainable Energy and Environment Centre of Expertise
TU – Technical University

EXECUTIVE SUMMARY

Corporate Sustainability (CS) can be viewed as a new and evolving management paradigm that serves as a replacement of organizations' traditional business model which was based on growth and profit maximization. A proactive approach to sustainability which is a growing trend includes pursuing goals that include environmental protection, economic development and social well-being. However, integrating sustainability into strategic management is still a daunting task for organizations. The objective of this thesis is to identify how management systems can be used to address CS integration. A review of literature shows that there is no "one size fits all" approach to CS integration and organizations should approach CS depending on their specific circumstances. Subsequently, a framework is developed from the reviewed literature which served as a lens for data collection and review of three organizations used as case studies. These organizations are involved in CS activities but are not certain of their approaches towards it and thus their suitability for this research purposes. The use of case study as a research tool was preferred because it is exploratory and often used to obtain a balanced knowledge of practices in organizations which might have not been covered in literature. It also provides an in-depth and holistic information as compared to quantitative statistical results.

From the analysis of data collected, it was observed that these organizations were motivated to act towards CS because of the rise in climate change awareness, an expected change in the Netherlands energy supply system, human capital agenda, compliance and organizational goals. However, they faced common barriers such as lack of resources, cooperation and motivation of employees, ambiguous sustainability goals and resistance to change. Despite the barriers, activities the organizations have already taken towards achieving their sustainability goals include incorporation of education into organizations to learn new ways of addressing sustainability, investment in new processes and technologies, installation of bio-plants and re-use of materials among others.

Furthermore, factors suggested to be included in management systems to result in a successful integration of CS into strategic management were discussed and compared with literature. The findings were mostly in agreement with literature. However, some factors such as collaboration with partners to create hybrid learning environments and the use of roadmaps as visualization tools to communicate strategic plans and milestones received less attention in literature but were discovered to be necessary for a successful CS integration.

CHAPTER ONE

INTRODUCTION

The fast industrialization of most countries is beginning to serve as a threat to the development of the general population (Amate & De Molina, 2013). It is therefore important that unsustainable ways of production such as excessive consumption of raw materials, energy and water are replaced by sustainable ones on the global, regional and national basis for a viable and sustainable future (Almeida & Giannetti, 2015).

The concept of sustainability is about “*adequacy and long-term viability of the prevailing approaches to progress, development and wellbeing*” (Gibson et al, 2005). From a business perspective, sustainability is about ensuring that strategies that contribute to long-term success are implemented. Acting in a sustainable way helps to both create businesses that will survive and thrive in the long term and maintain the well-being of the planet and people (CIMA, 2010).

Organizations are therefore seeking to reduce the impact of their primary and secondary activities on the environment by integrating so-called corporate sustainability in their overall strategy (Accenture, 2011). This is because although there is the need for economic growth, it should not be at the expense of the environment in which they operate (Higgins, 2013).

1.1. Corporate Sustainability

‘*Corporate sustainability (CS) can be viewed as a new and evolving corporate management paradigm*’ (Wilson, 2003). It is called a paradigm because, it serves as a replacement to the organization’s traditional model that was based on growth and profit maximization (Wilson, 2003). It does not mean that growth and profits are not important but that organizations should also pursue goals such as environmental protection and economic development that are associated with sustainability.

CS can be a business approach that aims at creating a long-term shareholder value by embracing opportunities that come the organization’s way and managing risks deriving from economic, environmental and social developments (Yale, 2018).

Thus, CS has become an important tool in addressing the rising issues concerning the environment and the pressures being mounted on organizations by different stakeholders and regulatory boards (Engert, Rauter & Baumgartner, 2016). Also, CS encourages resource efficiency and sustainability whilst the organizations are dealing with the natural environment (Marshall & Brown, 2003).

In the past, the issue of sustainability only became addressed when stakeholders began to mount pressures on corporations to hold them responsible for the effect of their activities on the society. Consequently, organizations started to include CS in their corporate strategy and processes for a successful implementation and practice (Engert, Rauter & Baumgartner, 2016). Then, organizations mostly addressed sustainability issues after the obligation to meet shareholders interest had been satisfied thus not counting it as a priority or including it in the corporate strategy.

But nowadays, engaging in proactive sustainability practices, instead of the reactive approach, is a growing trend (Wijethilake, 2017). Proactive sustainability is said to result in an improvement in corporate sustainability performance by ensuring the efficient use of resources, reduction of wastage and discharge and promoting the organization's reputation (Banerjee, 2001; Bhupendra & Sangle, 2015).

1.2. Problem Definition

Proactivity in CS integration can contribute to the future success of organizations and ensure CS practice rather than trying to later manage the impact of the outcomes of their activities. This can be done practically by adapting or making changes to business processes to ensure a more positive impact on the Triple P (People, Planet and Profit) (Dicle & Köse, 2014). Also, proactivity in CS integration could be done by using the appropriate management systems (MS), which are the formal and informal processes that enable organizations to deliver their products and services (Yeager, 2019).

Some academic literature (Caputo et.al. 2017; Bui & de Villiers, 2017) have stressed the importance of integrating the traditional Management Control Systems (MCSs) and how they affect the integration of sustainability within the organizational strategy. MCS are said to be the structures used by management to compare set goals with the actual outcomes (Anastasis, 2018). They are *“processes by which managers ensure that resources are obtained and used effectively and efficiently in the accomplishment of the organization's objectives”* (Lowe, 1965). With this system, management can organize people and resources properly to engage in proactive sustainability practices. Sustainability Control System (SCS) which is an extension of the traditional Management Control Systems (MCSs) is also used to address the interrelationships between economic, environmental and social issues related to organizational performance (Caputo, Veltri, & Venturelli, 2017).

However, merely acknowledging the importance of the integration of issues relating to sustainability into strategy alone does not help in the achievement of sustainability goals such as environmental, economic and social sustainability (Wijethilake, 2017).

To effectively implement sustainability goals, it is equally important that sustainability issues are integrated into the management systems of the organization.

1.3. Research Objective

Though many companies desire to be involved in sustainability, they still face challenges in the achievement of their sustainability goals. In this thesis, the main research question is:

How are management systems used to address corporate sustainability?

1.4. Thesis Outline

This study is divided into five chapters. *Chapter one* is an introduction of the study including a background information, definition of the problem, the objectives of the research, and a summary of the structure of the study. *Chapter two* provides a review of existing literature on CS from which a framework is formed for data collection for the research purposes. *Chapter three* describes the case studies and discusses how data is collected and analyzed and *Chapter four* presents findings of the case studies and the synthesis. *Chapter 5* compares the findings from the case studies with literature whilst *Chapter 6* addresses the overall conclusions of the study, answer to the research question and recommendations for future research.

CHAPTER TWO

LITERATURE REVIEW

This chapter is a review of literature which discusses Corporate Sustainability in general, its emergence and significance. Different dimensions of CS which elaborates on the existing practices of CS are also presented. Furthermore, a study is made of the different approaches taken to integrate CS into strategic management. This serves as a basis for which this research is done and a step further into exploring and making analysis on the topic. Finally, a framework is developed for data collection and analysis.

2.1. Corporate Sustainability: Emergence and Significance

Corporate sustainability (CS) is a complex concept as different people, organizations, sectors, countries and regions of the world have different meanings on the concept and its implementation. Additionally, the concept has evolved over the years and has taken several dimensions and practices. Hence a globally accepted perspective of CS in organizations does not exist.

Fig. 2.1 shows a timeline of how sustainability has evolved over the years from an established sect and hierarchy in society to the triple bottom line (People, Planet and Profit). The resources of the planet are limited and continuing to consume it the way we do through over-exploitation will result in the depletion of natural resources (Dunkwu, Egbunike & Wilson, 2016). The fact that corporations have responsibilities to the society aside profit maximization is not new including the concerns raised by the public concerning their environmental and social impacts (Sandbrook, 2012). Research shows that CS has become important due to rising concerns about the environment and has drawn the attention of policy and decision makers worldwide (UNEP, 2013; IPCC, 2014). There has also been an increase in the demand from various stakeholders for companies to increase their contribution to society by reducing the impacts of their activities on the environment and to include corporate sustainability in their overall strategies (Accenture, 2011). Hence, addressing CS has subsequently changed from understanding the impact of business activities on the environment to how effective strategies can be communicated throughout the organization (Witjes, Vermuelen, & Cramer, 2017).

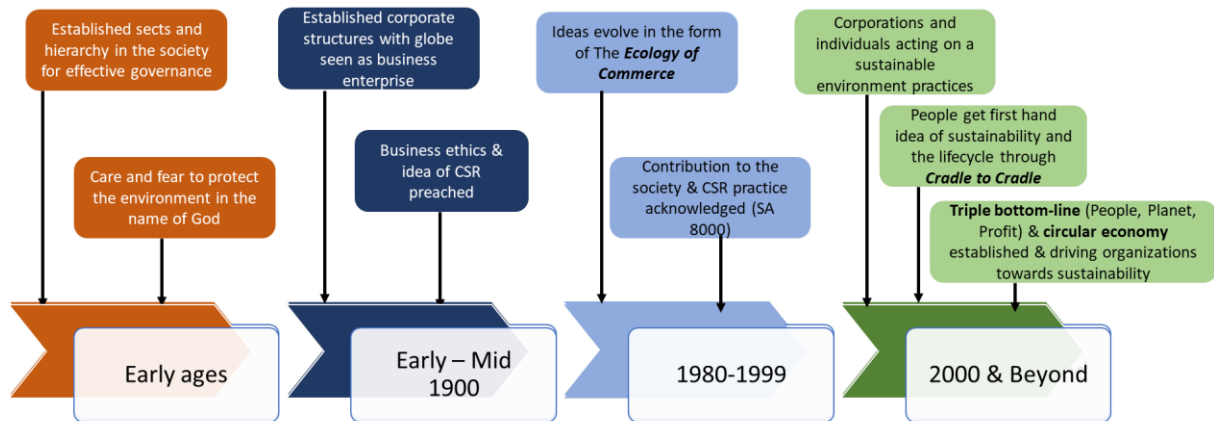


Fig. 2.1: Sustainability timeline [Adapted from (ECC International, 2012)]

Other literature (Baumgartner, 2009; Benn et al., 2012) emphasizes the significance of CS to a sustainable economic development, an environmentally friendly production and a sustainable society. It is seen as a way in which companies respond strategically to the environmental and social issues that result from their primary and secondary activities (Engert & Baumgartner, 2015). Organizations now see sustainability to be critical to their success and are testing innovative approaches to their operations to be successful in a low carbon, resource-constrained world (Sandbrook, 2012).

The analysis above shows that CS has emerged from a responsibility to a critical success factor for companies.

2.2. Dimensions of Corporate Sustainability

CS is approached differently in different organizations. There is a reactive approach to CS where companies respond to CS due to societal pressures, or after national policies. Others take a proactive approach in which organizations adopt tools that translate sustainability strategies into implementation, minimizing risks and avoiding uncertainties associated with it (Arjalies & Mundy, 2013; Gond, 2012). Dimensions of corporate sustainability are presented in subchapters below.

6.6.3. Sustainable Development

Sustainable Development (SD) emphasizes a company's *need to meet the need of the present without compromising the ability of the future generations to meet their own needs* (WCED, 1987). This definition is based on a long-term approach which focuses on organizations' ability

to demonstrate that they can generate and capture value despite the economic, social and environmental restrictions that have been put in place (Lloret, 2016). Examples of these restrictions could be how many products a plant could produce, the choice or preferences of consumers and the appropriate waste management practices. A decision to overlook these restrictions means that the organization is pretending to operate in isolation and have no stakeholders. The SD concept is said to be based on the contribution of already established concepts such as, stakeholder theory and corporate accountability theory (Wilson, 2003).

- ***The Stakeholder Theory*** – Stakeholders can be said to be those who are affected by or affect the ability of the company to achieve its objectives (Landau, 2017). They must be identified, and a relationship based on trust, respect and cooperation must be developed with them. If the relationship is strong, it will be easy to achieve organizational objectives and vice versa. The stakeholder theory is a business argument or a strategic management approach for applying CS. It includes both internal (mostly employees) and external stakeholders (customers, suppliers, neighborhood, (non) governmental organizations) (Wilson, 2003; Freeman, 1984). Employees' motivation, competitiveness and cost savings, are some of the business arguments for internal stakeholders towards CS whereas stronger brand, better image and access to new markets are some of the external stakeholder arguments for CS integration.
- ***Corporate Accountability Theory*** – This theory explains “how” CS is done instead of “why” CS should be done by organizations (Wilson, 2003). It is a shift from the conventional profit maximization reporting to an integrated reporting embodying financial, social and environmental consequences. For a company to be continuously successful, there is the need to be constantly aware of the conditions under which value can be created or lost because failure to adhere to limitations could lead to the loss of value (Lloret, 2016).

There is also a relation between sustainable development and corporate sustainability, though some authors use these terms interchangeably. Fig. 2.2 shows the relationship between sustainable development and corporate sustainability (Ditillo & Lissi, 2016).

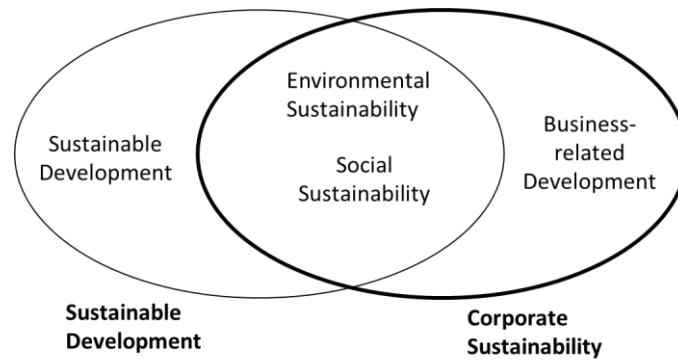


Fig. 2.2: Relationship between Sustainable Development and Corporate Sustainability (Dunkwu, Egbunike, & Wilson, 2016).

2.2.2. Proactive Sustainability Strategy

Proactive Sustainability is a concept that has emerged from organizations taking responsibility of meeting the needs of the future generation by anticipating and meeting the needs that they envisage to have (Shah, 2015). It is a progress from the reactive practices where organizations try to comply with regulations made by the government concerning appropriate environmental practices. Organizations perform beyond stakeholder expectations and use their capabilities to create value that is considered positive in terms of sustainability (Rosati et al., 2016). Efficiently using resources, reducing discharge and wastage, material substitutions, innovative manufacturing processes and fully recyclable products are examples of proactive sustainability practices (Kim, 2018; Wijethilake, 2017).

In this section, it can be concluded that CS has three main dimensions: environmental, social as well as the ability of an organization to create wealth sustainably whilst considering the needs of its stakeholders. Moreover, it is important that organizations anticipate the effect of their activities on future generations and put in place the necessary measures to address them.

2.3. Strategic management and corporate sustainability

As per definition, a strategy is “a method or plan chosen to bring about a desired future, such as achievement of a goal or solution to a problem” (Business Dictionary, 2019). Strategic management comprises two phases: strategy formulation and strategy implementation phases (Mintzberg & Waters, 1985).

- **Strategy Formulation** is the process of developing the strategy (where are we now and where do we want to be?) and it entails internal and external analysis of the organization and the industry, and the definition of objectives (Mintzberg & Waters, 1985).

- **Strategy implementation** is the process that turns plans into actions assignments and ensures that such assignments are executed in a manner that accomplishes the stated objectives (Kotler, 2001). Irrespective of how careful strategies are formulated, if there are no concrete plans for their execution, they would not amount to much (Nathan, 2010).

Most often, decisions are taken at the strategic levels thus the importance of integrating CS in the company's strategy, vision and culture to ensure that the vision is shared across all levels of the organization (Stead & Stead, 2014). Since CS cannot be described as a specific goal to be achieved, a CS strategy can be rather seen as a process of developing towards a desired future with the incorporation of lessons learned on the way and necessary adjustments due to changing circumstances (Bagheri & Hjorth, 2007). This means that if management does not include CS in the overall company strategy formulation and design practical steps for a successful implementation, it will remain just a strategy.

2.4. Management Systems and Corporate Sustainability

Management Systems are ways in which organizations manage the inter-related parts of their businesses in order to achieve their objectives (ISO, 2019). These objectives could include environmental performance, safety in the workplace and corporate sustainability. The larger the organization, the more complex the management system is and vice versa. Examples of these systems include having a strong leadership, properly communicating what is expected of employees, and using control systems to achieve set goals (ISO, 2019).

2.5. Strategic motives for Corporate Sustainability

There are six outlined principles that serve as motivation for integrating corporate sustainability (Marrewijk & Werre, 2003) (see Fig. 2.3). These include a *Pre-CS* where an organization has no interest or ambition for implementing CS though when forced externally, some steps towards CS might be initiated.

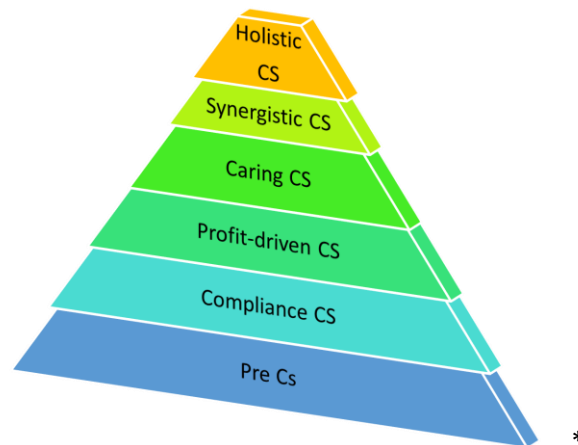


Fig. 2.3: Motivation for implementing CS (Adapted from Marrewijk and I, 2003).

Second is *Compliance-driven*, where CS is done as a way of providing welfare to society within the limits of existing regulations. CS is therefore viewed as an obligation. Third is the *Profit-driven* in which implementation of CS is done provided it is financially beneficial. Fourth, is the *Caring CS* where initiatives go beyond legal compliance and financial benefits. The human potential, social responsibility and care for the planet are as such important. Fifth is the *Synergistic CS* seen as a functional solution creating economic, social and environmental value in corporate performance with all relevant stakeholders. Motivation for CS here is that sustainability is important in itself. And finally, the *Holistic CS*, where sustainability is considered the only alternative. Here, CS is fully integrated and embedded in all levels of the organization. The holistic CS would then include the three levels: normative level (vision, corporate governance and culture), strategic level (planning, implementation and evaluation) and operational level (production, maintenance, marketing, services, human resource, communication) (Baumgartner, 2014; Baumgartner, 2009).

Hence, it is important to first ascertain an organization's motivational principle on CS to determine the corresponding actions for a successful CS integration.

2.6. Barriers to Corporate Sustainability

While there are motives that drive organizations to sustainability, there are also barriers that must be addressed for organizations to reach their goals on sustainability. These barriers could either be general or organization specific. The ability of an organization to identify these

barriers can facilitate the application of the appropriate strategies and management systems to overcome them and help to better incorporate and fully integrate CS strategies.

One major barrier organizations face is the resistance to change. In most cases, they often have established “unsustainable” ways of working, the so-called status-quo. However, as these organizations see the need to adopt more sustainable ways of working, the change from the status-quo to a sustainable approach (be it technological or human) often faces resistance. Therefore, having a strategic plan to handle such organizational changes could help overcome these resistances to change and thereby lead an organization to a more sustainability-oriented state (Lozano, 2012). This is illustrated in Fig. 2.4.

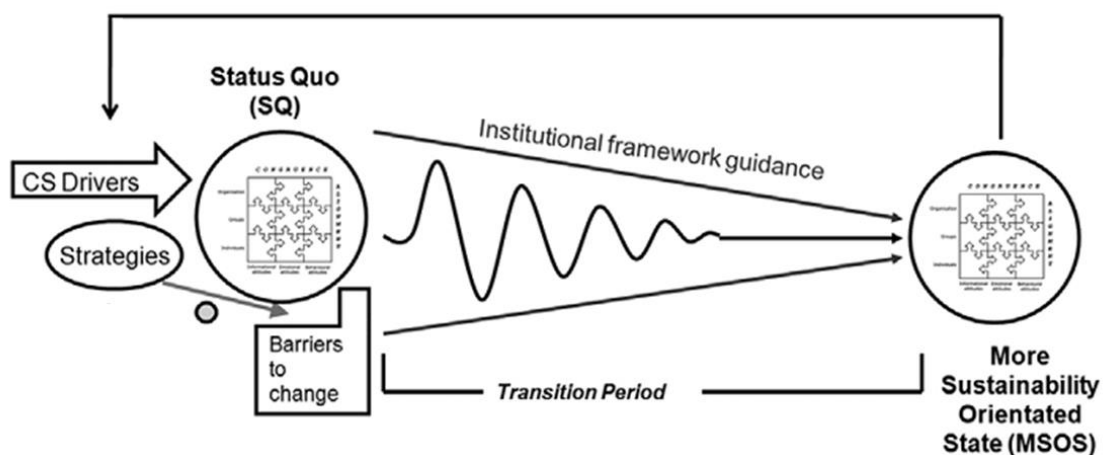


Fig. 2.4: Orchestrating change for corporate sustainability model (Source: Lozano 2009).

Another barrier that is often faced is the cost of sustainability and economic conditions (Giunipero et al., 2012). Many companies believe that, engaging in sustainability is an expensive undertaking that will add to their overall costs and will not result in immediate financial returns (Nidumolu et al., 2009). They also fear that, if they become environmentally friendly, it will reduce their competitiveness.

Moreover, organizations need to understand that implementing CS strategies does not solely lead to economic results and cannot be measured in financial terms (Lankoski, 2007). Managers need to therefore understand that to implement CS strategies, there is sometimes the need for change in materials and processes which can be initially costly but can eventually result in social and financial benefits. Hence, to implement CS strategies, managers need to think holistically and in an interconnected way (Azapagic, 2003).

Other common barriers that have also been identified are as follows (Azapagic, 2003; Bivona & Daza, 2009; Paramanathan et al., 2004);

- Pluralistic and ambiguous sustainability goals
- Shortage of staff, time and resources
- Lack of awareness and understanding of the principles of sustainable development and what can be done on the practical level

2.7. Corporate Sustainability Actions

Corporate Sustainability Actions (CSA) include strategies, plans and programs put in place to result in social and economic performance (Epstein & Roy, 2001). When managers identify which section of their activities (e.g. energy consumption and labour practices) affect sustainability, they will have to formulate a sustainability strategy that includes their values and goals. This is likely to improve CS performance because it focuses on areas that need to receive attention and priority (Epstein & Roy, 2001). Programs and plans are then developed to achieve objectives and goals that have been set. They can be in the form of programs that aim at improving social and environmental performance and those that are aimed at promoting the organizations' performance on sustainability to their stakeholders (Epstein & Roy, 2001).

2.8. Corporate Sustainability Integration Models

The formulation of a sustainability strategy is challenging but trying to implement the formulated strategy is even more difficult (Bol, 2018). There is no “one size fits all” approach to CS integration. Companies failure to integrate CS strategies might also be due to varied views relating to CS such as climate change, labor practices and human rights (Hahn, 2013). It may also arise from the different company circumstances such as industry sector, product or service type, processes etc. (Baumgartner, 2014). Hence, it is necessary for strategies to be adapted to match each company's specific circumstances. An industry such as the automotive, engages in more activities and processes that results in the production of waste more than a service industry and would therefore need a unique strategy that is peculiar with its activities.

In the following subsections, a summary of suggestions for CS integration are explained and they vary within their depth and scope.

6.6.3. Use of key performance drivers

A guideline for translating corporate sustainability into action is stated by Epstein and Roy (2001). Their model describes drivers of sustainability and financial performance in organizations as shown in Fig. 2.5. It highlights the actions and programs managers should put in place to affect performance, and the effects of these actions on corporate, social and financial performance. It further explains that an understanding of the drivers and impact of social performance on the various stakeholders allows a better integration of derived information into daily operational decisions, and the communication of social concerns across the organization. Furthermore, the model provides information on the details of the systems, structures and measures necessary to change organizational culture to bring about improvement in social and financial performance. Managers can make a significant contribution to both company and society by careful identification and articulation of these drivers as well as measuring and managing the broad effects of the social performances on the corporation's stakeholders.



Fig. 2.5: Drivers of sustainability and financial performance (Epstein & Roy, 2001).

2.8.2. Use of sustainability thinking into the management process

Another approach that may help move from CS strategy formulation to implementation is that of Nathan (2010) which is also based on Galbreath's concept (2009). In this literature, the author presents a different approach to that of Epstein and Roy (2001) by stating that, factors such as leadership, structures, culture, best practice, reward and control systems, governance

and ethics as well as policies are necessary to bridge the gap between CS strategy formulation and implementation. On leadership, it is required that management is committed to sustainability goals and to ensure that sustainability is immersed in the corporate culture. In terms of how to develop performance measurement systems and structure, the author supports Epstein & Roy (2001) in saying that management should be able to quantify how one variable drives another variable until there is a clear association to profit. The structure of the organization should also be such that strategy, structure and management systems are aligned for co-ordination of activities and motivation of employees toward the implementation of a sustainability strategy.

2.8.3. Use of success factors

Specific factors that are necessary for the success of CS integration are presented in Fig. 2.6 (Engert & Baumgartner, 2015). The authors defined success factors as “*factors or conditions that are necessary for a company to achieve a successful integration of a CS strategy*”.

These factors according to Boynton & Zmud (1984), must go well and need to be given a special attention to bring about high performance.



Fig. 2.6: Success factors identified for corporate sustainability strategy implementation (Engert & Baumgartner, 2015)

The success factors identified include organizational structure, organizational culture, leadership, management control, employee motivations and qualifications and communication.

- **organizational structure:** this involves aspects such as an organigram, departments, circles, sustainability boards and persons responsible for sustainability issues.
- **organizational culture:** here organizational behaviour, experience and expectations are the key considerations.
- **leadership:** leadership always remain key to the successful implementation of every strategy. Management, decisions and personnel functions are some of the aspects mentioned under leadership.
- **management control:** Under this factor falls management systems, performance indicators, standards, formal guidelines, monitoring and evaluation.
- **employee motivations and qualifications:** workshops, seminars and training courses are to equip and motivate employees to work towards sustainability goals.
- **Communication:** reports, intranet, company newspaper, meetings, and interaction and coalition amongst managers are the main channels of communication.

Furthermore, several authors have varying models to integrate sustainability into organizations based on the different interests, perspectives and approaches. This depends on the what objectives have been set, and what definition of sustainability an organization has decided to adopt. Table 2.1 shows integration approaches and their scope (Rodríguez-Olalla & Avilés-Palacio, 2017).

Table 2.1: Sustainability integration models

Integration Approach	Scope	Authors
Sustainable Performance	Systematic approach for measurement and analysis of social sustainability performance via literature review, conceptual model development, assessment of social sustainability, and approximation of linguistic terms by fuzzy numbers. Highlights determination of the Fuzzy Social Sustainability Index, and identification and analysis of the Fuzzy Performance Importance Index.	Rajak, S.; Vinodh, S. Application of fuzzy logic for social sustainability performance evaluation: A case study of an Indian automotive component manufacturing organization. <i>J. Clean. Prod.</i> 2015 , <i>108</i> , 1184–1192.
	Systematic approach analysis of the natural environment to measure the sustainability performance of socio-economic systems using two key variables: essentiality of consumption and environmental impact. A toy model implementation with five aspects: system boundaries definition, relevant phenomenon variables and their organization, modelling relationship between variables and their dynamics, checking ignorable variables, and model validity and future modifications assessment.	Nunes, B.; Alaminio, R.C.; Shaw, D.; Bennett, D. Modelling sustainability performance to achieve absolute reductions in socio-ecological systems. <i>J. Clean. Prod.</i> 2016 , <i>132</i> , 32–44.
Sustainable Strategy	Role of leadership in accelerating strategic sustainability initiatives. Integrates the Framework for Strategic Sustainable Development (FSSD) and the Planet Boundary Approach (PBA). The FSSD is structured into five levels: systems, success, strategic guidelines, actions, and tools. Presents two strategic sustainable organization management: The Strongly Sustainable Business Model Canvas and the Future-Fit Business Benchmark.	Kurucz, E.C.; Colbert, B.A.; Lüdeke-Freund, F.; Upward, A.; Willard, B. Relational leadership for strategic sustainability: Practices and capabilities to advance the design and assessment of sustainable business models. <i>J. Clean. Prod.</i> 2016 , 1–16.
Management Process	Analysis of organization design elements; total environmental management; sustainable organization design.	Shrivastava, P.; Hart, S.L. Creating Sustainable Corporations. <i>Bus. Strategy Environ.</i> 1995 , <i>4</i> , 154–165.
	A creation of a sustainability model through the systematic approach of continuous quality improvement; drivers of change: accounting, leadership, and the organization.	Schalock, R.L.; Verdugo, M.; Lee, T. A systematic approach to an organization's sustainability. <i>Eval. Progr. Plan.</i> 2016 , <i>56</i> , 56–63.
Quantification of Indicators	Quantification of indicators in general. Six categories identified: individual/set of indicators, composite indices, socially responsible investment indices, material and energy flow analysis, life cycle analysis and environmental accounting.	Angelakoglou, K.; Gaidajis, G. A review of methods contributing to the assessment of the environmental sustainability of industrial systems. <i>J. Clean. Prod.</i> 2015 , <i>108</i> , 725–747.
	Design and quantification of Performance Indicators (KPIs): economic, environmental, social, technological, time, quality, disputes, and project administration aspects.	Kylili, A.; Fokaidis, P.A.; Lopez-Jimenez, P.A. Key Performance Indicator (KPIs) approach in buildings renovation for the sustainability of the built environment: A review. <i>Renew. Sustain. Energy Rev.</i> 2016 , <i>56</i> , 906–915.
	Environmental approach for the analysis of the effectiveness of sustainable management tools (SMTs) for sustainability in large companies. Implementation of SMTs considered as key operational sustainability management activity for reduction of specific environmental impacts.	Hörisch, J.; Ortas, E.; Schaltegger, S.; Álvarez, I. Environmental effects of sustainability management tools: An empirical analysis of large companies. <i>Ecol. Econ.</i> 2015 , <i>120</i> , 241–249.
Sustainability Reporting	Highlights the influence of sustainability reports as a mechanism for integrating sustainability in organizations by assessing the degree to which the companies addressed economic, ecological and social issues separately or in an integrated and interlinked manner.	Lozano, R.; Huisingh, D. Inter-linking issues and dimensions in sustainability reporting. <i>J. Clean. Prod.</i> 2011 , <i>19</i> , 99–107.
	A review of communication tools – framework, standards, ratings and indices.	Siew, R.Y.J. A review of corporate sustainability reporting tools (SRTs). <i>J. Environ. Manag.</i> 2015 , <i>164</i> , 180–195.
Integration factors /framework	Inside-out/outside-in perspectives of analysis of factors for sustainability: sustainability assessment, management accounting, management control, and reporting.	Maas, K.; Schaltegger, S.; Crutzen, N. Integrating corporate sustainability assessment, management accounting, control and reporting. <i>J. Clean. Prod.</i> 2016 , <i>136</i> , 237–248.
	Sustainable performance integration model in organizations via investigation of contributions and interrelations between corporate sustainability performance (SP) approaches (measurement, management and reporting) and the integration of SP into business. Analysis on processes and practices, capabilities, offerings, contribution to the development of competitive advantages.	Morioka, S.N.; de Carvalho, M.M. A systematic literature review towards a conceptual framework for integrating sustainability performance into business. <i>J. Clean. Prod.</i> 2016 , <i>136</i> , 134–146,
	An inside-out perspective to understand what the intentions of CS approaches are and how they are applied in business. A framework (MCSA) was developed with the purpose of questioning an organization's intentions of CS approach within their context.	Witjes, Sjors; Walter, J.V. Vermeulen; J.M.Cramer. Corporate Sustainability integration; development of a framework to map supporting approaches. ResearchGate. 2015...

2.9. Framework for CS Integration

Integration of CS is not a custom-made process hence for effective implementation of CS, organizations must select a proper framework to evaluate the suitability of CS initiatives in accordance with their awareness, knowledge, intentions, strategies and competences (Marrewijk & Werre, 2003). For this research, a framework derived from the literature study as shown in Fig. 2.7 served as a basis upon which data was collected for the case studies.

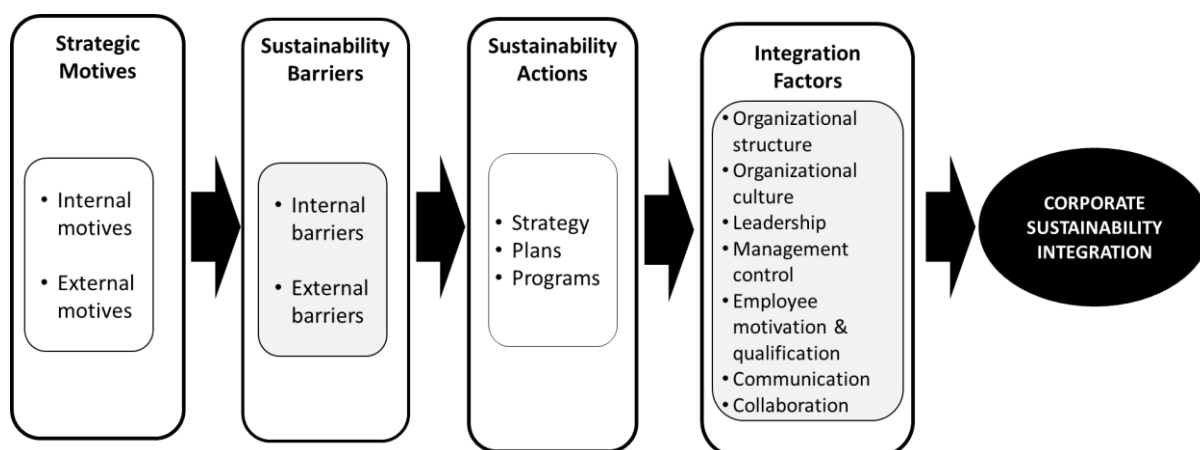


Fig. 2.7: Corporate sustainability integration framework (adapted from literature study).

A detailed explanation of the integration factors as found in the framework can be found below:

- a. **Organizational Structure:** For a successful integration of sustainability into strategic management, there is the need for coherence between CS strategies and organizational structure (Brunner, 2006). Organizational structure is defined as “*the typically hierarchical arrangement of lines of authority, communications, rights and duties of an organization. It determines how the roles, power and responsibilities are assigned, controlled, and coordinated, and how information flows between the different levels of management*” (Business Dictionary, 2019). It is important to have a fit among the organizational structure, organizational processes and strategies during the implementation of CS strategies. This will enhance communication among the various levels of the organization and ensure that the entire organization is aware of what roles to play to collectively achieve set targets on sustainability.

- b. **Organizational Culture:** The term refers to that set of members' basic assumptions which influence thinking and action in the organization (Schein, 1985). Based on this definition, Baumgartner (2009) explains that, it is important that CS activities and strategies are embedded in the organizational culture. It reinforces the importance of environmental and social values in the organization and serves as a guide to both managers and employees (Bonn & Fisher, 2011). Managers should create a culture that values sustainability and inspires their employees to be committed to achieving it.
- c. **Leadership:** "*Leadership is concerned with direction setting, with novelty and is essentially linked to change, movement and persuasion*" (Storey et al., 2017). Research from some interview-based studies shows that, personal attitudes and values of managers regarding issues on sustainability is important (Engert & Baumgartner, 2015). If leadership embrace sustainability, it would be easier to influence employees to commit and implement sustainability strategies (Stead & Stead, 2014). In organizations where the persons formulating the sustainability strategies are different from those implementing it, leadership should ensure communication between the two to avoid misunderstanding and ambiguity (Engert & Baumgartner, 2015).
- d. **Management Control:** It is the duty of management to be able to assess the extent to which set goals/target have been reached or met. One of the challenges management constantly face is how performance can be assessed during and after the implementation of a strategy (Noble, 1999). The ability of managers to address this is one step further to the successful integration of a strategy. It is reportedly difficult to develop the appropriate performance indicators and how to measure them, when it comes to sustainability (Engert & Baumgartner, 2015). According to Epstein and Roy (2001), a sustainability strategy should for example '*be translated into measurable goals such as a specific reduction level for safety performance*'. It gives management the ability to assess their progress and whether there is the need for corrective actions to be taken.

There is an extension of the traditional Management Control Systems (MCSs) called Sustainability Control Systems (SCS), which is used to address the interrelationships between economic, environmental and social issues related to organizational performance (Caputo, Veltri, & Venturelli, 2017). Eco-control, belief systems and boundary systems are examples of constructs in SCS (Joshi & Li, 2016; Wijethilake, 2017). Other literature tries to examine the extent to which companies can use the SCS to translate proactive sustainability into corporate sustainability performance (Ditillo & Lissi, 2016). Fig. 2.8 shows the relationship between proactive sustainability strategy (PSS) and corporate sustainability performance (CSP) (Wijethilake, 2017). It was observed that PSS improved CSP because resources are efficiently used. Further, there is an increase in cost advantage, a reduction in waste and discharge, promotion of a company's good reputation and the ability to generate new innovative capabilities (Bhupendra & Sangle, 2015). It also encourages management control systems to be aligned with strategies so that decision making could be supported and served as a form of motivation to employees to contribute to the successful implementation of strategies (Itner & Lacker, 1997).

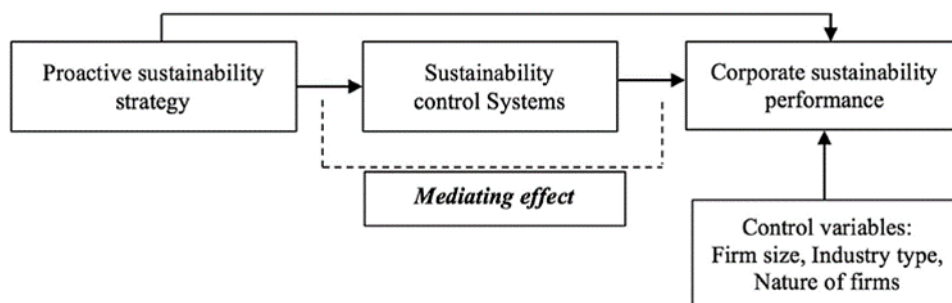


Fig. 2.8: The mediating effect of sustainable control systems (Wijethilake, 2017).

A study shows that a well-designed SCS enables managers to translate a proactive sustainability into corporate sustainability performance (Wijethilake, 2017). Additionally, the use of SCS addresses limitations in current CS practices. Sometimes, top management might be interested in taking up sustainability projects, but lack the knowledge to implement these projects, leading to an increase in environmental costs and risks (Aragon-Correa & Rubio-Lopez, 2013).

e. *Employee Motivation and Qualification*: Strategies developed at the managerial level need to be operationalised by employees. It then makes the cooperation of employees vital (Galpin, 1997). Integration of CS needs time, and employees need to be motivated to effect the expected change (Engert & Baumgartner, 2015). Factors that contribute to increasing the motivation of employees are twofold. First, employees need the required qualification to understand what sustainability implies in their day-to-day activities and this qualification can be obtained through training programmes. Secondly, employee motivation can be increased by introducing a reward system that would encourage them to achieve set targets (Raps, 2008). Managers should be willing to put the necessary measures in place to help employees to willingly contribute to the achievement of their goals on sustainability.

f. *Communication (Internal and External)*: According to Noble (1999), the interaction among managers represents a very important communication process within organizations. Communication concerns the *imparting or exchanging of information by speaking, writing, or some other medium* (Dictionary, 2019). The main channels for internal communication for sustainability related issues include the use of intranet, meetings and the company newspaper (Engert & Baumgartner, 2015). External communication also involves reports on sustainability projects to external stakeholders for making decisions that could affect the organization in the short or long-term.

g. *Collaborations*: It has been discovered that “moving together” in the form of partnerships is a good approach towards addressing sustainability challenges (Optimy, 2016). A report in 2015 states that 90% of executives admitted the importance of sustainability collaborations whilst only 45% followed through to form partnerships (MIT, 2017). “*The more companies engage in collaborations the more likely they are to report success and value creation*” (Unruh, 2017) and when strategic management initiates such partnerships, then there is a high probability that preparations would be made towards a successful outcome. To achieve success, questions that must be asked are (Unruh, 2017):

- Why do I want to collaborate?
- What do we want to achieve?
- Who would take the lead?
- How do I define success?
- Are we using the right tools to form a successful partnership?

These will serve as a guide for organization to know if they are entering the right partnership or not and whether their goals will be achieved.

CHAPTER THREE

RESEARCH METHODS

This chapter focuses on the research design, data collection methods, analysis and synthesis of data that lead to answer the research question. Having known that sustainability is a rising trend that needs proper strategy formulation and integration, a qualitative analysis would be made of case studies to know the existing practices in the different organizations. This will be in the form of conducting interviews and making observations in relation to information on sustainability found on organization websites and publications.

3.1. Research design

A case study approach used to gather data for this thesis is to narrow down the application of the topic to three companies in order to access different approaches to the topic under discussion. The use of a case study as a research tool, is an exploratory method frequently used by researchers to enable them to explore the topic under research and obtain a balanced knowledge of practices in organizations that might not have been covered in existing literature (Zainal, 2007). It provides a holistic and an in-depth information on the topic as compared to quantitative statistical results (Zainal, 2007). By using a case study approach, the researcher can extend their knowledge beyond statistical results and understand the behavioral conditions from the actor's perspective in consideration to the research question posed. Also, since the topic under study is still evolving, analysis can be made within the context of the cases instead of a broad understanding of it.

The use of interviews as a tool for gathering data is useful for obtaining a detailed view about a topic (Kvale, 2003) and allows the interviewer to seek complete and clear information about a chosen topic (Alshenqeeti, 2014). It is an interactive and less structured form of data collection used by researchers to broaden their scope of knowledge and understanding based on how the topic under research is interpreted by the interviewee (Alshenqeeti, 2014). An open-ended form of interview in which interviewees can expand and elaborate on various issues concerning the topic will be used to collect data from the organizations under study. The use of interviews also allows the interviewer to clarify questions to avoid ambiguity and allows the interviewee to probe into questions for clarifications (Berg, 2009).

Semi-structured interviews will be conducted with employees from the different levels of the chosen organizations to obtain first-hand information that is usually not found on company

websites and reports. Findings from this research can therefore be said to be reliable and also serve as an extension to existing literature on the topic and help the organizations under study to engage in practices that will enhance the proper integration of formulated sustainability strategies.

3.2. Case Studies

The companies chosen for the research purposes have CS strategies but are still searching for the better ways to implement them. They also have visions on sustainability and have taken some steps towards their visions, but they question themselves as to whether they are in the right direction. This makes them a perfect selection for the research. Brief descriptions of the companies are as follows:

- *HAN University of Applied Sciences* is a higher educational institution that offers practice-based education and research, tailored to companies and industries. Their goal is to help students experience a hybrid learning environment where theory can be combined with practice and also contribute towards the overall goal on sustainability. In collaboration with other stakeholders, HAN desires to promote sustainability in other organizations.
- *Industriepark Kleefse Waard (IPKW)* is an industrial park that provides space for manufacturing and/or clean tech companies with an eye for sustainability. It is the aim of the park to become one of the most sustainable parks in The Netherlands by 2025.
- *QING* is an engineering firm delivering innovative and sustainable solutions in the field of industrial automation, special machine building and energy. Its focus is renewable energy usage and zero emissions for its machine builders and users thereby contributing to a sustainable environment.

3.3. Data Collection

Data collection will be by means of conduction of interviews and observations.

- Case study of HAN
- Case study of IPKW
- Case study of QING

Meetings with the executives of the various organizations under study were held in March 2018 to explain the purpose and scope of the research. Interviews were therefore conducted with employees to obtain a comprehensive information about the topic under study from June to July 2018. Candidates interviewed were those who had knowledge about the topic and were in the forefront of leading their organizations in the right direction towards sustainability, hence their ability to provide adequate information for the purpose of the research.

It is however important to remark that this approach could be a biased means of obtaining information because the interview is being conducted on the premises of these organizations and conclusions might have already been drawn by the interviewer based on observations made.

All interviews were conducted between June and September 2018 and interviewees involved in this research were also willing to participate.

In addition to the interviews, observations were made by the researcher at the premises of these organizations to experience or observe existing practices. The websites of the organizations were also looked at to have an objective perception of how the existing practices are communicated to the various stakeholders. Are these organizations actively involved in the society concerning the researched topic and what have been their contributions towards it? A sample of the interview questions can be found in the Appendix of this paper. Table 3.1 gives the list of persons interviewed from the respective organizations. In total, thirteen (13) people were interviewed and were divided as follows: HAN (5), IPKW (4), QING (4).

Table 3.1: List of interviewees

NUMBER	NAME	POSITION	ORGANIZATION
1	Cristel Busser	Process Coordinator SU O&O Service Unit, Education and Research	HAN, Arnhem
2	Christien Lockman	Program Manager, Sustainable Energy and Environment (SEE) Lector HAN Biocentre	HAN, Nijmegen
3	Frank Croes	Senior Lecturer, Faculty of Economics and Management. Partner at Croes Management Advisors Sustainable Business Strategy	HAN, Arnhem
4	Tinus Hammink	Programme Manager, Sustainable Electrical Energy Centre of Expertise (SEECE)	HAN, Arnhem
5	Erik Folgering	Head of Operations, Institute of Engineering	HAN, Arnhem
6	Bram Peters	Director/Owner, Save Plastics	IPKW, Arnhem
7	Marianne Mulder	Communications and Marketing Officer/Executive Assistant Veolia Netherlands	IPKW, Arnhem
8	Kevin Rijke	Director Industriepark Kleefse Ward.	IPKW, Arnhem
9	Wim Vierwind	Power lab Manager ONE. Arnhem	IPKW, Arnhem
10	Arno Albers	Managing Director. QING Groep	QING, Valkenswaard
11	Twan Voets	Sales Engineer	QING, Arnhem
12	Martin Ruiten	Managing Director, LC Energy	QING, Valkenswaard
13	Friso Huizinga	Energy Consultant	QING, Valkenswaard

3.4. Data Analysis and Synthesis

Data collected through interviews, observations, company reports, and websites were combined and analyzed using content analysis and all interviews were transcribed manually and coded. Coding is a process whereby data collected are organized and sorted by creating labels on information gathered (Graham, 2007). It involves assigning words, phrases, symbols or numbers to each category that needs to be coded. Interview transcripts, observations and notes were reviewed considering available literature concerning the topic. This was done to identify concepts and themes which were placed under specific codes to help in creating a storyline which eventually helped in analyzing the data. Another method used is content analysis which is a research method that helps to simplify and reduce data so that relevant conclusions can be drawn in relation to the topic being researched (Bengtsson, 2016).

There is, however, the risk the researcher could misinterpret data gathered leading to the generation of wrong and unreliable conclusions (Krippendorf & Bock, 2009).

Coding is important to help summarize, synthesize, structure and build knowledge about data gathered. Three kinds of coding that can be used are: *descriptive coding*, which only stores information; *topic coding* which also identifies information that is themed and *analytic coding* which is used in the development of concepts (Janice & Richards, 2002). In this research, a combination of descriptive and topic coding was used. The following themes were used to label information gathered: strategic motives, barriers, organizational structure, organizational culture, leadership, management control, employee motivation and qualification, communication and collaboration. An explanation of the themes can be found in the literature review (see sections 2.5 – 2.9). Interrelationships were then drawn between/among these themes from which conclusions were drawn for this research.

For an effective analysis of CS strategies in the various organizations, a synthesis is made from literature, observations and interviews conducted to answer the research question and draw conclusions.

CHAPTER FOUR

RESEARCH FINDINGS

This chapter presents the findings of the data gathered during the interview sessions based on the specific themes found in the framework.

4.1. Case Study 1: HAN University of Applied Sciences

As a University of Applied Sciences, HAN has three focus points on which their activities are driven towards: Sustainable Energy & Environment (SEE), Health and Smart Region (see Fig. 4.1). It is one of their goals to align the government's agenda with education in terms of research to introduce sustainable energy solutions thereby reducing the use of fossil fuels. Hence, the Sustainable Electric Energy Centre of Expertise (SEECE) which is a public-private entity has a mandate to facilitate energy-related sustainability goals in terms of human capital, research and education.

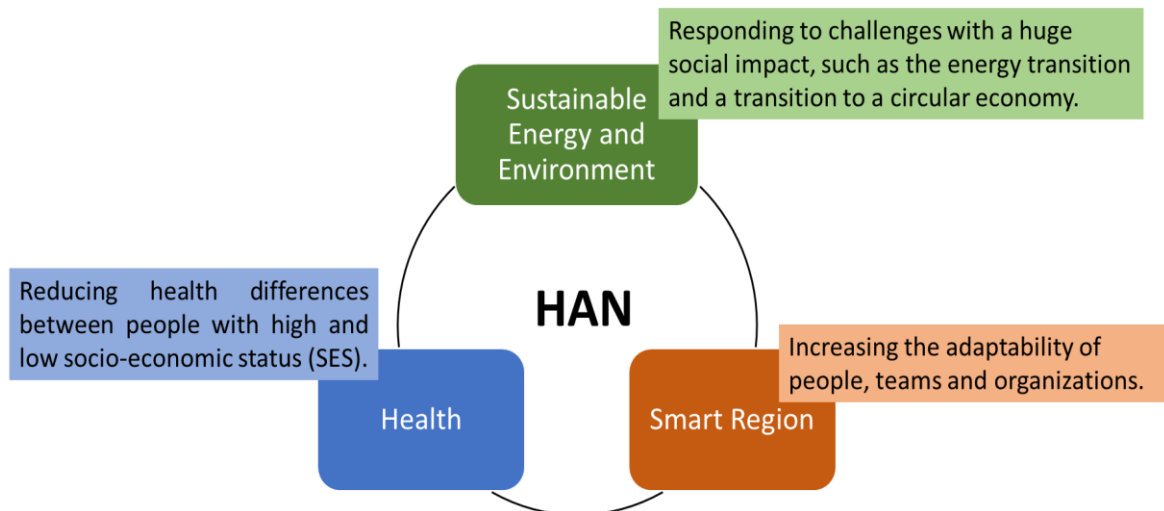


Fig. 4.1: The three focus areas of HAN.

4.1.1 Motives for CSI

A rise in climate change awareness and an expected change in the energy supply system (from fossil fuel to renewable energy) in the Netherlands has resulted in the engagement of HAN as an educational institution, in sustainability. HAN sees CS as not only avoiding the use of plastic

or riding a bike in place of driving a car but rather a circular way of thinking in which waste is totally avoided by not using combustion engines or cars or without the use of coal-fired electricity in the foreseeable future. They recognize it as a proactive approach instead of a reactive approach towards CS.

The focus of the SEE is based on the following (HAN, 2019);

- *Sustainable, reliable and affordable energy supply*: With the need for a transition to sustainable energy, the reliability of the energy supply is under increasing pressure. Hence there is a need for innovative solutions to balance the sustainability and reliability of the energy supply in an affordable manner.
- *Clean mobility and sustainable built-environment*: Clean mobility embodies a reliable, efficient, safe and sustainable mobility system. The HAN sees this as a prerequisite for a well-functioning modern society. In the built environment addition, the Netherlands has many buildings with high energy consumption which must be made more sustainable and efficient.
- *Circular and bio-based economy*: The growing need for circularity and sustainable business models is given a primary focus. Also essential are bio-based solutions to replace environmentally unfriendly raw materials.
- *More future-proof professionals*: In several sectors such as the energy sector, there is a large shortage of well-educated professionals. There is the need for electrical engineers and IT professionals and the Human Capital Agenda (HCA) is a sustainable goal for the HAN.

4.1.2 Sustainability Actions

HAN has and is still developing strategies, plans and programs to implement CS strategies. Programmes initiated include the combination of innovative ideas by forming partnerships with companies to develop programs for students that provide human capital to meet up with the intended energy transition. Also, as an organization, activities such as the use of rain water to flush toilets, building one of the most sustainable buildings (EO Gebouw) in the Nijmegen area, and the automatic regulation in the use of light are undertaken in the transition towards sustainable practices. They are also in the process of placing solar panels on their roofs and

have also signed a Natural Resource Agreement which recommends the re-use of materials in the Building Technology Department supporting a natural resource base view of resources and a circular economy concept.

Sustainable Electrical Energy Centre of Expertise (SEECE)

The Sustainable Electrical Energy Centre of Expertise is a public-private entity at the HAN tasked with the facilitation of sustainable activities by bringing together research activities, education and industries. The main activities of SEECE are focused on developments necessary for sustainable energy demands and to offset the growing shortage of engineers in the energy sector. They include an increase in student intake and participation in sustainable energy-related courses, as well as increase in research output and number of start-ups and SME innovations relating to sustainable energy.

Individual actions

Individuals at HAN have also taken it upon themselves to bring together likeminded colleagues interested in contributing to a better future to champion sustainability issues. These groups form committees to educate and create awareness about sustainability.

Hybrid learning environment

In addition, a hybrid-learning environment has also been created where students have formed research groups to work on sustainable energy-related projects. These students gain practical experience by applying knowledge gained from school in collaboration with companies to solve energy-related issues thereby gaining first-hand experience. Teachers are also encouraged to be involved in these projects to make them competent and assist in the energy transition. Training is also provided for a technical support team who support students during these sustainability projects.

Students projects

As a form of motivation, students are also encouraged to start their own sustainability projects such as solar boats, wind driven vehicles, electric buggy etc. or other projects which are aligned the SEECE initiatives. Some are also awarded prizes or given stars for their projects to serve as an encouragement and awareness to other students. A platform is also created where students can share and exchange ideas on sustainability all in the quest to spread and be active in sustainability related projects.

4.1.3 Barriers

Sustainability project groups that have been formed to address sustainability issues “*cost a lot of time and time costs money*” (Interviewee, HAN). Project groups would have to meet frequently for hours leading to an increase in the cost of project groups. Another barrier that is faced by the HAN is lack of co-operation among other departments in the strive towards sustainability. This results in slow progress towards the achievement of sustainability goals. Lastly, the HAN lacks sufficient personnel who could help teach and train students to supply human capital necessary for the energy transition from fossil to renewable energy in the Netherlands.

4.1.4 Integration factors

- **Organizational Structure:** HAN has several departments and as a result it is challenging for sustainability to be integrated into strategic management. This has resulted in a bottom-up approach with only some departments engaging in activities that relate to CS. Therefore, heads of different research groups in the departments engaged in CS have come together to form a network and serve as ambassadors of their fields. This initiative is important because sustainability is an interdisciplinary topic and requires communication among heads of departments to avoid friction.
- **Organizational Culture:** When sustainability is embedded in the culture of the organization, it reinforces the importance of both environmental and social values to the company. It also helps guide the behavior of managers and employees in the right direction. In the case study, an interviewee stated that since sustainability is an evolving concept and requires a change in culture, it would take some time for the change to take effect. This does not mean that steps have not been taken to bring about the change but that progress in change in culture is moving at a slow pace in the organization.
- **Leadership:** If managers accept their role on sustainability, it can lead to a successful integration of a sustainability strategy. In 2008/2009, sustainability was considered in HAN’s strategic management though the drive dwindled over the years. New leadership rephrased HAN’s vision on sustainability with a dedicated focus point on sustainability and environment. Therefore, sustainability activities are now mostly approached from

a “bottom up” and middle management and employees are required to take initiatives on sustainability. This has proved to be quite challenging since such strategies are better integrated with initiatives and support coming from top management. However, the Engineering and Economics departments are presently actively involved in CS activities with examples such as Sustainable Electric Energy Centre of Expertise (SEECE) and involvement in circular economy initiatives.

- **Management Control:** Interviewees stated that, departments who are involved in CS activities have monthly reviews to assess their progress and a yearly review of energy use as agreed on by Dutch University of Applied sciences. Concerning the energy use, some interviewees stated that the reviews were normally in the form of reports and no concrete actions were taken thereafter.
- **Employee Motivation and Qualification:** In the HAN, teachers together with students are involved in sustainable energy projects with companies to keep abreast with the changes and needs of the companies. This helps them to gain practical knowledge on sustainable energy practices. It is called the “*professionalization of teachers*” (Interviewee, HAN). It enables them to make the necessary adaptations to the courses students would have to take to provide the needed human capital. Courses on sustainable energy are also organized by the Department for Commercial Training for middle class workers in the school. Second, employees’ motivation is increased by reward systems. The HAN motivates its employees by setting aside funds as rewards for employees who come up with initiatives on CS.
- **Communication:** It involves the internal and external transfer of information to stakeholders both within (internal) and without (external) the organization. In the case of HAN, networks formed by employees serve as channels of communication on sustainability issues. Other forms of communication such as intranet or reports about sustainability activities are not effectively used. External communication about CS activities only include the SEECE activities which are normally found on the school website.
- **Collaborations:** The HAN has made collaborations with engineering and energy companies such as DNVGL, TenneT (Transmission System Operator for the Netherlands), Alliander (Distribution Network Operator) and many other regional and national energy-related companies to research and implement sustainable energy-

related projects. Students and researchers at HAN are involved in various sustainability related topics to facilitate the energy transition. An example of such smooth transitions is training enough students who would assist Alliander as a company to successfully provide sustainable and reliable energy to houses as well as connecting houses to the grid. Both teaching and non-teaching staff of HAN have also formed networks with other universities in the Netherlands such as the University of Twente, Wageningen University and TU Delft to exchange and share ideas that relate to the technical field and research towards sustainable energy.

4.2. Case Study 2: Industriepark Kleefse Waard (IPKW)

IPKW is an industrial park that accommodates, facilitates and connects energy related companies while collaborating with the government, academic institutions and businesses to become an eco-industrial park by the year 2025 as illustrated in the future map in Fig. 4.2. The director of the park believes that the world is changing and to deal with the earth in a different way is the most important task of the moment.

“We see the park as one big test field for sustainability and we work every day to make the park better, nicer and greener”

Companies that participated in this case study are IPKW, Veolia, Save Plastics and The Power Lab who are all located on the IPKW industrial park.



Fig. 4.2: Future Map of IPKW

4.2.1. Motives for CSI

Motives for CSI in IPKW included stakeholders such as government agencies who listed the park as part of 200 biggest energy consuming sites in the Netherlands. They requested plans from management on how to make their energy consumption sustainable. This resulted in the clarification and communication of already made strategies and goal of becoming the most sustainable park in the Netherlands by the year 2025. In the Netherlands, there is an increase in awareness concerning sustainability. This has resulted in some managers who are occupants of the park to comply reducing their CO₂ footprint and switching to the use of alternative energy solutions such as solar, wind and geothermal. Such actions collectively contribute to the achievement of the goal set by the management of the park. Other companies on the park also engage in CS activities due to managers' personal desire of contributing to a better world for future generations.

4.2.2. Sustainability Actions

To make their goals understandable, the management of the park made a future roadmap and communicated five themes namely: energy, waste, mobility, buildings and people to its employees as well as other managers on the park. These are themes from which one could choose from and work on. Another action taken by the management of the park is to incorporate education on the park. This allows an educational institution such as the HAN to have rooms on the park where they can collaborate with other companies to work on sustainability projects.

A bio-installation is also going to be made that supplies “greener energy” produced from wood, grass and leaves from Arnhem area (40km radius). Instead of using gas for heating the offices, the waste heat from the production companies is used.

To “*practice what they preach*” a project called “Five before Twelve” has been created which literally means that they are almost late. In this project, two people are responsible for a sustainability project each month and these projects have to do with waste management. Wastes are collected from the different companies on the park and sorted into categories. The different waste streams are recycled and made into different products such as benches, pallets and coffee cups to be used on the park. This is sustainable as well as cheap.

Lastly, a Power Lab which is also located on the park tries to link education with practice through a platform called the “Kennisportal” (knowledge portal). On this platform, knowledge

and experiences about sustainable installations, courses and activities can be found. This is intended to help educational institutions bridge the gap between education and practice.

4.2.3. Barriers

From the case study, the following are some of the barriers that must be overcome for IPKW to reach their sustainability goals. Firstly, for some of the companies, sustainability was not seen as a priority but rather the need to first meet their bottom-line budget. As stated by an interviewee, “*we cannot always focus on the soft and social side all the time, choices have to be made and it’s hard to make this topic a very high sense of urgency*”. They acknowledge the need for sustainable actions, have ideas about it and how to create campaigns but it is not treated as topmost priority. Secondly, some organizations would like to replace their unsustainable processes with sustainable ones but do not have enough resources to effect the change. This is sometimes as a result of a lack of interest from some schools in sustainability issues. Since schools provide the human capital to these organizations, a lack of interest on their part, results in a shortage of qualified man power to help implement sustainability strategies. Presently in some parts of Netherlands (Arnhem+ Nijmegen Area), there has been a reduction of about 17% less of the number of students having practical education (MBO and HBO) and more students are moving towards research areas (*Interviewee, IPKW*). This has led to a shortage of qualified human capital.

Also, some employees see the sustainability goals as very ambiguous and do not see how they are related to their daily activities. Other participants also feel that their employees did not simply care and were not motivated to help implement sustainability strategies.

4.2.4. Integration Factors

For IPKW the following integration factors were identified:

- **Organizational Structure:** From the case study, it was found that sustainability strategies take a form of a top down approach and is then clearly explained to the various departments about how they contribute individually to set goals to avoid friction. Other companies on the park are just start-ups and do not deal with several departments because they are few. For such companies’ decisions are taken among themselves during short discussions and hence they do not experience frictions of any sort.

- **Organizational Culture:** The management of most organizations on the park involved in the case studies know how important environmental and social values are to their existence and have embedded CS activities into their culture. Employees know the importance of issues concerning CS and make conscious efforts to achieve set targets.
- **Leadership:** The case study revealed that, some managers do not show any enthusiasm concerning CS strategies and activities. They only engage in it to comply to rules and regulations and therefore cannot influence employees to engage either. However, other companies on the park are very much involved and as such can influence their employees to commit and implement sustainability strategies.
- **Management Control:** Some top and middle-level managers meet occasionally to review strategies and their relation to ongoing projects. Any deviations are then corrected. There were however no measurable goals such as has been mentioned in the literature. The director of the park however stated that, yearly meetings are organized with his staff to measure performance on the five themes they have created concerning sustainability: energy, waste mobility, building and people.
- **Employee Motivation and Qualification:** Generally, since the co-operation of employees is vital to the implementation of CS strategies, it is therefore needful for them to be motivated to willingly contribute their quota to implement CS strategies. This is normally in the form of training sessions or educational forums where CS strategies are explained to employees in relation to their daily activities. However, there was no mention of such activities in the case study. With regards to motivation, an interviewee stated that they preferred discussing with their employees what their needs were in relation to their jobs before “*pushing a global campaign on them because it’s not in their scope or direct environment*”. This they felt would be the appropriate way of motivating employees to help implement CS strategies. Others also made it a habit of sharing their successes achieved and milestones reached with their employees as a form of motivating them to strive more to achieve better results.
- **Communication:** Some of the communication channels used in the case studies were personal interactions with project heads and some employees to give explanations to them and take feedbacks to help integrate CS strategies. External channels of communication also included the publishing of reports and information on company websites concerning CS activities that the companies engage in. From their perspective,

it makes the organization an attractive employer and communicates to the world that the employer has tremendous value not only for themselves but also for the rest of the world.

- **Collaborations:** The management of the park believe that they cannot achieve their goal alone and need the help of others. Considering this, they collaborate with companies like Veolia to install a biomass energy plant on the park to make utilities sustainable and with Save Plastics to make products called “Plastic Fantastic”. These are activities undertaken towards the achievement the goal of been an eco-industrial park by 2025. Partnerships are also made with Rad Huis (Wind Energy Company for large wind turbines), van Scherpenzeel in the waste management solutions and the Municipality of Arnhem who help by providing funds for projects. For the Power lab, collaborations are also made with firms to give guest lectures on the “Kennisportal” and with the HAN to make it a permanent hybrid working environment for students of the HAN.

4.3. Case Study 3: QING Groep

The “QING Groep” is an engineering firm and they deliver consultancy services in the field of industrial automation, special machine building and energy. They have three different business units: Mechatronics, Engineering and Sustainable (Fig. 4.3). QING mechatronics is mainly involved in engineering, industrial automation and supports installations for food, pharmaceutical and oil and gas industries; QING Engineering deals with consultancy, outsourcing and providing solutions to companies on innovations on site and QING sustainable works on energy savings and renewable energy projects. They have many clients in the food-producing and processing industry, in the packing industry, for property developers and operators, educational institutions, governments and semi-governments. They also help their clients to reduce their energy-use or in replacing traditional sources of energy with sustainable ones. One of their main visions is the “*acceleration of energy transition in the Netherlands*” (Interviewee, QING).

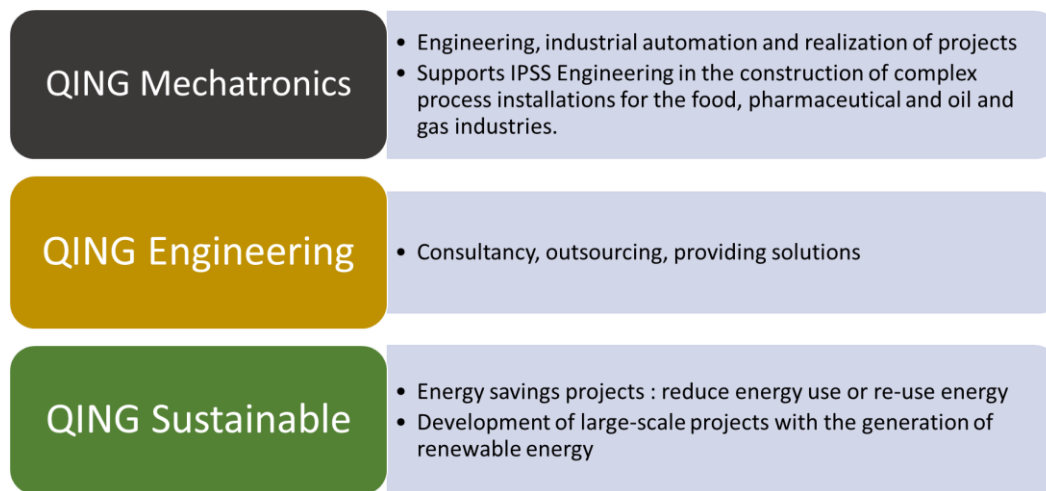


Fig. 4.3: QING business units.

4.3.1. Motives for CSI

There are several reasons why companies act in socially responsible ways and the ability of managers to understand the drivers and impact of social performance on various stakeholders allows them to properly integrate information obtained into their daily operations. In most cases, managers would like to know how social performance can lead eventually to financial performance and how to effectively communicate such impacts. In QING, though sustainability was not included in their overall strategy at the beginning, they were eventually driven by organizational goals and the desire of stakeholders to either save energy or use renewable energy and also as a form of compliance to national and international goals and laws.

4.3.2. Sustainability Actions

Examples of these actions include minor changes like a change in existing routine or major changes such as capital investment in new technologies. It also includes making changes in working ethics so that workers would not have to follow traditional work ethics. All these aim at the improvement of the company's social and environmental performance leading to economic performance as well. In QING, one of their goals is to become CO₂ neutral by 2050 and steps are being taken to achieve that goal. They have also made it a policy to operate only in energy efficient buildings because they believe in “*show, don't tell*” which they explain to be that their internal sustainability practices will speak for themselves. There is also a business unit devoted to initiating and engaging in sustainable activities whilst also trying to work more with energy efficient machines. Employees are mostly allowed to work from home to reduce

travel hours, and the company also provides some of its employees with electric cars which is also sustainable.

Furthermore, their most important activity is the development of a large-scale renewable energy projects which also contributes to the national sustainable agenda. With regards to other activities like special machinery and engineering, conferences are organized every three months with special emphasis on sustainable themes on an industrial scale. During such conferences which are normally held at their client's premises, different companies are invited to talk about their processes and how sustainability is integrated in them. This creates awareness and others could also learn from them. Although QING operates in a profit-driven industry, they try to always promote awareness and a sense of responsibility through such activities. It is called the "*Responsible Organization*" (Interviewee, QING) which is further explained as making people think beyond short-term profits.

4.3.3 Barriers

Though QING has achieved a lot with regards to sustainability, there are some barriers that need to be overcome for a successful CS integration.

First, the absence of a clear sustainability strategy. Interviewees stated that as of the time of the interview, they did not have a clearly documented sustainability strategy they were trying to implement although they engaged in sustainable activities. Though some employees were still able to come up with initiatives concerning sustainable activities in relation to their jobs, others needed a clear strategy to follow. The absence of a strategy created a lack of interest in such employees. It also makes it difficult to measure the exact progress that has been made, and when and/or where corrective actions are needed to be taken. Second, regarding their consultancy services, some clients were only interested in for instance energy savings that would yield a return on their investment in the shortest possible time (e.g. within three years). Activities such as the installation of solar panels or the reduction in gas usage was deemed as long term and too big a commitment for them. Thirdly, they sometimes face difficulties with obtaining the required quality of parts during their production processes. Though they desire to do the right thing, if the sustainable options are not available, they would have to work with the non-sustainable ones. Lastly, facing resistance from locals. There are instances where residents of cities refuse to allow the installation of large-scale solar panels in their backyards. They would then have to go through long processes of dialogues and discussions to convince

these locals of the benefits of the solar panels. This could lead to discouragement, but management is ready to do whatever it takes to contribute their quota to the industrial revolution.

4.3.4. Integration Factors

For QING, the following integration factors were identified:

- **Organizational Structure:** The QING business unit that deals with sustainable energy handles all sustainability related activities since most of their activities are also energy related. The manager of this unit oversees all sustainability related projects and communicates their relation to other departments concerned. This limits the number of frictions and miscommunications that could occur due to misunderstanding and miscommunication of sustainability goals.
- **Organizational Culture:** It is important that CS is embedded in the organizational culture so that both management and employees will know the importance of environmental and social values. In QING, though there are no stated strategies on sustainability, employees see it as part of their culture because of practices they are already engaged in such as flexible working hours, renewable energy projects and energy savings.
- **Leadership:** Since the management of QING is committed to sustainability through their projects and consultancy services, most employees are also involved in their numerous projects as well. If employees notice that managers are committed toward achieving sustainable goals set, they will also be inspired to follow suit and vice versa.
- **Management Control:** One important factor that can lead to a successful implementation of a CS strategy is the ability of management to assess the extent to which set goals have been achieved. A management team which was previously not established has now been set up to review their progress and also to formulate a standard strategy for CS integration. Though it is often difficult to assess performance before and after the implementation of a strategy, QING states that significant progress has been made with regards to their CS activities and envisage to do more in the coming years.
- **Employee Motivation and Qualification:** There are several things management can do to ensure that employees have enough knowledge about how sustainability affects their

daily operations and are motivated towards the achievement of sustainability goals. In QING, employees are given the freedom to come up with initiatives and ideas and that has driven them to achieve a lot as a company. For example, an employee has made a digital twin software for a machine to help optimize its functions and this has become an additional business opportunity for the company. Such an achievement will motivate others to act in similar ways and help the company to reach their goals on sustainability. With regards to qualification, most employees think they are already aware of how sustainability affects their jobs. They believe energy saving and the use of renewable energy are all part of corporate sustainability.

- **Communication:** Communication in an organization can be done both internally and externally and organizations can use such means to exchange information about their CS activities to their stakeholders. To communicate sustainability goals internally, various departments meet for deliberations on sustainability goals and initiatives. Progress or setbacks are communicated to employees for the necessary actions to be taken. External stakeholders are also communicated to via company websites, reports and the media.
- **Collaborations:** As previously mentioned in chapter 2, sustainability challenges can be better overcome by making partnerships with others. This helps to exchange and share ideas about best practices which can lead to a better integration of CS. At QING, collaborations are mostly made with universities such as Wageningen University and University of Twente, and with their suppliers. Such collaborations are done for various reasons. One is because from a technological point of view, the universities are ahead and new knowledge, science or experiences can be obtained from them. They supply them with students who have initiatives on sustainability which could be useful in their service to their clients. Sometimes, guest lectures are organized in these schools to attract new talents and involve them in sustainability projects that have to do with solar energy and packaging among other things. Also, collaborations are made with suppliers who help in various ways to deliver their goods and services. In one of their business models, they have associated networks of suppliers who are integrated into projects to contribute their knowledge and help deliver services to their clients. These suppliers are selected based on their knowledge and ideas on sustainability.

4.4. Synthesis

The findings from the case studies in relation to the framework had similar elements with few differences due to their different industries.

Generally, the organizations are mostly driven by the rise in climate change awareness, the need to comply to certain production standards or intrinsic desires to contribute to preserving the environment for future generations.

A major barrier that was found was that, although the organizations had visions on sustainability, a clearly formulated CS strategy that could be integrated into corporate strategy was absent. As a result, it was difficult for management to assess their achievements on sustainability although major milestones had been reached. However, one of the case studies revealed that though an organization may not have a clear strategy on CS at the onset, it is still possible to make significant achievement.

A summary of the findings of the three organizations can be found in the Table 4.1.

Table 4.1: Comparison of the findings from the three organizations

	HAN	IPKW	QING
1. Strategic Motives	<ul style="list-style-type: none"> • A rise in climate change awareness, • An expected change in the Netherlands energy supply • Human capital agenda 	<ul style="list-style-type: none"> • Compliance • Organizational goals 	<ul style="list-style-type: none"> • Compliance • Energy saving measures • A switch to renewable energy
2. Barriers	<ul style="list-style-type: none"> • Lack of resources (both financial and human) • lack of co-operation. 	<ul style="list-style-type: none"> • CS not always seen as a top priority • Lack of qualified personnel • Ambiguous sustainability goals • Lack of motivation. 	<ul style="list-style-type: none"> • Absence of clearly formulated sustainability strategy • Lack of interest, • Insufficient sustainable (parts of) products on the market • Resistance from locals for the installation of large-scale solar panels.
3. Sustainability Actions	<ul style="list-style-type: none"> • Partnership with companies to develop programs and projects that will cater for the human capital during energy transition, • Sustainable energy projects, • Hybrid learning environment • Re-use of materials. 	<ul style="list-style-type: none"> • Development of roadmaps • Creation of project groups based on specific themes on sustainability • Incorporation of education into the activities of the park • Installation of bio plant to produce “greener energy” • Recycling of waste • “kennisportal” (knowledge portal). 	<ul style="list-style-type: none"> • Capital investment in new technologies • Change in work ethics • Operations in energy efficient buildings • Use of energy efficient machines • Sustainable business unit • Development of large-scale renewable energy projects • Promotion of awareness in the organization.

CHAPTER 5

DISCUSSION

In this chapter an in-depth evaluation of the findings relating to integration factors is compared with the literature. This will further create a basis for the final conclusions that can be drawn from this thesis. In this chapter, the results of the qualitative data are discussed as well as their relation to previous studies and literature.

5.1. Corporate Sustainability- Definition and Approaches

There is indeed “no one size for all” definition for CS according to literature and this was confirmed in the case studies. Because they are in different industries and have different operations, they also have different definitions and approaches to sustainability. For instance, the HAN sees their sustainability as shown by their three focus points of which one is Sustainable Energy and Environment (SEE). This is also reflected by the activities carried out by the Sustainable Electrical Energy Centre of Expertise (SEECE) which focuses on providing human capital for industries and research into developing innovations and improving the curriculum of education towards the transition into sustainable energy.

QING’s understanding of sustainability had to do with helping their clients to save energy and their involvement in large renewable energy projects to reduce their CO₂ footprints on the environments.

Furthermore, IPKW defined sustainability as the ability to reduce waste and pollution and efficiently share resources to increase sustainable development. This is portrayed by their attempt to create an eco-industrial park where organizations could devise innovative ways to contribute to a more sustainable environment and future.

All these approaches are in line with sustainability and sustainable development as defined by Gibson et al, 2005 and the WCED, 1987.

An analysis of the data collected considering the literature reviewed shows that CS is now taking a proactive approach. The three organizations did not only comply to regulations on sustainability standards but also anticipated the would-be effect of their operations and tried to curb it. This was done by installing bio-mass plants, recycling of plastics to create other products, innovative manufacturing processes, material substitutions and revision of curriculums among others.

5.2. Corporate Sustainability- Strategic Motives

An analysis of the organizations’ strategic motives for CS integration shows that, they (HAN, QING & IPKW) are involved basically in the range of “Caring CS” to “Holistic CS” as discussed in section 2.5. The organizations mostly take initiatives on CS integration that goes beyond legal compliance and financial benefits. They integrate CS into their activities because they want to be socially responsible, care for the planet and take part in effecting the change they expect. Whilst a few see it as also leading to financial performance, others are motivated to be involved in the “Synergistic” and “Holistic” CS. Also, these organizations are not merely motivated internally to integrate CS due to only a rise in climate change awareness but have set specific goals for themselves which they work towards. Table 5.1 shows the core strategic motives for CS integration by the respective organizations and their relevance. The HAN for example, is driven to CS by the human capital agenda and a focus on sustainable energy and environment. For IPKW, stakeholders pressure also play an important role. Also, the company vision to be the most sustainable park by 2025 resonates in its CS activities. QING on the other hand is between the synergistic and holistic motive for CS integration but also concerned with social performance that social performance that leads to financial benefits.

Table 5.1. Highlights of Strategic Motives from Interview (full table in Appendix D)

ID	QUOTE	RELEVANCE	CODE
HAN	Human capital Agenda (more future proof professionals)	1	Internal
	Clean mobility and a sustainable built environment	1	Internal
	Sustainable, reliable and affordable energy supply	2	Internal
	Circular and bio-based economy	2	Internal
IPKW	Vision of becoming the most sustainable park by 2025	1	Internal
	Stakeholder pressure	1	External
	A rise in climate change awareness	2	External
QING	How can social performance lead to financial performance	1	Financial
	Desire by clients to save energy	1	External
	Use of renewable energy	1	Internal
	Internal Motivations	2	Internal

* order of relevance: 1 = highly relevant, 2 = relevant, 3 = normal.

5.3. Corporate Sustainability Actions

Corporate Sustainability Actions (CSA) include strategies that have been formulated in relation to sustainability, concrete plans, as well as programs put in place that can result in social and economic performance. Table 5.2 shows that the organizations have some sort of programs, strategies and actions put in place to achieve their sustainability goals. They focus on areas that need priority and attention and aim at promoting the organizations' performance on sustainability to their stakeholders because their decisions affect them too.

As a knowledge institution, HAN has more of strategies and programs for both employees and students and less on actions. IPKW is activity-driven when it comes to CSA especially in waste management and actions towards sustainable energy usage. CSAs for QING revolve predominantly on activities that result in financial and environmental benefits.

Table 5.2 Highlights of Corporate Sustainability Actions

Examples of Relevant Sustainability Actions			
Id	Quote	Relevance	Code
HAN	Forming partnerships with companies to develop curriculum for students	1	Strategy
	Hybrid learning environment	1	Programs
IPKW	Development of themes for a future road map: energy, waste, mobility, buildings and people	1	Strategy
	A bio-installation that supplies greener energy	1	Actions
	Sorting wastage into categories and recycling them into new products	1	Actions
QING	Change in operational routine and capital investment	1	Action
	Dedicated business unit for initiating and engaging in sustainable activities	1	Strategy
	Development of a large-scale solar plant that contributes to the national sustainability agenda	1	Actions

* order of relevance: 1 = highly relevant, 2 = relevant, 3 = normal.

5.4. Barriers to CS

It can be observed that most barriers to CSI are mostly internal with limited financial resources, ambiguous sustainability goals and internal resistance being predominant. However, others such as “no ready market for sustainable options” when it comes to supply of materials, are organization specific. These barriers, whether general or specific need to be identified and overcome for organizations to achieve their goals on sustainability. In general, the barriers faced by the three organizations are in line with what is stated in literature in section 2.6.

Table 5.3 Highlights of barriers encountered

Id	Quote	Relevance	Code
HAN	Limited time and financial resources	1	Internal& External
IPKW	Ambiguous sustainability goals	1	Internal
QING	Absence of clearly written strategy	1	Internal
QING	Lack of commitment to long-term sustainability goals	1	Internal
QING	Resistance to change	1	Internal & External
HAN	Little co-operation among employees	2	Internal
HAN	Not enough human resource	2	Internal & External
IPKW	Not seen as a priority	2	Internal

* order of relevance: 1 = highly relevant, 2 = relevant, 3 = normal.

5.5. Corporate Sustainability Integration

As daunting as formulating a sustainability strategy is, it is even more demanding to integrate it though there is a strategy, vision, and a willingness to engage in further actions (Bol, 2018).

An analysis of the case studies shows that although most of the factors as listed in Chapter 4 by Engert & Baumgartner (2015) which necessary for a successful implementation of CS strategy were already in place, the organizations have still not been successful in implementing their CS strategies.

It was discovered that in some cases, there were no clear strategies formulated and even where they were, they were not effectively communicated to parties involved. This created a missing link between strategy and CS integration. Some participants stated they were involved in sustainability, but they did not know what was really expected of them. Formulated strategies should therefore be clearly communicated so that management and employees would know how it affects their daily activities and what is expected of them.

Organizational structure

Results from the cases under study show that CS was mostly a top-down approach with sometimes input from bottom-up. Even in some cases, there was a whole business unit on sustainability with responsibilities and expectations communicated to the other levels in the organization to bring about coherence and avoid friction. This agrees with Brunner (2006) which asserts that organizational structures ensure cohesion between CS strategies and organizational culture, 2006). Also, in organizations where CS was not integrated into strategic management, networks were formed by various departments to handle CS related issues and to

bring about initiatives regarding it. These actions are also in line with what Engert & Baumgartner (2015) proposes for the integration of sustainability into strategic management.

Organizational culture

Baumgartner (2009) explains that if CS is embedded in the organizational culture, it would highlight the importance of environmental and social values in the organization and employees can be inspired to achieve it. From the findings of the case studies, some organizations saw CS as an evolving concept which needed a change in culture. They stated that a change in culture requires time and are taking a gradual process to change their culture so that the different levels of the organization and employees gradually become aware of how important environmental and social values are to them. Others stated that they are already aware of the importance of CS because of their activities and are making conscious effort to achieve it.

Leadership

Leadership has a way of influencing followers to achieve a set goal. If leadership embrace CS, it would be easier to influence employees to commit and implement sustainability strategies (Stead and Stead, 2014). The case studies revealed that, whilst some managers are enthused about CS and have influenced their employees to engage in numerous projects, others do not yet see it as a priority and therefore had less influence on their employees to follow suit. This confirms that leadership is a key management system that can facilitate change. Some organizations also require CS initiatives to be taken on lower levels and has therefore resulted in a feeling of neglect from leadership in trying to achieve CS goals. Hence the personal values and attitudes of the leadership has an important influence on the organization achieving sustainability goals as suggested by Engert & Baumgartner (2015).

Management control

It is management's responsibility to assess whether targets have been met and goals have been achieved. However, as suggested by several authors, it is difficult to develop the appropriate performance indicators for sustainability and to measure them (Epstein and Roy, 2001; Caputo, Veltri, & Venturelli, 2017). Findings from the case studies show that top and middle management engaged mostly in monthly or yearly reviews with regards to energy usage. In some cases, a separate team was formed to review progress made on CS and to formulate general standards of practices that could be practiced throughout the organization.

Employee motivation and qualification

The co-operation of employees is vital to achieving set goals, hence the need to keep them motivated and enthusiastic about their work. The case studies reveal that employees are regularly involved in joint sustainability projects with companies to keep abreast with the changes these companies must deal with due to new regulations on sustainability. Whilst some organize training sessions for their employees with regards to sustainable energy, others allow employees to come up with their own initiatives on CS projects. The giving of flexibility to employees was also found to make things easier for them to transition into the culture of sustainability. It also motivates them to set and achieve their own sustainability targets.

Raps (2008) also suggested the use of rewards systems as motivational tool. This was observed in most of the case studied as funds were allocated as rewards for CS initiatives. Moreover, though Raps (2008) also suggested providing necessary training for employees, it was found that some organizations however do not organize any form of training for their employees because sustainability is already integrated into strategic management hence employees are already involved in sustainable activities.

Communication

Interaction among managers in an organization as well as between the organization and their external stakeholders is vital (Nobel, 1999). It is a medium through which information can be shared and based on which decisions can be made. Some of the case studies confirmed the use of internal forms of communication such as intranet, meetings, and company newspapers whilst external communication was in the form of reports as stated by literature (Engert & Baumgartner, 2015).

Collaboration

In addressing the challenges on CS integration, it was found that it is needful for organizations to move together in the form of partnerships. The organizations involved in the case studies mostly form partnerships with academic institutions who provide them with new approaches to sustainability whilst they serve as their potential employees. In addition to that, they also form networks with other sustainability-oriented organizations and suppliers who help them to achieve their targets and deliver goods and services to their clients. Lozano, 2009 emphasized the significance of such an act as a better option to companies desiring to engage with sustainability. Furthermore, it was observed that when these partnerships are initiated by

management, there is a high probability that preparations would be made for a successful outcome, and collaborations are likely to report success and value creation as indicated by Unruh, (2017). The organizations should however take into consideration the factors needed for a successful collaboration as stated in the literature review 2.9(g).

5.5.1 Rating of the CS Integration factors

From the interviews, it was observed that though all integration factors are important, some factors are given more attention. In Appendix G the integration factors have been ranked in the order of relevance in the respective organizations.

First, it was observed that the motivation and qualification of employees is very crucial in the integration of CS. This shows that without educating and motivating employees on the overall goals on sustainability, management cannot achieve their goals alone. Management should inquire the immediate needs of employees before trying to push a global goal on them. If employees' immediate needs are not met, they would not be interested in helping management to achieve goals they deem to be so far away from them.

Second, the results from the interviews show that it is also important for the organizations to collaborate with other stakeholders. This is a very important factor that accelerates the achievement of sustainability goals and such partnerships create a win-win situation that helps parties to complement each other instead of judging each other.

Third, whilst communicating your achievements on sustainability is an important marketing tool, it is also important to communicate to the different departments the overall sustainability goals and what roles they play in achieving them.

5.5.2. Additional Relevant CS Integration factors

Whereas the above findings were found to generally agree with what have already been considered in literature, factors which were not emphasized in literature but were discovered to be equally crucial for CSI include:

- The use of roadmaps: Organization could use roadmaps as visualization tools to communicate strategic plans and sustainability milestones for people in all levels of the organization. This ensures the alignment of the organization's everyday activities with their future vision.
- Business Model: CSI costs money, hence organizations should create a viable business model by identifying their sources of revenue, products and /or services and

stakeholders that support their sustainability goals. This requires a move from the classical linear way of creating value to a more sustainable way.

- Circular Economy (CE): It is an economic system aimed at regenerating, recycling and re-use of materials to minimize wastage and retain value. Application of CE helps to reduce negative environmental impacts and stimulates new opportunities for businesses.
- Annual reports of organizations should not only be on financial issues but should also include ecological and social issues. This will compel organizations to actively work towards the integration of CS.

5.5.3 CS Integration model

From the study, a model for CS integration has been developed and shown in Figure 5.1. The model shows the key components for CSI. It begins by having a clear strategic motive – principles that serve as motivation for engaging in CS. Then, a roadmap to serve as a visual guide to shape activities towards sustainability milestones. Further, sustainability actions in the form of strategies, plans and programs put in place for social and economic performance. Integration factors are the key elements necessary for the integration of a CS strategy. Finally, the stakeholders whose actions and decisions influence the strategic motives, sustainability actions and the factors that could result in CSI.

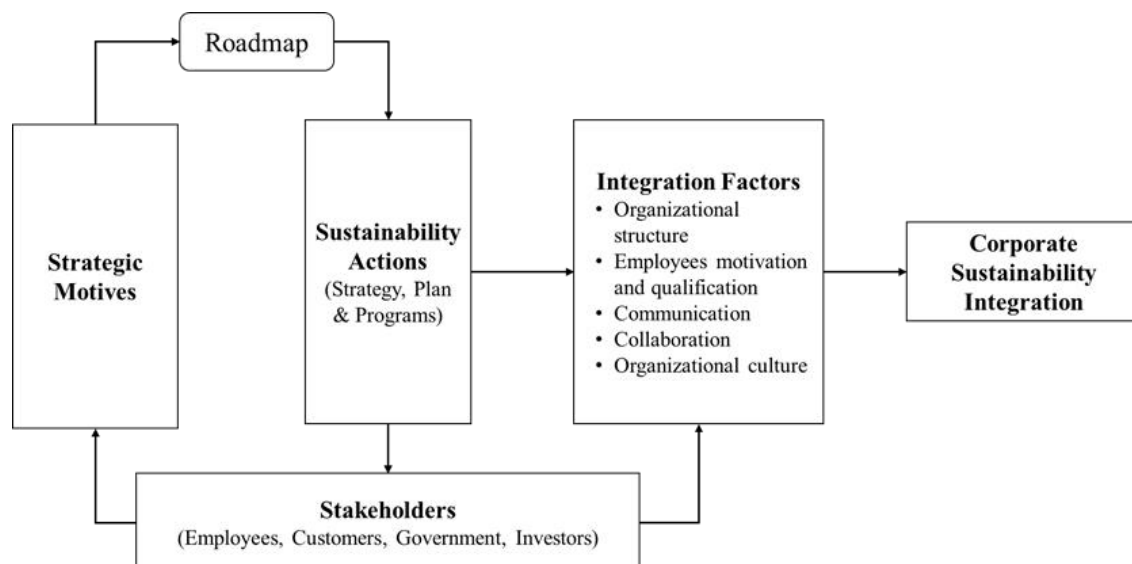


Fig. 5.1: Model for CS integration

CHAPTER 6

CONCLUSION

6.1. Introduction

This thesis aims at contributing to the discussions on Corporate Sustainability and how organizations could achieve their set-goals on sustainability from formulated strategies to successful integration. The organizations chosen for this research were suitable because they are busy with corporate sustainability integration but exercise doubt on whether they are on the right path.

6.2. Implications of research findings

In the analysis of the literature and from the case study, it was observed that corporate sustainability has evolved into prominence. Literature and practice show that organizations are searching for the right methods for CS integration. There is, however, no single approach to CS integration due to control factors such as size and industry. Also, organizations are driven by both common and specific factors and these affect their approach to sustainability. Common drivers result in compliance, but their ability to create value lies in their peculiar drivers.

In general, a clear CS strategy is paramount to a successful CS integration. However, from the study, it was observed that an organization could still achieve their sustainability goals without a clearly formulated strategy.

6.3. Answers to research question

The case studies show that in addition to the recommended approaches in literature, the following factors: *organizational structure and culture, leadership, management control, employee motivation and qualification, communication and collaboration* should form a key part of an organization's management systems to address corporate sustainability.

Furthermore, important highlights of the study are:

- Forming partnerships with academic institutions and like-minded organizations provide a win-win situation for organizations in their approach to CS integration.
- The needs of the employees must first be catered for before pushing for the achievement of global goals such as sustainability on them.
- The need for viable business models that supports CS related activities.

- Finally, a roadmap as a strategic tool helps in the visualization of the sustainability strategies and guides the organization in shaping their activities towards their sustainability milestones as well as communicating to the stakeholders.

6.4. Research Limitation

The study was limited by a small sample size and the resources available to the researcher. Particularly, the interviews were conducted with mostly senior staff and few employees who happily agreed to discuss the sustainability practices in their respective organizations. An interview of more employees and the organizations' external stakeholders could have presented a holistic view of the topic under research. The results from the research conducted can therefore not be fully representative for the organizations.

6.5. Recommendation

Though this research presented factors necessary for CS integration, the following are recommended for further research:

- The interviews were mainly conducted with senior staff who had knowledge about CS and are at the forefront. However, employees who are responsible for the day-to-day implementation of integrated CS strategies could be targeted. They could present a true view of the success of integrated CS strategies into strategic management.
- Also, qualitative methods (interviews and observations) were used for this research. A quantitative (statistical) approach could also be used to complement the findings of this research.

6.6. Ethical Consideration

During this research, interviewees exercised their rights as autonomous persons to voluntarily accept or refuse to participate in the study. Also, their consents were sought before the interviews were recorded and transcribed. The research topic was further explained to them and their quotes have been made anonymous to protect their rights and ensure fairness.

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APPENDIX

A. INTERVIEW (QING)

1. Kindly tell me about yourself and your position in the organization?
2. How long have you worked here?
3. Kindly tell me a little bit about the organization and your client base.
4. Corporate Sustainability
 - Background
 - Is sustainability included in the overall strategy of the organization?
 - Goal on sustainability
 - What are the plans put in place to achieve your sustainability goals?
 - General activities that support or promote sustainability (because there is a gap between formulated sustainability goals and their achievement/implementation).
 - Any ongoing innovations or substitutions to previous processes?
 - Would you say that QING is doing enough concerning sustainability?
 - Any trade-offs with regards to profits whilst implementing sustainability strategies?
5. Are there any regular inspections with regards to sustainability practices here on the park?
 - Any regular meetings to access goals or share ideas?
6. Do you collaborate with any stakeholders in your quest to achieve sustainability?
 - a. What roles do they play?
7. What challenges do you face in trying to achieve your goals?
8. Are you satisfied with your achievements on sustainability so far and what can be improved to facilitate the achievement of goals?
9. Is there anything you would like to add concerning sustainability concerning your area of expertise? Clarifications?

B. INTERVIEW (HAN)

1. Kindly tell me about yourself and your position in the organization?
2. How long have you worked here?
3. Corporate Sustainability
 - Background
 - Goal on sustainability
 - General activities that support or promote sustainability (because there is a gap between formulated sustainability goals and their achievement/implementation.
 - Is sustainability included in the overall strategy of the organization?
 - How is awareness created among students and employees?
 - Successes and challenges
4. What is the “hybrid environment” and how is that a tool to attain sustainability?
5. Are there any regular inspections with regards to sustainability practices here on the park?
 - Any regular meetings to access progress or share ideas?
6. Do you collaborate with any stakeholders in your quest to achieve sustainability?
 - a. What roles do they play?
7. Circular Economy
 - Background
 - Relation to sustainability
8. Are you satisfied with your achievements on sustainability so far and what can be improved to facilitate the achievement of goals?
9. Is there anything you would like to add concerning sustainability concerning your area of expertise? Clarifications

C. INTERVIEW (IPKW)

1. Kindly tell me about yourself and your position in the organization?
2. How long have you worked here?
3. Kindly tell me a little bit about the organization.
4. Corporate Sustainability
 - Background
 - Is sustainability included in the overall strategy of the organization?
 - Goal on sustainability
 - How do you get employees on board to achieve your goals on sustainability?
 - Are there any requirements with regards to sustainability for renting a space on the park?
 - What are the plans put in place to achieve your sustainability goals?
 - General activities that support or promote sustainability (because there is a gap between formulated sustainability goals and their achievement/implementation).
 - Your website states that the management of the park is interested in using circular economy to achieve your goals on sustainability. How is it done?
 - Instead of producing and re-using waste, why is not avoided altogether?
 - Any ongoing innovations or substitutions to previous processes?
 - Would you say that IPKW is doing enough concerning sustainability?
 - Any trade-offs with regards to profits whilst implementing sustainability strategies?
 - Are there any regular inspections with regards to sustainability practices here on the park?
 - Any regular meetings to access goals or share ideas?
 - Do you collaborate with any stakeholders in your quest to achieve sustainability?
 - What roles do they play?
5. What challenges do you face in trying to achieve your goals?
6. Are you satisfied with your achievements on sustainability so far and what can be improved?

D. Strategic Motives for CS Integration

STRATEGIC MOTIVES			
Id	Quote	Relevance	Code
HAN	Human capital Agenda (more future proof professionals)	1	Internal
	Clean mobility and a sustainable built environment	1	Internal
	Sustainable, reliable and affordable energy supply	2	Internal
	Circular and bio-based economy	2	Internal
	A rise in climate change awareness	3	External
	Personal Motivation	3	Internal
IPKW	Vision of becoming the most sustainable park by 2025	1	Internal
	Stakeholder pressure	1	External
	A rise in climate change awareness	2	External
	Personal Motivations	3	Internal
	Human Capital Agenda	3	Internal
QING	How can social performance lead to financial performance	1	Financial
	Desire by clients to save energy	1	External
	Use of renewable Energy	1	Internal
	Internal Motivations	2	Internal
	Compliance	3	External

E. Sustainability Actions

SUSTAINABILITY ACTIONS			
Id	Quote	Relevance	Code
HAN	Forming partnerships with companies to develop curriculum for students	1	Strategy
	Hybrid learning environment	1	Programs
	Building one of the most sustainable buildings in the Nijmegen area	2	Actions
	Creation of platform for students' sustainability projects	2	Actions
	Reuse of materials	3	Actions
	Creation of networks to educate and raise awareness about sustainability	3	Actions
IPKW	Development of themes future road map: energy, waste, mobility, buildings and people	1	Strategy
	A bio-installation that supplies greener energy	1	Actions
	Sorting wastage into categories and recycling them into new products	1	Actions
	Incorporation of education on the park	2	Strategy
QING	Change in operational routine and capital investment	1	Strategy
	Dedicated business unit for initiating and engaging in sustainable activities	1	Strategy
	Development of a large-scale solar plant that contributes to the national sustainability agenda	1	Actions
	Change in traditional work ethics	2	Actions
	Practical steps taken to become CO2 neutral by 2050	2	Programs
	Operations in only energy efficient buildings	3	Programs
	Organization of conferences on sustainability themes on an industrial scale	3	Programs
	Promoting awareness through activities dubbed "The Responsible Organization"	3	Programs

F. Barriers to CS Integration

Barriers			
Id	Quote	Relevance	Code
HAN	Limited time and financial resources	1	Internal & External
	Little co-operation among employees	2	Internal
	Not enough human resource	2	Internal & External
IPKW	Ambiguous sustainability goals	1	Internal
	Not seen as a priority	2	Internal
	Lack of human resources	2	Internal
	Lack of interest	3	Internal
QING	Ambiguous sustainability goals	1	Internal
	Absence of clearly written strategy	1	Internal
	Lack of commitment to long-term sustainability goals	1	Internal
	Resistance	1	Internal & External
	No ready market for sustainable options	2	External
	Lack of interest	3	Internal

G. CS Integration factors

Id	Quote	Relevance	Code
HAN	"Professionalization" of teachers to keep them abreast with new developments and students motivated with rewards when they can come up with initiatives on CS.	1	Employee Motivation and Qualification
	Collaborates with engineering and energy companies to facilitate the energy transition	1	Collaboration
	Departments involved with CS have monthly and yearly reviews to assess their progress	2	Management Control
	Top-down approach with middle management and employees taking initiatives and several departments and hence difficulty to integrate general sustainability strategy	2	Organizational Structure
	Internal communication via networks in the school and external communication to stakeholders via the school website, seminars, workshops	2	Communication
	Sustainability is considered in strategic management but dwindled after a while.	3	Leadership
	Adequate time needed to effect necessary change in culture.	3	Organizational Culture
IPKW	Interactions with project heads and employees and external communication are in the form of reports.	1	Communication
	Collaborate with companies and academic institutions both on and outside the park	1	Collaboration
	Employees attend training sessions and forums on sustainability and sharing of success stories on sustainability by management.	2	Employee Motivation and Qualification
	Top down approach to CS integration	2	Organizational Structure
	Top and middle level management meet occasionally to review CS strategies but no measurable goals as mentioned in literature were set.	2	Management Control
	CS embedded into company culture and employees make effort to achieve targets.	3	Organizational Culture
	Some managers are not enthused about CS but only comply to set rules and regulations.	3	Leadership
QING	A separate business unit for sustainability-related issues.	1	Organizational Structure
	Part of company culture because their daily activities are sustainability related.	1	Organizational Culture
	Collaborates with universities to acquire new knowledge on sustainability and partners with associated network of suppliers	1	Collaboration
	Employees motivated to initiate sustainability projects	2	Employee Motivation and Qualification
	Meetings are held with various departments to deliberate on sustainability goals and external stakeholders are communicated to via company websites, reports and the media	2	Communication
	A management team established to review progress and formulate CS strategy	3	Management Control
	Management committed to CS and can influence employees	3	Leadership

