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AN INTEGRATED SCORECARD FRAMEWORK FOR CORPORATE SUSTAINABILITY

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ABSTRACT

Many companies find difficulties in implementing their environmental management and corporate social responsibility for two reasons. First, is due to the 'systems disconnect' as the environment and CSR are executed separately from the management systems that are used at the top management level to control the business. Second, is there is lack of informed commitments at top management level. The result of which is that the management system falls short in delivering sustainable CSR goals. This paper draws from research carried out on the application of corporate social responsibility and environmental management. The research gathered the opinions of a group of experts and local companies in developing an integrated scorecard approach. This paper therefore presents a measurement system by which companies can monitor, appraise and evaluate their performance to achieve sustainability performance improvements.

AN INTEGRATED SCORECARD FRAMEWORK FOR CORPORATE SUSTAINABILITY

INTRODUCTION

In this paper, we argue that for corporate sustainability organisations must operate under an integrated management systems model. By this approach, organisations operate as an environmental and social committed and coordinated unit across all functional areas or departments within their internal environments and external environments, including the supply chain. The increase in environmental problems from pollution issues and natural resource depletion and degradation has continued moving from the local, regional and national through to international scales. More recently, increases in greenhouse-gas concentrations in the atmosphere have led to global climate change concerns about threats to human welfare and existence (Houghton et al., 2001; Solomon et al., 2009). Environmental management seeks to balance human demands upon the earth's natural resource base with the natural environment's ability to meet these demands on a sustainable basis. This is more than a conservation of the environment as to be effective, it involves corporate organisations working with people and practicing engagements between the business operation and the environment with the purpose of improving environmental performance and supporting the sustainable development (Sharratt, 1995; Barrow, 1999). The environmental management standard, ISO 14001, provides a definition of environmental management as a part of overall management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.

Corporate social responsibility (CSR) and environmental management provides a practical strategy tool by which organisations can improve their performance and accountability about social and environmental responsibilities in the context of sustainable development. CSR is a precursor to a corporation achieving sustainable development outcomes from its business activities. The CSR concept requires that organisations carry out their activities in a way that promotes sustainable development and provide for social and environmental justice for the community of stakeholders (Wood, 1991; Welford and Casagrande, 1997; Bucholtz, 2003; Cava and Mayer, 2007). Thus, CSR principles require organisations to look beyond the financial aspects of their business, giving consideration for wider societal concerns and eco-

systems impacts from their operational activities. CSR has led organisations to consider environmental, social and ethical reporting in through their annual reports and their online web policy statements. Yet, in spite of the increase in CSR reporting activity, there is insufficient progress in demonstrating positive influences on wider society. The wide variation in the take-up of ISO 1401, relatively low in the US and UK, due low commitment in the main because of perception of high implementation and operational costs and low market returns (Kolln and Prakash, 2002; Neumayer and Perkins, 2004; Douglas and Lau, 2007).

Many companies find difficulties in implementing their environmental management and corporate social responsibility for two further reasons. First, is due to the ‘systems disconnect’ as the environment and CSR are executed separately from the management systems that are used at the top management level to control the business. Second, is there is lack of informed commitments at top management level leading to low coordination and poor environmental awareness across organisational functions. The result is that the management system falls short in delivering sustainable CSR goals. This paper develops an approach by which corporate organisations can integrate their environmental and social responsibility functions under one administration to reduce these issues. This tool is based on informed commitment from top management. It is intended to promote a coordinated approach, integrated into processes at each functional level.

The contributions of this paper in its final development will be as follows:

1. We explore corporate strategy and point to shortcomings with respect to CSR and environmental management issues.
2. We examine methods underpinning existing scorecard methodologies and show their respective shortcomings.
3. We develop a new novel and efficient balanced scorecard approach with corporate commitment at its foundation. The model developed essentially provides an effective means by which corporate enterprise can integrate their management systems across a wider set of organisational functions. This includes the different management functions or systems for financial operations, CSR, environmental management, quality and health and safety to provide an improved integration.
4. The development of the application of CSR principles in organisational strategies literature in terms of management practice.

In its approach, the paper first identifies some of the factors, which affect corporate strategy and relate corporate strategy to CSR and environmental performance management then presents a scorecard. Thus, in the remaining sections of this paper we provide a brief synthesis of extant literature on corporate strategy. We then explore issues that organisations encounter in implementing environmental management systems and CSR. The third section gives a brief description of the approach proposed to promote an integrated approach in which we develop a scorecard for supporting an integrated management approach. The fourth section presents discussions and implications of the analysis. In the last section, we summarize the paper and provide some insights for more dedicated studies.

CORPORATE STRATEGY

There has been a continued debate concerning the meaning and the application of sustainable development since the 1992 Earth Summit in Rio. Governmental sustainability policies have developed rapidly since the summit, with the emphasis on protection and prevention of the environment (Redclift, 1992; Pearce and Warford, 1993; Beckerman, 1994; Gladwin et al., 1995; Hopwood et al., 2005; Barbier, 2009). The work of Welford and others have argued strongly for the promotion of corporate sustainability, each author pointing to the motivations for and the desired nature of business contributions to sustainable development with the principles within its conceptual underpinnings (Welford, 1995; Welford and Casagrande, 1997; Bebbington and Gray, 2001; Boele et al., 2001; Dyllick and Hockerts, 2002; Moon, 2007). In a discussion in a report for the World Bank, (Utting and Unies, 2000) claimed that big business has joined development agencies and actors concerned with promoting sustainable development. Accordingly, senior managers increasing adherence to CSR concepts suggests business is beginning to recast its relationship with the environment and its multiple stakeholders. *“This evolving situation stands in sharp contrast to the scenario of the past when big business was seen to be insensitive to the needs of certain stakeholders and responsible for much of the environmental degradation of the planet”* (Utting and Unies, 2000, pg. 1). Yet despite such encouraging discourse, corporate strategies have remained focused on traditional neoclassical competitive advantage. At the end of the first decade of the 21st century organisations have yet to fully incorporate environmental concerns and corporate social responsibility matters into their corporate strategies. The neoclassical profits model is still in vogue, the focus of business strategies are primarily around decisions

concerned with profitability.

Corporate strategies concerns the direction and scope of a business (Johnson et al., 2008) Strategy is concerned with the long-term direction of an organisation and is associated with managing resources to meet the needs of markets, to stay ahead of competitors and to fulfil stakeholder expectations and maintain earnings and profitability. Thus, corporate strategic decision-making processes are concerned with the business of achieving competitive advantage over the competition. Competitive advantage is the focus of corporate strategy. A different view is taken in public sector type organisations, where strategy is concerned with providing better more efficient value for money services and through better service provisions providers' benefit by attracting further government funding (see Johnson et al., 2008). Strategic decisions taking by corporation cover a wide area and may generate processes of change, which require tools and procedures of change management and corporate development (Doppler and Lauterburg, 2001; Senior and Fleming, 2006).

Corporations operate with the dimensions of their internal environment and exist in the external environment. This view rests on visions of what may be seen as corporate enterprise activities encompassing multi-dimensions of interacting sub-systems that themselves fit with wider systems of input and output connections (Senior and Fleming, 2006). Such complex systems represent a dual model, comprising a formal and an informal sub-system. Organisational strategy, comprising goals, and the means of attaining them through effective and strategic management of resources are contained within the formal subsystem. The informal sub-system contains the unseen, but effectively influential human oriented components of culture, politics, power relations, and leadership and other behavioural factors. Throughout the timeline of periods of change, ranging from gentle easily managed to difficult and unpredictable events organisations maintain their focus on the important target of competitive advantage, continually striving to match resources to the demands of activities in which it operates and in particular market forces.

The concept of 'fit' has served as an important building block for theory construction in several areas of management research (Venkatraman, 1989, pg. 1). Notions of strategy and fit reflect those strategies that are developed in ways to match the organisational resources to its activities across the breath of the environments in which it operates (Miles and Snow, 1978; Segev, 1987; Neville et al., 2005; Toulan et al., 2006). These discussions suggest that

organisation focus strategy on identifying opportunities in the business environment and then adapt its resources and its range of competencies to derive competitive advantage and increase profitability (Johnson et al., 2008). CSR and environmental management concerns do not appear in the financially oriented strategic model. These factors come in to play in (Johnson et al., 2008) interpretations representing 'leading-edge' strategy and 'fit-stretch'. Thus, strategy comes to comprise environmental-led fit and CSR-fit that are tagged on to the highly competitive business focused resource-led fit.

The dominant framework of strategic management is that which allows management to match competitive opportunities with the organisations operational capabilities, including its market and production potential, at an acceptable level of risk (Foss, 1997). This accordingly, is set in context of an acceptable level of risk, while safeguarding the business from threats, which is 'fit' or 'alignment' related to productive opportunity. Andrews (1997) responded to questions about what is strategy by explaining that it is a pattern of decisions in a company. Strategy accordingly, determines and reveals company objectives, purposes, or goals, produces the principal policies and plans for achieving those goals and defines the range of business the company is to pursue, the kind of economic and human organisation it is or intends. Thus, corporate strategy defines the business in which the company competes, in doing so focusing its resources to convert its organisational competence into competitive advantage (Woodruffe, 1993; Andrews, 1997) . One of the issues that increasingly create recurring debates and challenges to dominant competitive advantaged focused business strategy is that organisations exist in environments occupied by external stakeholders outside the immediacy of the internal corporate environmental and supply chain. Such external stakeholders may have no direct interplay with the organisations but corporate decision-making outcomes and competitive-based operational activities affect them.

Corporate strategy and competition oriented decision-making is manifested in operational terms within the universe of the human dimension and the ecological-biodiversity environments. Authors, including (Capon, 2004) Steiner and Steiner (2003) and Senior and Fleming (2006) have discussed the idea of interrelationships between internal and external environments. There are thus, important interplay between organisational strategy and external political, social, and environmental dimensions, issues arising that range from the local societal through to the regional, national and international levels. Notions of voluntary social actions and environmental impact reductionism do not fit automatically into

neoclassical competitive strategy advantaged approaches of corporate decision-making. In the 1980s, companies discovered that time was a new source of competitive advantage (Stalk et al., 1992). During the 1990s, they learned that time was just one piece of a more, far-reaching transformation in the logic of competition. In the commencement of the second decade of the 21st century, organisations are beginning to comprehend the importance of the inclusiveness of social and environmental responsibility within corporate strategy back by top-level corporate commitment. Good environmental management is good business practice, and has the potential to provide a serious competitive edge, both with customers and, increasingly, with the financial markets. By the same token, poor environmental performance will exact an ever higher price for all those with a stake in the future of any business" (Sir John Banham, Chairman of Tarmac Environment Committee, quoted in (Article 13, 2002)

ENVIRONMENTAL MANAGEMENT AND CSR ISSUES IN ORGANISATIONS

Organisations strategy and operations can affect stakeholders, including those having direct involvements or stake in the corporation and those external to the business, having no direct linkages. Demand pressures on organisations for the application of sustainable development principles have come from a wide range of stakeholder groups since the period after the World Summit at Rio de Janeiro in 1992. They have raised concern about the impacts of corporate activities on the natural environment and in the local communities in which they operate (Preston, 1990; Hopkins, 2003; Zutshi and Sohal, 2003; Delmas and Toffel, 2004). Thus, implementing environmental management and CSR are becoming part of the operational objectives in organisations in moving towards sustainable development (McCloskey and Maddock, 1994; Klassen and McLaughlin, 1996; Darnall et al., 2000; Zairi, 2000; Tinsley, 2002; Velde et al., 2005; McWilliams et al., 2006).

Environmental issues

Since the mid 1970s a variety of environmental problems from pollution issues at local, national and then international scales, to widespread natural resource depletion and degradation, to truly global concerns such as climate change and the ozone layer, have become major threats to human welfare (Colby, 1990). These environmental problems have no boundary as they can transform into global physical environment issues, especially as globalisation processes continues alongside widespread urbanisation due to growth and accentuated rural-urban transitions Middleton (2003).

The environmental impacts from business activities occur through air, land and water pollutions, the modification of ecosystems and changing the physical landscape (Blair and Hitchcock, 2001). In the UK, reports from the DEFRA (2006, 2007) showed there were 910 serious pollution incidents caused by business activities in 2006. These incidents had influences on the environment such as pollutant emission, waste generation and resources consumption. Moreover, the report demonstrates that there were 335 million tonnes of waste produced in 2004, where 32 per cent of the waste was from the construction industry, which researcher have shown to have a continued significant economic role in the UK economy (Hillebrandt, 1984; Akintoye et al., 2000). In addition, although the services sector is not considered to be a polluting industry, its business activities have impacts on the environment and also influence the environmental performance of a society (Rosenblum et al., 2000; Jeucken, 2002). Junnila's (2004) study demonstrated that the service industry had similar energy consumption and global warming potential as the manufacturing sector.

ISO 14001 is a worldwide accepted EMS standard that defines the requirements for establishing, implementing and operating an environmental management system (Hamilton et al., 2005). Attaining certification means that one of 46 accredited certification bodies in the UK has successfully audited an organisation's EMS. The introduction of an effective environmental management system to an organization is a complex process, due in the main to EMS models, frameworks and components that themselves make the system difficult to introduce and implement (Kirkland and Thompson, 1999). Yet, many organisations took on ISO 9000, a quality management system, which with significantly more clauses and sub-sections to ISO14001, is more complicated in its setting up and operation than an EMS under ISO1400. That globally fewer companies are certified under the ISO 14000 standard is due more to low commitment to environmental improvements, where perceived market rewards are lower, compared to that of the quality system (Ofori et al., 2002). Companies decision-making processes are influenced by a wide range of factors within their own respective internal environments and from the external environments in which they operate (Senior and Fleming, 2006). These influencing factors are magnified for small and medium sized enterprises (SMEs) where the take up of environmental management systems continues to be low despite the introduction of BS8555, a simpler staged and less costly approach to EMS introduction (Miles et al., 1999; Hillary, 2000; Schaper, 2002; Hillary, 2004; Halila, 2007).

The research literature shows that the public are increasingly aware and concerned of the conflicts and interactions between business activities and the environment problems (Gupta, 1994; Starik and Marcus, 2000; Blair and Hitchcock, 2001; Quazi et al., 2001). Discussion on global environmental problems is becoming more commonplace in the corporate world together with concern over local and national water, air and land pollution (Hoffman, 2000). Businesses have developed and adopted a range of management approaches in response to the various environmental issues that confront them. These approaches include adopting and implementing an environmental management system to coordinate and monitor the environmental activities for continual performance improvement.

Issues in implementing CSR in organisations

Agencies in the European Union, World Bank, United Nations Development Programme (UNDP), national governments and local area groups raise concerns about CSR. Their considerations are set within the context of the nature of business ethics and corporate governance and the need for corporate organisations to reflect wider societal concerns. Thus, there is not one comprehensive 'holistic' definition of corporate social responsibility instead there are ranging connotations, meanings and applications across international, national agencies and corporate organisations but generally definitions business ethics in relation to its internal stakeholder requirements and external stakeholder community issues. Thus, for the Department of Trade and Industry (DTI 2004) UK, corporate social responsibility is concerned with meeting demanding social and environmental expectations, while improving business performance. This is about behaviours that go beyond legal compliance. The World Business Council defines it as the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society at large, (Baker, 2004). Other definitions raise notions of corporate citizenship. The idea of social responsibility requires corporations to consider their performance in terms of a whole social systems approach and thus become responsible for the impacts of their activities anywhere in the system (Bucholtz, 2003). These definitions have at their foundations notions of social and environmental justice. Social justice is concerned with ideas of supporting human rights and equality for all members of society. Notions of environmental justice suggest requirements of the sustainable development principles in which organisations maintain and protect the environment from undue impact from their activities. The underlying principles of corporate social

responsibility require that organisations carry out their activities in a way that promotes sustainable development and provide for social and environmental justice for the community of stakeholders.

As with sustainable development in its application, an operational definition of corporate social responsibility is complex and difficult to measure. There are also unequal power relationships between corporate organisations and stakeholder groups, which such definitions do not take into account. Efforts have been made to apply representations in contexts of eco-socio-efficiency and business win-win performance outcomes, (Korhonen, 2003). The technical elements of organisational activities as represented by their production functions fit well with eco-efficiency and business win-win conceptualisations as discussed by researchers. Such conceptualisations focus narrowly upon economic efficiency gains.

These conceptualisations point to the difficulties and messy issues that organisations, stakeholders and other decision makers face in defining CSR and developing performance indicators and reporting mechanisms. Corporate social responsibility in its operation in recent years has led to environmental, social and ethical reporting in organisations annual corporate accounts and online web policy statements and performance outcomes. Stakeholder identification and roles and requirements for efficient CSR oriented governance become difficult and complex and in deconstructing the ‘stakeholder’ for meaningful corporate reporting leads to an imbalance between concerns for internal and external stakeholder interests. That is in terms of corporate transparency and accountable, corporate citizenship and CSR strategies discussed by (Gray et al., 1996; Hibbitt and Kamp-Roelands, 2001; Zadek, 2001). Internal stakeholders are defined as parties linked to organisational structures and operational activities; for example, company directors and management, employees, labour representatives, shareholders, company investors, contractors and sub-contractors, procurement materials supply linkages, contractual arrangements and customers. External stakeholders comprise government and their regulatory agencies, pressure groups and societal communities at local, regional, national and global spatial scales. It is in light of these difficulties and complexities that we develop an integrated management approach.

TOWARDS AN INTEGRATED MANAGEMENT SYSTEMS APPROACH

CSR and environmental management form a core part of companies’ sustainable

development strategy. Many organisations have implemented environmental management systems e.g. ISO 14001, EMAS or BS8555 in order to manage and continually improve their environmental performance. CSR has become a self-regulating mechanism in organisations. They each manage their respective business responsibilities for their impact of operations and products on the society and environment by working with internal and external stakeholders. The research literature suggests that CSR is a cluster concept, covering ethical, social, legal, wider economy and environment responsibilities (Carroll, 1979; Friedman, 1983; Carroll, 1999; Hopkins, 2003; O'Dwyer, 2003; Garriga and Mele, 2004; Greenfield, 2004; Matten and Moon, 2005). However, most organisations implement their environmental managements and CSR under separate administrations.

BALANCED SCORECARD

The introduction of a sustainability balanced scorecard concept into the business strategy management provides a means that facilitates the linking of environmental and social sustainability to provide their integration into business strategies. Conceptually, the integration of environmental and social aspects under one management administration can help business units to address the problem of corporate contributions to sustainable development. Figge, Hahn et al.'s (2001) sustainability balanced scorecard provides a management mechanism to bridge the gap between the strategy and operation.

The balanced scorecard is a strategic planning and management tool that allows organisations to align their business activities to corporate visions and strategy. It facilitates the transfer of corporate strategies into actions and allows the management to evaluate company's performance for future improvement using financial, business process, customer, and learning and growth metrics. Thus, this management tool provides a mechanism by which to monitor organisational performances against strategic goals using leading and lagging indicators, and internal and external performance perspectives and improve internal and external communications. The balanced scorecard is designed to address the shortcoming of the profit-oriented financial measurement by adding strategic non-financial performance measures to traditional financial metrics (Kaplan and Norton, 1996, 2001). The balanced scorecard emphasises the causal link between non-financial and financial measures with the business strategic orientations of the organisation (Souissi, 2008). Thus, this approach provides senior management with a more 'balanced' view of organizational performance.

Kaplan and Norton (1996) designed the balanced scorecard mainly for profit-orientated organisation. In its application, the scorecard suggests that companies view the organization from four perspectives, for example:

1. The Financial Perspective: Kaplan and Norton do not disregard the traditional need for financial data. Timely and accurate funding data will always be a priority, and managers will do whatever necessary to provide it.
2. The Learning & Growth Perspective: This includes employee training and corporate cultural attitudes related to both individual and corporate self-improvement.
3. The Customer Perspective: the principles the quality management systems standard, ISO 9001, and current management philosophy place strong emphasis on the importance of customer focus and customer satisfaction.
4. The Internal Business Processes Perspective: this includes business processes performance measurement relating to products and services quality and customer requirements.

Each of the four perspectives is considered by four parameters in organisations (Scherer, 2002) .

- Goals: What do we need to achieve to become successful?
- Measures: What parameters will we use to know if we are successful?
- Targets: What quantitative value will we use to determine success of the measure
- Initiatives: What will we do to meet our goals?

In its application, companies develop metrics for each perspective, collecting, monitoring, analysing data and analyze it relative to each. With regard to wider sustainability and CSR concerns, an important drawback with scorecard tool is that it not set in a multiple stakeholder framework. The Customer Perspective and customer satisfaction is main key stakeholder issues addressed within the framework. Although the Learning & Growth Perspective includes employee training and corporate cultural attitudes, the focus are internal to the operation of the business with focus on individual employee training and development and corporate self-improvement. There are shortcomings in addressing stakeholder issues such as supplier relationships, employees' satisfaction, competitors and regulators. Moreover, the CSR issues relating to community and civil society and environmental issues

at local, regional and wider spatial scales are missing in the balanced scorecard framework. Various researchers have adapted the balanced scorecard concept with added perspectives to suit the particular context of business and sustainability management strategy. For example, Figge et al., (2002) sustainability balanced scorecard integrated environmental and social aspects into the four perspectives of the traditional balanced scorecard. Bieker (2007) developed a sustainability balanced scorecard based upon the concept of traditional balanced scorecard. This approach included a fifth perspective to address the shortcoming of stakeholder issues in the traditional balanced scorecard. In the next section, we develop scorecard for improved integration across a wider set of organisational functions

DEVELOPMENT OF AN INTEGRATED CORPORATE SUSTAINABILITY BALANCED SCORECARD

Each organisation operates in a wider external environment comprising systems of linkages, supply chains, financiers and stakeholders. External factors and triggers at local, national and global levels, for example, the political, economic, social and technological environments influence organisational life and performance. An organisation operates across interacting subsystems and components set within wider systems and environments, which provide inputs to the system and which receive its outputs. Input are drawn from the supply chain and output supplied to customers and clients thus organisational activities within the internal and external environments impacts upon the social and environmental dimensions. The input and output to an organisational system is presented in the Figure 1. The figure presents a framework, which integrates environmental management and corporate social responsibility within one frame to achieve the corporate sustainability.

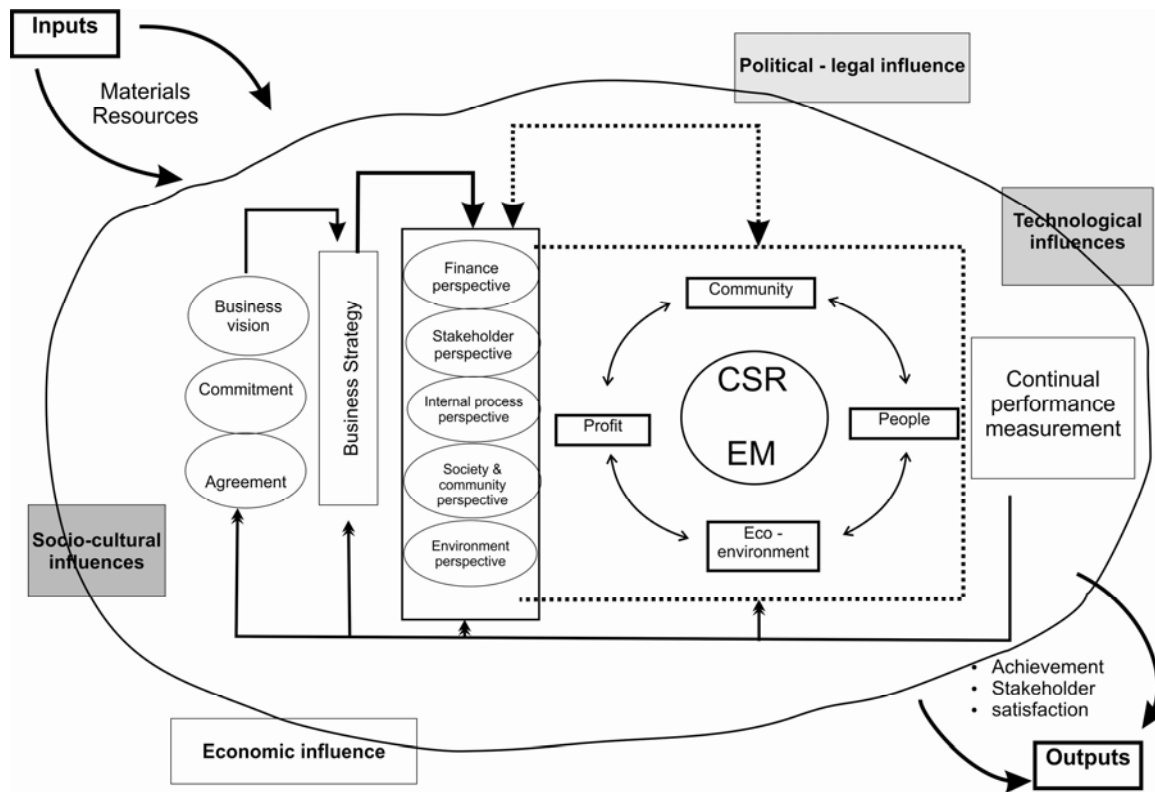


Figure 1. Organisations input/output in sustainability contexts

The framework uses sustainability-balanced scorecard to manage the strategy and measure the performance of corporate sustainability and the nature of organisation's multi-dimensional environment. Figge, et al., (2002) emphasised the importance of top managers' agreement on the decided strategy to the sustainability balance scorecard. The generally poor CSR and environmental performance that some global organisations return concerning, such as environmental impact, employee relations, poor record concerning occupational safety, corporate ethics and anti-corruption and bribery policies, its community relations programmes suggest need for deeper commitment that runs throughout organisational hierarchy of management and operations. Getting and maintain commitment from all levels is essential for the successful translation of vision into strategy and then the actions. This is because commitment is needed to give the strategy management status on a par with other business decisions within the organisation, so that change can be made and resources can be allocated even when things get difficult with a business unit or an organisation.

Figge, et al.'s (2001) sustainability balanced-scorecard introduced the fifth perspective, the non-market perspective. Bieker's (2007) sustainability balanced scorecard included a fifth

perspective to address the shortcoming of stakeholder issues in the traditional balanced scorecard. We take a different approach in the sustainability-balanced scorecard presented in which we integrate the three principles of sustainable development, economic, environment and social dimensions of sustainable development into the scorecard (Figure 2). We have retained Kaplan and Norton (1996) Financial Perspective and Business Process Perspectives. In our sustainability scorecard, we set *sustainability* as central to corporate strategy. To achieve the “balance”, the integrated corporate sustainability balanced scorecard is developed for linking corporate missions in its five dimensions to the corporate sustainability bottom lines and to increase business profitability. It integrated the triple bottom lines of sustainable development. We introduce, as shown in Figure 2, three new perspectives, Stakeholder Perspective, Society Perspective and Environment Perspective. We integrate Kaplan and Norton’s Learning and Growth perspectives into each of the five perspectives as all separate areas of strategy and operations must learn and grow. The integrated corporate sustainability balanced scorecard transfers the sustainability strategy into operative plans and provides an instrument for performance measurement. It takes into account the organisational structure and culture. These five perspectives in the integrated corporate sustainability balanced scorecard represent five key components of creating and sustaining corporate sustainability visions.

The integrated corporate sustainability balanced scorecard has the organisation as its focus and takes into account the concerns of three dimensions of sustainable development. It allows companies to integrate the demands from internal and external stakeholders into core management of companies. It helps organisations to address five perspectives of corporate sustainability, including finance, stakeholders, eco-environment, community and business processes in an integrated manner.

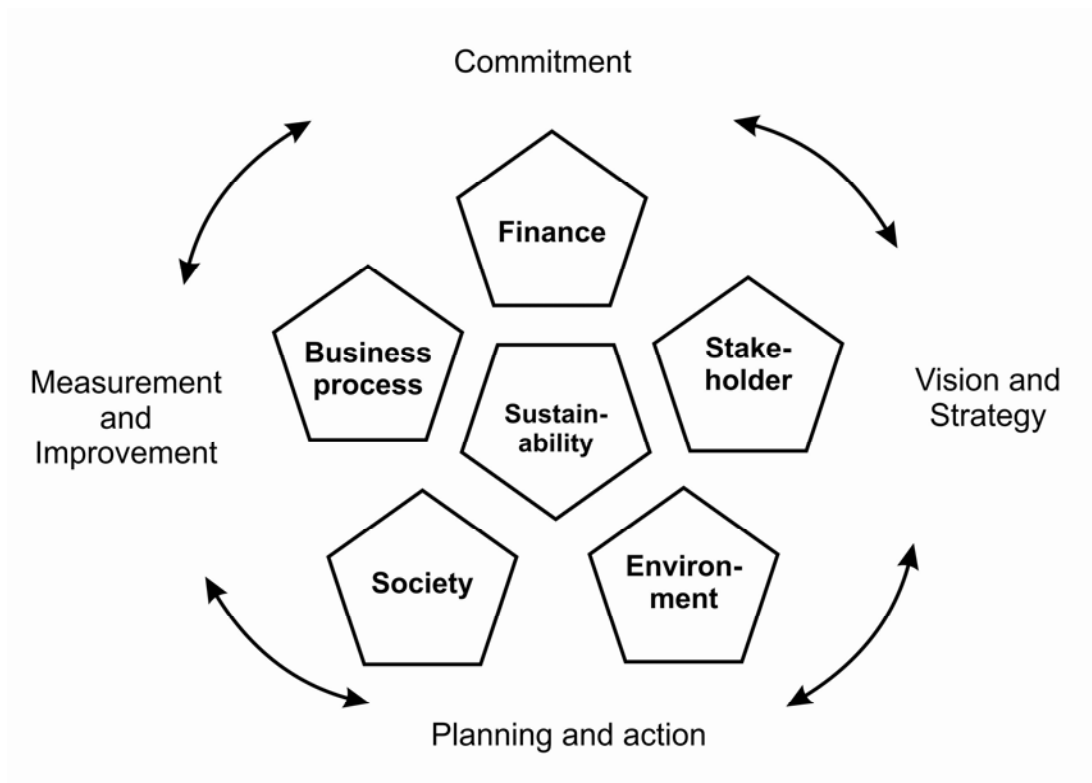


Figure 2. Five perspectives of sustainability balanced scorecard

The performance indicators will be based on the strategy and visions of the particular organisation or business unit (Epstein and Wisner, 2001). Thus, we consider the environmental and corporate social responsibility managements by integrating them into business strategy management and performance measurement. Table 1 and Table 2 provide templates for identifying the potential performance indicators for environmental and corporate social responsibility managements. This approach to performance monitoring, appraisal and management promotes environmental and corporate social responsibility performance measurement and tie in these sustainability metrics into a company's strategy.

Table 1 Template for corporate environmental indicators identification

Environmental issues	Potential Indicators	Measurement Units	Business Unit Specific Occurrence	Applicable Legislation	Related Balanced Scorecard Perspective
Emissions to air	Greenhouse gases - CO2	tonnes		Clean Air Act 1983 Smoke Control Areas (Authorised Fuels) Regs 1991 Dark Smoke (Permitted Periods) Regulations 1958 Clean Air Emission of Dark Smoke (Exemption) Regs 1969 Clean Air Act (Emission of grit and dust from Furnaces) Regs 1971 Clean Air Act (Arrestment Plant) (Exemption) Regs 1969 Road Vehicles (Construction & Use) Regs 1986 Environmental Protection (Controls on Substances that Deplete the Ozone Layer) Regs) 1996	
	Greenhouse gases - CH4	tonnes			
	Greenhouse gases - N2O	tonnes			
	Greenhouse gases - HFCs/ SF6	tonnes			
	Acid rain and smog precursors	tonnes			
	Dust and particles	tonnes			
	Ozone depleting substances	tonnes			
	Volatile organic compounds	tonnes			
	Metal emissions to air	tonnes			
Releases to water	Nutrients and organic pollutants - BOD	mg/L		Water Industry Act 1991 (Section 118) Trade Effluents (Prescribed Processes & Substances) Regs 1989 Water Resources Act 1991 (Section 85)	
	Nutrients and organic pollutants - TSS	mg/L			
	Nutrients and organic pollutants - TOC	mg/L			
	Nutrients and organic pollutants - COD	mg/L			
	Metal emissions to water	mg/L			
Contamination of land	Pesticides and fertilisers	Kg		Environmental Protection Act (EPA) 1990 Contaminated Land (England) Regs 2000	
	Metal emissions to land	Kg			
	Acids and organic pollutant emissions to land	tonnes			
Waste management	Total waste	tonnes		Control of Pollution (Amendment) Act 1989 Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regs 1991 EPA 1990 Part 11, Section 34, 35, 62 Special Waste Regs 1996 Controlled Waste Regs 1992 Waste Management Licensing Regs 1994	
	Landfill	tonnes			
	Hazardous landfill	tonnes			
	Recycling	tonnes			
	Re-use	tonnes			
	Radioactive waste	kg			
Material / Resource input	Water use and abstraction	L		Water Resources Act 1991, Section 24 Water Resources (Licences) Regulations	
	Natural gas	cubic			

Table 2 Template for corporate social responsibility indicators identification

Social responsibility focus	Potential Indicators	Measurement Unit / Method	Interested Stakeholders	Responded Business Department	Related Balanced Scorecard Perspective
Workplace	Employee satisfaction	%			
	Health and safety at work	%			
	Voluntary employee attrition	Hour / employee			
	Equality and diversity				
	Education	Hour / employee			
Marketplace	Customer satisfaction	%			
	Supplier relationships	%			
	Product and service impact	%			
	Business integrity	%			
Environment	Climate change	%			
	Sustainable travel	%			
Social impact	Community investment	Investing in young people			
		Helping vulnerable adults gain and sustain work			
		Embedding community investment			
	Employee volunteerism	Number of hours volunteered by employees			
	Educational output				
	Leadership fellows	Number of full-time employees dedicated to social investment projects			
	Social and economic investment	Number of countries where the company currently invests or manages programs			
	Strategic partners	Significant collaborations with corporate partners, nonprofits, and NGOs			

Five perspectives and their measurement indicators

Financial perspective regards the interest of shareholders. It takes into account the importance of value drivers for a company's profitability and shows the link between sustainability strategy and financial impacts. It concerns the financial goals of a company and helps managers to track financial success of the corporate sustainability development. Table 3 lists the strategic objectives for market reward perspective.

Table 3 Strategic objectives for financial perspective

Financial perspective	<ul style="list-style-type: none"> • Brand value • Revenue growth • Cost efficiency • Cost of capital
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People perspective concerns the demands and satisfactions of company's internal and external stakeholders. It aims at the identification of relevant stakeholders' interests and taking into account the interests to a wider expectation of sustainable development. Table 4 displays the strategic objectives for the people perspective.

Table 4 Strategic objectives for the people perspective

People perspective	<ul style="list-style-type: none"> • Development of people • Health and Safety environment for employee • Human rights • Ethical value • Customer relations • Attraction and retention (retention of employees) • Supply chain management
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Environmental perspective covers the environmental objectives of a company and allows managers to track the company's environmental performance and its continual improvement. The perspective expects the company to get environmental concern into the line of business operation. Table 3 lists the strategic objectives for the environmental perspective.

Table 5 Strategic objectives for environmental perspective

Environmental perspective	<ul style="list-style-type: none"> • Eco-innovation • Development of employee environmental awareness and practice • EMS • LCA • Concern and motivation • Supply chain environmental management
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Business processes perspective responses to the integration of business processes for the goal of corporate sustainability development. A company's operational processes should concern more than the value drivers for future profitability. It should also take into account the concern of its sustainability development. Within this perspective, the company should identify and structure efficiently the business processes that are vital regarding the demands from stakeholders and the development of sustainability. Table 5 lists the strategic objectives for business processes perspective.

Table 6 Strategic objectives for business processes perspective

Business processes perspective	<ul style="list-style-type: none"> • Work towards full business integration (i.e. concerns, policies, plans) • Ensure quality management focus in all business processes • Ensure a health and safety system at work • Efficiency • Competitive development • Improvement of environmental performance • Ensure corporate social responsibility is concerned in each business process
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Social and community perspective focuses on the company's involvement in the community development. It stresses measures of how well the company is contributing the development of local, national and international development through its engagement and investment.

Table 6 lists the strategic objectives for the social and community perspective.

Table 7 Strategic objectives for the social and community perspective

Social and community perspective	<ul style="list-style-type: none"> • Local community engagement • Local community contribution • Involvement in National and international development (i.e. contribution, engagement, investment) • Supply chain social responsibility management
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SUMMARY AND CONCLUSIONS

Many companies within our study have implemented management systems for managing environmental and or social relevant issues. The motivation of implementing environmental management and corporate social responsibility management often come from the requirement within supply chain. Companies intend to implement their environmental management and corporate social responsibility management separately. However, many companies often find difficulties in the practices of these management systems for two reasons. First, in many cases these management systems, especially corporate social responsibility management, are executed separately from the general management systems that are used by the top management level to run and control the business. Second, the lack of concerns and commitments within management level leads these management systems often fall short in companies' practices in implementing environmental and or social management systems. There is a need for wider integration across corporate management systems for a sustainable framework. In this project, an integrated framework is developed to link Environmental Management System (ISO14001), Health and Safety (ISO 18001), Quality Management System (ISO9001) and Corporate Social Responsibility management together under one management framework towards the sustainable development. This report also presents a development of integrate corporate sustainability scorecard. It includes a measurement system for companies to monitor appraise and evaluate the performance to achieve the purpose of continual sustainability performance improvement. The integrated corporate sustainability scorecard has the organisation as its focus and takes into account the concerns of three dimensions of sustainable development. It allows companies to integrate the demands from internal and external stakeholders into core management of companies. It helps organisations to address five perspectives of corporate sustainability, including market

reward, people, eco-environment, community and business processes in an integrated manner.

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